CAUSATION AND SYNTACTIC DECOMPOSITION OF EVENTS

by

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ABSTRACT

A growing number of recent studies on verbal meaning have demonstrated that positing a direct mapping between the (lexical/logical) semantics and the syntax with respect to event structure can advance our understanding of numerous linguistic phenomena (e.g., Hale and Keyser 1993; Borer 1994; Travis 1994). This work presents additional empirical support for a theory of syntactic decomposition of events by demonstrating that certain facts in Korean and Indonesian can only be explained by decomposing verbs into smaller syntactic pieces that reflect subparts of a complex event structure.

The theory of syntactic decomposition of predicates follows from a number of syntactic and semantic facts with regard to adverbial modification. For instance, scope ambiguity of 'again' is used as a diagnostic for the syntactic and semantic decomposition and for the existence of a result-state-denoting constituent (von Stechow 1996). By replicating the 'again' test, I argue that all morphological causatives in Korean are decomposed into roots and a causative head, regardless of whether the causative head is overtly realized in the morphology. The syntactic decomposition approach to the formation of morphological causatives ultimately leads to a unified syntactic account of morphological causatives in Korean, contrary to previous claims that such unification is not possible.

The theory of syntactic decomposition also makes it possible to draw a generalization about the function of the verbal suffix *-kan* in Standard Indonesian. The suffix *-kan* gives an impression that it is multiply ambiguous since it occurs in a number

of different constructions. However, by adopting the view that the syntax directly reflects event structure, I propose that all *-kan* constructions share the same event structure. Furthermore, I show that *-kan* is a morphological reflex of a result head that is contained in the event structure of a given *-kan* construction.

This work further raises a question regarding whether encoding of event structure, in particular, causation, in the syntax is invariant across languages. Detailed examination of morphological causatives in Korean and Standard Indonesian indicates that although both languages form causative verbs by means of an overt morpheme, they nevertheless differ in terms of which semantic component of causation is reflected in the morpho-syntax.

LIST OF ABBREVIATIONS

ACC: accusative

APPL: applicative

CAU: causative

DAT: dative

DC: declarative

GEN: genitive

INCHO: inchoative

LOC: locative

MC: morphological causative

NOM: nominative

PAS: passive

PST: past

PL: plural

PRES: present

RFL: reflexive

REL: relativizer

TOP: topic

CHAPTER 1

Events and Decomposition of Predicates

1.1 General Objectives

If Mary opens the door, is the door open? Little introspection is required to determine that it must be: "Mary opens the door" necessarily entails a state in which the door is open. This fact concerning the entailment of the transitive *open* has led many philosophers and linguists to conclude that the meaning of "open(trans.)" can be decomposed into "cause to open," which involves a causing event (*Mary opening the door*) and a resulting event (*the door being open*). A question that naturally arises is whether such decomposition of verb meanings (e.g., *open* into "cause to open") is only a fact about concept formation, or whether it also tells us something about the linguistic basis for the entailments associated with verbs like *open.* The primary goal of this dissertation is to reveal empirical evidence from Korean and Indonesian in favor of the latter view. I will argue that certain facts in these languages can only be explained by decomposing even monomorphemic verbs (and other elements) into smaller syntactic pieces.

1.2 The Theoretical Basis for Predicate Decomposition

1.2.1 Lexical Semantic Decomposition of Events

Many linguists have argued that concepts like time, space, and causation, the elements

of which are encountered in the field of (meta-)physics, should also figure into the grammars of human language (Vendler 1967; Davidson 1967; Dowty 1979, *inter alia*). In particular, the notion of "event"—defined as something that *happens* or *occurs* such as *Mary's opening the door*—is claimed to be a linguistic entity present in the grammar of all human languages. According to this view, events are used as grammatical objects to represent the meaning and structure of linguistic utterances, in particular, of verbs. That verb meanings have aspectual (and temporal) structure is not a new idea. Folli (2001) notes that Aristotle was the first to notice that verbs divide between state and event verbs, and that only a subset of the verbs in the latter category include the concept of end or culmination point in their lexical meaning. She further notes that Aristotle distinguished between an actuality, expressing the existence of a thing or a state, a movement, giving an incomplete process, and an action for a process followed by an end. These matters were discussed in the philosophical literature (Ryle 1949; Kenny 1963) and found their way into the linguistic literature. The most influential work, Vendler's (1967) ontology of event types, marks the beginning of a history of using the notion of events in linguistic theory and has served as a foundation for the literature on lexical semantic representations of verbs in terms of event structure.

Vendler (1967), drawing on Ryle (1949) and Kenny (1963), proposed a four-way classification of verbs on the basis of the type of event they express: states, activities, accomplishments, and achievements. Examples of the verbs that illustrate the four event types appear below:

(1) Vendler's Aspectual Classification

States	*Activities*	*Accomplishments*	*Achievements*
have	run	make a chair	arrive
believe	walk	draw a circle	find
be pretty	swim	read a book	reach

Under Vendler's classification, activities and states both depict situations that are temporally unbounded (atelic); states denote static situations that have no internal structure nor do they change during the span of time over which they are true. Activities denote on-going dynamic situations with internal change and duration, but no necessary temporal endpoint. Accomplishments and achievements both express a change of state, and hence are temporally bounded (telic); achievements have an instantaneous culmination or endpoint and have no duration. Accomplishments, on the other hand, are events with duration and an obligatory temporal endpoint. Although activities group naturally with states and accomplishments with achievements in terms of telicity, it has also been observed that states can be grouped with achievements and activities with accomplishments in terms of the presence of a process portion (i.e., duration) encoded in the verbal meaning. The former pair lacks duration, while the latter pair contains it. The presence versus absence of duration encoded in the verbal meaning has been shown to correlate with compatibility with a progressive marker; states and achievements cannot form a progressive (e.g., * *The street is being clean*) due to the lack of a process portion, while activities and accomplishments can (e.g., *John is running*). The four classes of verb types have been organized by various researchers into different subgroups (e.g., Verkuyl 1972; Tenny 1987; Moens and Steedman 1988; Smith 1991;

Krifka 1992), with the most basic distinction drawn between stative and non-stative (or eventive) verbs. I will use the term 'eventuality' as the cover term for both aspectual types, stative and eventive, following Bach (1981).

Drawing on Vendler's ontology of event types, various approaches—in particular lexical semantics and logical semantics—have formalized the idea of employing the notion of events as a representational device by analyzing verb meaning in terms of semantic primitives such as CAUSE, BE, BECOME, and DO, which are drawn from a conceptual inventory provided by Universal Grammar (UG) (e.g., Carter 1976; Dowty 1979; Jackendoff 1987, 1990; Levin and Lappaport 1988; Pustejovsky 1988,1991, 1995; Croft 1988; Parsons 1990).

Starting with Carter (1976), a work representing an early attempt at decomposing verbs in terms of semantic primitives, various researchers have proposed different theories of lexical semantics in the hope of capturing the basic intuition that verb meanings are organized in particular ways which specifically relate to the events they denote. Some of the leading works on lexical semantics and argument structure are illustrated in (2), by giving their representations for a word like 'darken' (transitive).

(2) a. Carter (1976): x CAUSE [[y BE DARK] CHANGE]

b. Dowty (1979): [x DO [CAUSE [BECOME [y dark]]]]

c. Levin and Rappaport (1995, 1998): [x CAUSE [BECOME [y dark]]]

What is important to note from the above examples is that despite the different representational mechanisms employed to encode event structure in the lexical semantic

representation, a now widely accepted view in the literature on verbal meaning holds that eventive predicates, like *darken*, involve a complex event structure, and that these predicates consist of subparts of the event they denote (e.g., a causing event and a result state).

It should be noted, however, that the lexical semantic representations illustrated in (2) are all argued to be different from the syntactic structures in which verbal arguments appear; it is contended that the lexical entries of verbs are semantically complex in a way that differs from the complexity encountered at the phrase level. In other words, the lexical representations shown in (2) are independent of syntactic structures. Given the difference between the lexical semantic representation and the syntactic structure, the theories cited in (2) often resort to a (presumably independent) theory that states exactly how the predicates and arguments in the lexical semantic representations map onto syntactic position, i.e. a linking theory. One of the representative linking theories was proposed by Rappaport Hovav and Levin (1995). They define a set of linking rule, as stated in (3), in order to match the participants in the event structure with syntactic arguments (e.g., internal/external arguments).

(3) a. *Immediate Cause Linking Rule*

The argument of a verb that denotes the immediate cause of the eventuality described by that verb is its external argument.

b. *Directed Change Linking Rule*

The argument of the verb that corresponds to the entity undergoing the directed change described by that verb is its internal argument.

c. *Existence Linking Rule*

The argument of a verb whose existence is asserted or denied is its direct internal argument.

d. *Default Linking Rule*

An argument of a verb that does not fall under the scope of any of the other linking rules is its direct internal argument.

According to Rappaport Hovav and Levin (1995), the rules in (3a) and (3b) account for the fact that causers of eventualities are generally realized as the subjects of sentences and the individuals undergoing changes are syntactically realized as direct objects.

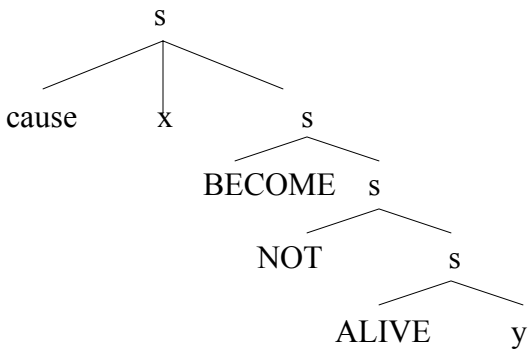
1.2.2 Syntactic Decomposition of Events

Contrary to lexicalist theories, in which the lexicon is thought to contain a large part of the information determining the argument structure of verbs, a growing body of recent work has contended that the phrase structure itself manifests the event structure encoded in the verbal meaning, and that there is no difference between lexical semantic representations and syntactic representations; (e.g., Hale and Keyser 1993, 1998; Borer 1994; Travis 1994; Harley 1995; Kratzer 1996, van Hout 1996; Marantz 1997; Ritter and Rosen 1998; Arad 1998; Harley and Noyer 2000; Folli 2002; Ramchand 2003; Lin 2004; among many others). According to this view, it is not the lexical semantic properties of a verb that determine its syntax. Rather, the syntactic representation determines the event roles and the event interpretation of the sentence. The syntactic approach to event structure thus dramatically simplifies the theory of argument structure: it eliminates the need for both an independent lexical semantic representation

and a linking theory—argument structure, syntactic structure, and event structure would all be the same.

Although many linguists have recently explored this approach (Hale and Keyser 1993, 1998; Borer 1994; Travis 1994; Harley 1995; Marantz 1997, *inter alia*), the idea of directly representing event structure in the syntax goes as far back as McCawley's (1968) work within the Generative Semantic framework, where he proposed that *kill* be represented in the phrase structure via several abstract predicates like CAUSE and BECOME. These two predicates then combine into a semantically larger predicate via a quasi-syntactic rule of predicate raising.

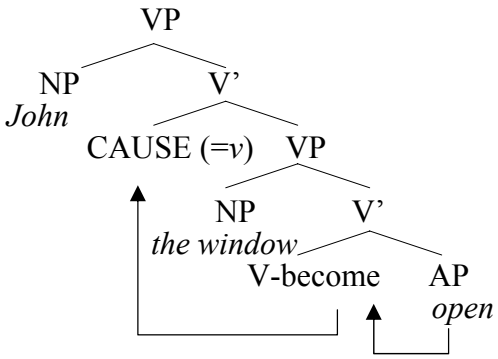
(4) 'Kill'



More recent developments in the theory of predicate decomposition of events in the syntax owe much to the work of Hale and Keyser (1993, and their subsequent work). According to Hale and Keyser (1993), English verbs (including unergatives as well as unaccusative-causative pairs like 'break') contain a more complex syntactic structure than was previously recognized. For instance, a causative sentence like 'John opened the window' can be syntactically represented as (5), extending Larson's (1988)

VP-shell theory. In this structure, the semantic primitives, CAUSE and BECOME (in (2)), are treated as abstract morphemes present in the syntax.

(5)



Although the way that verbal meanings are represented varies among researchers, as we have seen in (2), all studies have converged on the view that complex events are structured into an inner and an outer event, where the outer event is associated with causation and agency, and the inner event is associated with telicity and change of state (e.g., Dowty 1979; Levin and Rappaport 1988, among many others). In (5), the single verb 'open (trans.)' is decomposed into two separate syntactic verbal heads, each of which contributes a subpart of the verbal meaning. The upper VP, with the agent *John* in its Spec position, expresses an outer event, i.e., causation, and the lower VP with the theme in its Spec position expresses an inner event, i.e., the change of state that the window undergoes. By separating the meaning of the transitive 'open' into two sub-eventive parts expressed by separate verbal projections, the result state—*the window becoming open*—of the whole event is made explicit in the syntactic structure. Hale and Keyser (1993) further propose that the theta-roles of the arguments

are determined by the structural positions they occupy: an argument generated in the Spec of the upper V, which takes a VP complement, are interpreted as an agent; *John* in (5), for example, is interpreted as an agent by virtue of being in the spec of the upper V. The upper V is equivalent to Kratzer's (1996) Voice head or to *v* in the Minimalist framework (Chomsky 1995). An argument generated in the Spec of the lower V, which takes either a PP or an AP as its complement, is always interpreted as a theme. In this way, their theory attempts to reduce thematic roles to syntactic configurations that lexical items and other functional elements participate in. The final surface form of a sentence is derived through a series of head movements whereby the phonological content of the adjective, *open*, ends up in the position of the upper V.[1,2]

Hale and Keyser's theory of correlating event structure directly with the syntax was subsequently developed and extended by a number of researchers (e.g., Harley 1995; Kratzer 1996; Pylkkänen 2002), providing the consequence that it was possible to capture a number of linguistic phenomena such as ambiguity of adverbial modification (e.g., von Stechow 1996; Rapp and von Stechow 1999; Tenny 2000; Beck and Johnson 2004) and alternations in argument structure (e.g., Borer 1994; Arad 2000; McGinnis 2001; Pylkkänen 2002; Folli and Harley 2002), to name a few. There has also been considerable morpho-syntactic evidence that eventive predicates like 'open

[1] In later versions of their theory, Hale and Keyser abandon the head movement analysis in favor of a 'conflation' treatment (2000, 2002), which they argue to be a concomitant of the fundamental structure building operation MERGE (Chomsky 1995).

[2] Another noteworthy line of research that decomposes events in the syntax employs functional projections that are aspectual in nature (e.g., Tenny 1992, Ritter and Rosen 1994, 1998; Ramchand 2003; Borer 1994, 2004). See Folli (2002) for a review of this approach and related discussion.

(transitive)' contain a complex event structure composed of an abstract causative head and a constituent denoting a result state. In particular, the postulation of CAUSE in (5) was empirically supported by the fact that CAUSE introducing an external argument is morphologically overt in many languages, provided that complex morphological structure is indicative of predicates having complex syntactic structure (Harley 1996; Miyagawa 1994; Travis 1994, 2000; Davis and Demirdache 2000, among others).[3] Travis (2000), for instance, has shown that the causative head, represented by the topmost verbal head in (5), is realized grammatically by overt morphemes in languages like Malagasy and Tagalog: *-pag-* in Malagasy and *-an-* in Tagalog. Japanese (e.g., Miyagawa 1994; Harley 1995) has also been shown to display an overt morphological instantiation of the verbal head that is associated with an external argument and a causative meaning: the suffix *-sase*. Examples of such morphemes are provided in (6) and (7) from Salish and Tagalog, respectively.

Salish (Davis and Demirdache 2000)

(6)	Unaccusative		Causatives	
a.	kwis	'to fall'	√kwis-***ts***	'to drop something'
b.	t'íq	'to arrive/to get here'	√t'iq-***s***	'to bring something'
c.	us	'to get thrown out'	√us-***ts***	'to throw out something'

Tagalog (Travis 2000)

(7)	Unaccusative		Causatives	
a.	t-um-umba	'x fall down'	m-***pag***-tumba	'y knock x down'
b.	s-um-abog	'x explode'	m-***pag***-sabog	'y scatter x'
c.	l-um-uwas	'x go into the city'	m-***pag***-luwas	'y take x'

[3] Also see Marantz (1997), who draws evidence for a separate CAUSE head in the syntax on the basis of a contrast between verbal and nominal uses of the same lexical root in English.

The postulation of a result-state-denoting constituent, which roughly corresponds to the lower VP in (5), has also been shown to be grammatically real from semantic and syntactic facts concerning adverbial modification (e.g., *again*, *almost*). For instance, it has been argued that different readings of 'again' and 'almost' in German and English provide a test for the syntactic and semantic decomposition of predicates and for the presence of a syntactic constituent denoting a result state encoded in the verbal meaning (e.g., von Stechow 1996; Rapp and von Stechow 1999; Beck and Johnson 2004). I will discuss one of the previous arguments of this type in Section 2.4.

1.3 Objectives

This dissertation defends and elaborates recent approaches that suggest a direct correlation between event structure and the (morpho-)syntax. In particular, I will follow recent proposals that syntactic structure is event structure,

1.3.1 Additional Arguments for Syntactic Decomposition of Events

The primary goal of this dissertation is to provide additional empirical support for the syntactic approach to predicate decomposition. I shall demonstrate that abstract morphemes responsible for denoting subparts of event structure are overtly realized in the morpho-syntax in both Korean and Indonesian. I will also show that the theory of syntactic decomposition (of events) leads to straightforward explanations for numerous linguistic phenomena associated with complex-predicate formation in both languages.

I shall first draw upon morpho-syntactic evidence from Korean in which an abstract causative head implicated in the complex event structure of causative verbs is overtly realized, as illustrated in (8).

(8) Buffy-ka Angel-ul cwuk-***i***-ess-ta.
Buffy-NOM Angel-ACC dead-CAU-PST-DC
'Buffy killed Angel.'

Similar to Salish and Tagalog, as seen in (6) and (7), the causative verb *kill* in Korean is formed by attaching the overt causative morpheme *-i-* to the verb root *cwuk* meaning 'dead'. Thus, the meaning of causation, which introduces a new syntactic argument that causes *Angel* to be dead, i.e., *Buffy*, is overtly realized in the morphology.

Implicit in the theory advocated by Hale and Keyser (1993) is that the heads of each VP in (5) represent conceptual primitives, e.g., notions such as causation represented CAUSE and inchoativity represented by the BECOME. Although my theory of argument structure proposed for Korean (as well as Indonesian) follows this tradition, I shall argue that causation and inchoativity, which are arguably expressed by the higher V and the lower V respectively in (5), do not co-exist in the syntax of morphological causatives. Rather, I aruge that the abstract verbal heads, CAUSE and BECOME, are variants of the same event-determining verbal head, the meaning contribution of which is a change of state. Thus, these two heads reside in the same syntactic position, unlike the structure in (5) in which the inchoative head is embedded under the causative head.

In addition to providing morpho-syntactic evidence for the CAUSE component in Korean, I shall claim, along the lines of von Stechow (1996), that the existence of a result state encoded in the verbal meaning of eventive predicates (e.g. causatives and inchoatives) is not only a fact about concept information but also receives a grammatical realization in the syntactic structure. The evidence for this claim is drawn from the scope ambiguity of *tasi* 'again', which constitutes the foundation for decomposing causative verbs into separate morphemes in the syntax. This line of approach will ultimately lead to a unified syntactic analysis of morphological causatives in Korean, contrary to previous claims that such unification is not possible.

Additional arguments in favor of the syntactic approach to predicate composition are provided by the explanatory power of the theory that views verbs as syntactic constructs, rather than syntactic atoms. In other words, according to the theory of syntactic decomposition of events, a verb like *kill* is not treated as a syntactic atom that enters into the syntax as a whole. Rather, it can be decomposed into smaller parts (or morphemes), such as a verb root √DEAD and an abstract morpheme CAUSE. These morphemes are inserted at their own terminal nodes of the syntactic structure. Extending this line of approach to predicate composition, I analyze verbs of the 'put-on' class in Korean (e.g., *ip* 'put x on one's body'), which are identified as a separate verb class due to their peculiar verbal behavior, as being decomposed into a root and an abstract verbal head (i.e., v_{APPL}). The root denotes the core meaning component of the verb (e.g., *putting a shirt*), while the abstract verbal head expresses where the theme is located (e.g., *on one's body*). I further argue that these verbs show patterns similar to

unaccusative verbs, rather than normal transitives. That is, they lack an external argument in their underlying representation, similar to the syntactic configuration of unaccusative verbs. The analysis of verbs of the 'put-on' class, which draws a parallel between these verbs and unaccusative verbs, provides straightforward explanations for various phenomena that have been independently noted in the literature. In particular, I will demonstrate that the analysis of verbs of the 'put-on' class based on the syntactic decomposition approach provides a better understanding of two facts: (1) the atypical argument structure of morphological passives in which the subject is interpreted as an agent even though passive morphology is present, and (2) the ambiguity of the aspectual marker *-ko iss-* between a progressive and a result-state interpretation with these verbs.

The syntactic decomposition of predicates in terms of event structure also makes it possible to draw a generalization about the function of the verbal suffix *-kan* in Indonesian. Like Korean morphological causatives, causative verbs in Indonesian are formed by attaching the overt morpheme *-kan* to verb roots, as illustrated in (9).[4]

(9) Janet memecah-***kan*** cangkirnya.
Janet meN-break-KAN cup-3
'Janet broke her cup.'

Thus, one could naturally hypothesize that *-kan* is a morphological reflex of a verbal head denoting causation, similar to the causative suffix *-i-* in Korean. However, a number of facts suggest that *-kan* cannot be treated as an overt instantiation of a

[4] The prefix *meN-* is argued to be an external-argument-introducing *v* head for independent reasons. See Section 1.4.1.2.

CAUSE head. One of the factors that lead to this conclusion is that the distribution of the morpheme is not as clear-cut as the causative suffix *-i-* in Korean; the morpheme *-kan* gives an impression that it is multiply ambiguous since it occurs in a number of different constructions. The theory of event decomposition in the syntax, however, allows a unified syntactic and semantic treatment of *-kan* by capturing common traits of the constructions in which *-kan* appears; detailed examination of the *-kan* constructions in terms of event structure reveals that they share the same event structure that consist of a causing event and a result state.

1.3.2 Crosslinguisic Variation and Predicate Decomposition

In addition to providing additional empirical support for the syntactic decomposition of events, detailed investigation of morphological causatives in Korean and Indonesian raises a question regarding whether the encoding of event structure, in particular, causation, in the syntax is invariant across languages.

In languages like English we see little morpho-syntactic evidence for the predicate decomposition of events; for example, causative meanings are often encoded in a single word, such as *kill*. However, as we saw earlier, many languages exhibit overt morphology for the component of causation (e.g., Harley 1995; Davis and Demirdache 2000). Korean provides additional morpho-syntactic evidence for the decomposition of eventive verbs like *kill* into 'cause to be dead', given that the meaning of causation associated with an external causer argument is explicitly articulated by the suffix *-i-* (e.g., (8)). The question that such cross-linguistic differences raise is how and to what

extent languages differ in the way meaning components (here, causation) are realized. One possibility is that languages vary only with respect to form; according to this view the semantic representation of causation would be invariant across languages. This would, in turn, imply that Korean and English, though they differ in form, both represent causation in the same way.

While there is agreement that CAUSE, BECOME, and BE are components of verb meaning that are drawn from a conceptual inventory, no consensus has been reached so far on the following questions:

1) Are semantic components like CAUSE, BECOME, and BE represented in the same way in all languages?
2) Do semantic components like CAUSE, BECOME, and BE have the same syntactic structures in all languages?

Unlike in English, morphological causatives in Korean and Indonesian *prima facie* provide additional morpho-syntactic evidence for the existence of causation in the verbal meaning, since in both languages causative verbs are derived by an overt morpheme *-i-* in Korean, as seen in (8), and *-kan* in Indonesian, as seen in (9). However, detailed examination of morphological causatives in Korean and Indonesian will indicate that although both languages form causative verbs by means of an overt morpheme, they nevertheless differ in terms of which semantic component of causation is reflected in the morpho-syntax. Specifically, I shall claim that Korean and Indonesian grammaticalize a different semantic component of events, i.e., a causing event in

Korean versus a resulting state in Indonesian. I also argue that the meaning of causation that relates two eventualities in a causal chain is reflected in the morpho-syntax in a different way; in Korean the meaning component that relates two eventualities in a causal relation (i.e., CAUSE) is encoded by the verbal head that introduces an external argument, i.e., a constituent that denotes an outer event. In contrast, the same meaning component that establishes a causal relation between two eventualities is encoded in Indonesian by the Result head that is associated with a result state, an inner event.

1.4 Framework

1.4.1 Syntax

The analyses presented in this dissertation assume the framework of Distributed Morphology (Halle and Marantz 1993). The central claim of distributed morphology is that the syntax does not manipulate full lexical items, unlike the theory of LGB (Chomsky 1981) and its Lexicalist descendants. Rather, the syntax proper generates structures by combining morphosyntactic features (via Move and Merge) selected from the inventory available, subject to the principles and parameters governing such combination. It is further assumed that the phonological expression of syntactic terminals is, in all cases, provided in the mapping to Phonological Form. In other words, syntactic categories are purely abstract, having no phonological content. Only after syntax are phonological expressions, called Vocabulary Items, inserted in a process called Spell-Out, i.e., Late Insertion.

Distributed Morphology abandons the distinction between syntactic derivation and morphological derivation, taking seriously the assumption that syntax is the single generative engine of the human language faculty. Thus there is no lexicon in the traditional sense—the functions previously assigned to it are now distributed through various other components. It is therefore meaningless to talk about separate lexical, morphological, and syntactic processes, because Distributed Morphology (DM) assumes a uniform derivation in which all derivation occurs.

Based on the approach advanced in DM, all causatives will contain an abstract head with a [+CAUSE] feature, which has no phonological realization in the syntax.[5] Thus, it is not necessary to make any appeal to the separate level of what Hale and Keyser (1993) call 'lexical syntax', a level distinct from regular clausal syntax, in order to account for different types of morphological causatives. Both are simply considered to be one module: syntax.

Following Marantz (1997), I further assume words to be category-less concepts, i.e., roots (or √) (to adopt the terminology of Pesetsky 1995). They gain their categorical status by being associated with a functional head that determines their word category. For example, a verb is a root whose nearest c-commanding head is *v*, while a noun is a root whose nearest c-commanding head is a Determiner. Thus, the same Vocabulary Item may appear as different morphological categories depending on the

[5] Later in the discussion, I will assume that the CAUSE head, in fact, contains two features [+CAUSE, $+\theta_{EXT}$], as in Pylkkänen (2002), and call the projection headed by this CAUSE head 'v_{CAUSE}P'. The feature [$+\theta_{EXT}$] is what is responsible for introducing an external argument such as an agent, a causer, a source, etc.

syntactic context that the item's root appears in. For instance, the Vocabulary Item *destroy* is realized as a noun, *destruct-(ion)*, when its nearest licenser is a Determiner, but as *destroy* when its nearest licenser is *v*. I further assume that the top-most-verbal head determines the argument and event structure of a sentence (see Section 2.6.1.2).

Most work in Distributed Morphology does not recognize a set of discrete thematic roles. Instead, following the insight of Hale and Keyser (1993), thematic roles are reduced to structural configurations. For example, Harley (1995) proposes that 'Agent' is the interpretation given to arguments projected into the specifier of Event Phrase (see also Travis 1994 on 'Event Phrase' and Kratzer 1996 for related ideas). 'Theme' corresponds to the interpretation given to any argument projected as the sister of a root.

The licensing mechanism for arguments employed in this dissertation (both in Korean and Indonesian) follows Chomsky's (1998, 1999) Minimalist Program. In his system, all arguments receive case in their base position. Case is assigned either by a licensing head (i.e., inherent case) or through a structural case mechanism via Agree (i.e., accusative and nominative). Chomsky (1998, 1999) argues that feature checking, the mechanism of syntactic licensing (i.e., case assignment), takes place via an abstract operation called Agree, as stated in (10).

(10) AGREE

: establishes a relation (agreement, Case checking) between an LI (lexical item) α and a feature F in some restricted search space (its domain).

1.4.2 Semantics

I assume that syntactic heads combine with their complements and specifiers via the traditional mode of semantic composition, which I take to be Functional Application, following Heim and Kratzer (1998). The interpretation of a sentence is thus compositional and type-driven, with only a limited set of interpretational rules, as stated in (11) through (13).

(11) Terminal Nodes (TN)

If α is a terminal node, 5α⟧ (the semantic value of α) is specified in the lexicon.

(12) Non-Branching Node (NN)

If α is a non-branching node, and β is its daughter node, then ⟦α⟧ = ⟦β⟧

(13) Functional Application

If α is a branching node, {β, γ} is the set of α's daughter's, and ⟦β⟧ is a function whose domain contains ⟦α⟧, then ⟦α⟧ = ⟦β⟧ (⟦γ⟧).

Heim and Kratzer (1998)

I further assume that verbs in general are taken to have neo-Davidsonian meanings, where the verb itself names a property of an eventuality, and the syntactic arguments of the verb name event participants, i.e., individuals who stand in thematic relations to the eventuality (Parsons 1990, building on work by Davidson 1967 and Castañeda 1967). In Neo-Davidsonian event semantics, verbs are taken to be one-place predicates of events denoting sets of events, and arguments (as well as adjuncts) are expressed by two-place predicates denoting thematic relations. In this type of a framework, a verb is a predicate of events, and it is linked to its arguments through thematic roles. Furthermore, the

meanings of sentences involve underlying quantification over events; event variables are always bound by an existential quantifier since, unlike other thematic arguments of verbs that are realized as overt DPs, event arguments have no syntactic correlates. Thus a sentence like (14a) can be semantically represented as (14b).

(14) a. Buffy killed Angel.
b. ∃e.[kill (e) & Agent (e, Buffy) & Theme (e, Angel)]

The verb *kill* is treated as a predicate of events, and individuals participating in the event as agent or theme are linked to the event by means of theta roles. The predicate of events in (14b) is 'existentially closed' and changed to a proposition, as in (b), by binding the variable over events *e* with an existential quantifier.

Marantz (1984) notes that external arguments seem to have a special status because they are rarely able to trigger a special interpretation of the verb (e.g., idiomatic readings), unlike internal arguments. Kratzer (1996), drawing on Marantz (1984), argues that there is a distinction between the internal arguments of verbs, which are part of the lexical entry and appear in the lexical semantic representation as arguments of the main predicate, and external arguments, which are introduced by a separate functional head, Voice; external arguments are not arguments of verbs, but rather arguments of a separate functional element, namely Voice, equivalent to *v*P in the Minimalist framework, to Predicate Phrase in Bowers (1993), and to a neo-Davidsonian predicate Agent (x, e). According to Kratzer (1996), the external-argument-introducing-Voice is interpreted as a thematic relation that holds between the individual (e.g., the agent) and

the event described by its complement (i.e., VP), as shown in (15).

(15) Voice: λx. λe. Agent (e, x)

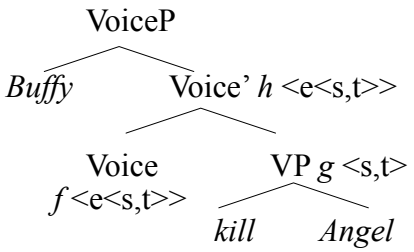
In order to ensure that the agent introduced by Voice is a participant of the same event denoted by the verb, Kratzer further proposes that the external-argument-introducing Voice combines with VP by a rule of semantic composition that she dubs "Event Identification". This compositional rule is a special kind of conjunction operation that chains together various conditions for an event described by a sentence. In other words, event identification allows us to relate a participant introduced by Voice (e.g., an agent) to the event described by the verb, not some other event. The compositional rule of Event Identification is stated in (16). The semantic types involved here are *e* for individuals, *t* for propositions, and *s* for eventualities.

(16) Event Identification (Kratzer 1996):

f	g	→	h
<e <s,t>	<s,t>		<e, <s,t>>
λx. λe. Agent (e, John)	λe. wash (e, clothes)	→	λx. λe. [Agent (e, John) & wash (e, clothes)]

An illustration of the semantic composition of a sentence in terms of the neo-Davidsonian semantics is given in (17).

(17) a.



b. ⟦Angel⟧ = Angel (TN)

⟦kill⟧ = λx. λe [kill (e) & Theme (e, x)] (TN)

⟦kill Angel⟧ =λe. [kill (e) & Theme (e, Angel)] (FA)

⟦Voice⟧ =λy. λe. [Agent (e, y)] (TN)

⟦Voice'⟧ = λy.λe. [Agent (e, y) & kill (e) & Theme (e, Angel)] (EI)

⟦Buffy⟧ = Buffy (TN)

⟦VoiceP⟧ = λe. [Agent (e, Buffy) & kill (e) & Theme (e, Angel)] (FN)

As seen above, when we introduce the external argument, we merge Voice, which expresses a thematic relation between an individual *Buffy* and an event *e*, with the VP. The compositional rule of event identification identifies the event in which *Buffy* is an agent with the event in which Angel gets killed. In more technical terms, the verb combines with its object to produce *g* <s,t>, a function from an event argument to a truth value. The voice head *f* of type <e<s,t>> is a function taking an individual *e* and an event *s* as arguments. Event identification combines these two functions, *g* and *f*, and unifies their event arguments. This is why *Buffy* ends up being the agent of the killing event and not some other event, as would be the case if Buffy were a true argument of *kill* in the traditional sense. Hence the compositional rule of event identification

resolves an interpretive problem that arises when external arguments are introduced by a separate VP-external verbal head.

1.5 Roadmap

Chapter 2 examines morphological causatives in Korean. The central question with which this chapter is concerned is the component of the grammar in which causative verbs are formed. It has often been argued that morphological causatives are divided into two different types: the decomposable type, which is formed in the syntax, and the non-decomposable type, which is formed in the lexicon (e.g., Kim 1998). I will call the former type "agentive morphological causatives (agentive MCs)" and the latter type "non-agentive morphological causatives (non-agentive MCs)" on the basis of the semantics of the causee. Contrary to previous claims, I shall argue that all morphological causatives are decomposable into separate events, a causing event and a result state. The evidence for this claim is provided by 'again' modification, which has been used as a diagnostic for a result-state-denoting component in the verbal meaning (von Stechow 1996). Scope ambiguity with respect to 'again' in Korean indicates that the decomposition is not merely a fact about conceptual or semantic information, but is also reflected in the syntactic structure. Adopting the structural theory of 'again' proposed by von Stechow (1996), I shall claim that causative verbs in Korean are decomposed into a verb root and a causative head, and that the ambiguity arises due to two attachment sites available for the adverb in the syntactic structure. I will further show that the syntactic decomposition approach to all causative verbs leads to a unified

syntactic analysis of morphological causatives. The seeming morphological causative split into two types is shown to arise from the differences in the complement for which a causative head selects.

Chapter 3 is devoted to characterizing as precisely as possible the type of verb that appears in each type of morphological causative identified in Chapter 2. Intransitives that occur in the non-agentive and the agentive MC are unambiguously divided into unergatives and unaccusatives, respectively. With respect to transitive verb bases, however, it is often argued that a systematic classification of verbs that appear in each type of MC is not possible (Kim 1998). I shall argue, however, that once we adopt the syntactic decomposition approach and take the semantic and syntactic properties of the base verb into consideration, certain generalizations are indeed possible with respect to the type of verb that appears in each type of morphological causative. In particular, I shall propose that transitive verbs that appear in non-agentive MCs are systematically categorized as verbs of the 'put-on' class. I further argue that these verbs form a syntactically coherent class with unaccusative verbs in the sense that both verb types lack an external-argument-introducing *v* head in their underlying representation. This proposal regarding the semantic and syntactic structure of the verbs of the 'put-on' class then provides explanations for the similarities between these verbs and unaccusative verbs in terms of their distribution in morphological causatives; they both occur in non-agentive morphological causatives. In this chapter, I also discuss the source of argument structure alternations (e.g., the causative-non-causative alternation). I argue that the argument structure alternations occur when the same root is allowed to be inserted in

more than one syntactic environment. For instance, the causative-inchoative alternation arises from a difference in the verbal head with which the same root morpheme merges. Causative verbs are derived when roots merge with v_{CAUSE}, corresponding to the CAUSE component in the verbal meaning, and inchoative verbs are derived when the same roots merge with v_{INCHO}, corresponding to the BECOME component. This line of analysis is shown to explain not only morphological facts about the causative-inchoative alternation but also the scope ambiguity of 'again' associated with both causative and inchoative predicates.

In Chapter 4, I shall demonstrate that the analysis of verbs of the 'put-on' class advanced in Chapter 3 provides straightforward explanations for other phenomena associated with these verbs, such as the atypical argument structure realization of morphological passives and the ambiguity of the aspectual marker *–ko iss-*. These two phenomena have been considered to be independent from each other in the previous literature. However, closer inspection of verb bases occurring in these two constructions reveals that the atypical patterns associated with these two constructions arise from the same source that is linked to the peculiar semantic and syntactic properties of verbs of the 'put-on' class. It is shown that the atypical argument structure of morphological passives and the ambiguity of *-ko iss-* are natural outcomes of the syntactic and semantic structure of verbs of the 'put-on' class advanced in this dissertation.

Chapter 5 provides additional morpho-syntactic evidence for the existence of a result-state constituent encoded in the verbal meanings of morphological causatives as well as other causative-like constructions (e.g., benefactive double object

constructions). By detailing the properties of the Indonesian suffix *–kan* based on the theory adopted in this thesis, I shall show that grammatical constructions associated with *–kan* share the same underlying event structure. In this analysis, I extend the syntactic decompositional model of predicate composition and the view that agency is not part of the verbal meaning but is introduced by a separate functional head, Voice (Kratzer 1996) or *v* (Chomsky 1995). I further argue that √P (or VP in a traditional sense), which has often been considered to be an ontological category, has a more expanded structure than was previously recognized, along the lines of Ramchand and Svenonius (2002), among others. By developing an explicit semantic and syntactic analysis of the suffix *-kan*, it is not only possible to provide a unified syntactic and semantic analysis of the morpheme, but is also possible to present an additional empirical argument in favor of the existence of a result-state-denoting constituent in various constructions (e.g., double object constructions, goal-PP constructions, etc.). The detailed investigation of the morpheme *-kan* also reveals that languages may differ in terms of the encoding of causation in the morpho-syntactic structure. Unlike in Korean, in which the meaning of causation directly correlates with an external argument, in Indonesian causation, which relates two eventualities in a causal chain, need not be coupled with an external argument. Rather, I argue that the semantic component that establishes a causal relation between two events resides in the result state, which is expressed by a constituent embedded low in the syntactic structure.

Let us now turn to Chapter 2, which examines morphological causative formation in Korean.

CHAPTER 2

Syntactic Decomposition of Events and Morphological Causatives in Korean[6]

2.1 Introduction

Having outlined the fundamental aspects of this thesis regarding argument structure and the semantics-syntax interface, I will now provide arguments in favor of the claims set forth earlier by detailing an analysis of verbal alternations in Korean. The type of alternation under primary consideration in this chapter is the well-studied causative-non-causative alternation (e.g., a causative-inchoative alternation) or the transitivity alternation in terms of the number of the verb's argument (e.g., a transitive-intransitive alternation).

The alternation between a transitive and an intransitive predicate is commonly attested cross-linguistically. Let us first consider examples from English.

(18) a. The ice melted.
b. Sally melted the ice.

The sentences in (18) involve a shift in the verb's transitivity and the syntactic representation of arguments; the syntactic subject in the intransitive sentence in (18a)

[6] Part of the material discussed in this chapter was presented at the 13th Japanese/Korean Linguistics Conference held at Michigan State University, Lansing, MI, and the 4th Asian GLOW conference held at Seoul National University, Seoul, Korea. I thank the audience at these conferences for their valuable comments and criticisms.

occurs as the syntactic object of the sentence in the transitive counterpart, (18b). Despite the different syntactic position, the object of the transitive variant bears the same semantic relation to the verb as the subject of the intransitive variant, i.e., the theme. In the transitive counterpart, we also observe an additional argument which serves as the syntactic subject of the sentence, *Sally*. The alternation shown in (18) is often characterized as a causative-inchoative alternation due to the semantic relation between the two sentences; the intransitive sentence—*the ice melted*—denotes a change of state that the ice undergoes, and the transitive sentence—*Sally melted the ice*—describes an event in which Sally brings about or causes this change of state.

The same type of transitivity alternation, i.e., the causative-inchoative alternation (in the semantic sense) or the transitive-intransitive alternation (in the syntactic sense), is prevalent in Korean. Consider (19) and (20), for example.

(19) a. Elum-i nok-ass-ta.
Ice-NOM melt-PST-DC
'The ice melted.'

b. Chelswu-ka elum-ul nok-***i***-ess-ta.
Chelswu-NOM ice-ACC melt-CAU-PST-DC
'Chelswu melted the ice.'

(20) a. *Elum-i nok-***i***-ess-ta.
Ice-NOM melt-CAU-PST-DC
'The ice melted.'

b. *Chelswu-ka elum-ul nok-ass-ta.
Chelswu-NOM ice-ACC melt-PST-DC
'Chelswu melted the ice.'

(19a) is an intransitive sentence in which the verb takes only one argument undergoing a change of state, while (19b) is a transitive sentence in which the verb takes two event participants, one causing the event, *Chelswu*, and the other undergoing the change of state, *the ice*. In English, the transitive variant of the verb (e.g., *melt* in (18b)) is not morphologically distinct from the intransitive variant (e.g., *melt* in (18a)); the same verb form is used either as an inchoative or as a causative verb. However, as shown in (19), Korean, like many other languages (e.g., Japanese, Indonesian, Malagasy), often marks the difference in transitivity with overt morphology; the causative/transitive variant of the verb *nok*- 'melt' must be marked by the suffix -*i*-, as in (19b). The absence of the suffix on the causative/transitive counterpart leads to ungrammaticality, as shown in (20b). In contrast, the intransitive variant of *nok*- 'melt' must occur as a bare form, as in (19a). The suffixation of -*i*- to the intransitive counterpart makes the sentence ungrammatical, as shown in (20a). Due to the change in meaning associated with the morpheme -*i*- (e.g., from an inchoative to a causative meaning), this morpheme is often characterized as a causative suffix in Korean.[7] Verbs derived with the morpheme -*i*- (e.g., (19b)) thus are characterized as morphological causative verbs.

One of the frequently debated questions regarding morphological causative formation in Korean has been whether the formation of morphological causatives takes

[7] The causative suffix in Korean is realized in various forms, such as ***i, -hi, -li, -ki, -(i)wu, -kwu,*** and -***chwu.*** These variants are not completely predictable on the basis of the phonological environment, although verb roots ending in the sound -*i*- cannot take one of the -*i*- variants. Following Um (1995), among others, I will regard -*i*- as the underlying form for these allomorphs.

place in the lexicon or the syntax. A number of researchers (e.g., Yeon 1994; Um 1995) have claimed that morphological causative formation in Korean takes place in the lexicon, citing the idiosyncratic nature of verbs that participate in this derivational process; some even argue that the type of verb that undergoes morphological causativization is unpredictable and idiosyncratic, and thus verbs derived by the causative morpheme *-i-* must be listed in the lexicon separately from their base verbs (Yeon 1994). Other researchers argue that morphological causatives are derived from their base verbs by a lexical process (e.g., Park 1991; Park 1993; Um 1995). Some researchers (e.g., Kim 1998) take a less extreme position than the pure lexicalist approach to all morphological causatives; they argue that some morphological causatives are formed in the syntax on the basis of their semantic and syntactic properties (e.g., compositionality, adverbial modification). However, for the majority of verbs, it is still argued that the morphological causative is formed in the lexicon.

Contrary to these previous claims, I argue that all morphological causative predicates are constructed in the syntax based on the theoretical position that there is only one generative component, i.e., the syntax (Marantz 1995, 1997). I shall further claim that morphological causatives are not syntactically atomic units but are decomposable into separate morphemes in the syntactic structure, contrary to the lexicalist claim. Evidence for this claim is provided by scope ambiguity of the eventive adverb 'again', which has been argued to be a diagnostic for a syntactic constituent denoting a result-state (von Stechow 1996). By demonstrating the ambiguity of *tasi* 'again' in Korean, I shall show that morphological causatives that have been believed to

be non-decomposable, which has been the basis for the lexical approach to morphological causative formation, are decomposable into two separate events: a causing and a caused/result state. I shall further show that, once we look closely at the interaction between the lexical semantic and syntactic characteristics of the base verb, the type of verb that participates in the process of morphological causativization is not entirely unpredictable, but certain generalizations are indeed possible.

This chapter is organized as follows: I first discuss the distribution of morphological causatives in Korean, the base predicates of which include both intransitives and transitives. In Section 2.3, I will present some of the previous approaches to the formation of morphological causatives, which divide the morphological causatives into two types on the basis of their semantic and syntactic properties. Section 2.4 recapitulates the syntactic theory of 'again' proposed by von Stechow (1996) and adopted by various researchers (e.g., Harley 1995; Beck and Johnson 2004). In Section 2.5, I shall demonstrate that 'again' modification indicates the decomposability of all morphological causatives. As such, I challenge the claim advanced by proponents of a lexical analysis that some causatives are neither syntactically nor semantically decomposable, and thus they must be formed in the lexicon. On the basis of 'again' modification, Section 6 provides a unified syntactic analysis of morphological causatives. I argue that all causatives, whether lexical or morphological, are decomposed into an abstract verbal head denoting a causing event, and a constituent denoting a result-state (e.g., a root). In Section 2.7, I demonstrate how the syntactic analysis of morphological/lexical causatives explains facts about adverbial

modification. The types of adverbs under primary consideration include the eventive adverb 'again' and manner adverbs. Section 2.8 summarizes the chapter and raises some questions that will be of central concern in the following chapter.

2.2 The Causative Alternation

A fairly large number of predicates in Korean, including unaccusatives, unergatives, and transitives, can participate in a causative alternation in which they exhibit overt morphological marking. However, causative alternation (or morphological causativization) is not completely productive, and is limited to only certain predicates.[8] The question that naturally arises, then, is how to characterize the group of predicates

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[8] Korean also employs syntactic causatives, the predicates of which are formed by the light verb *ha-* 'do' and a base verb marked by the complementizer *-key*, as illustrated in (i).

(i) Inho-ka elum-ul nok-key ha-(y)ss-ta.
Inho-NOM ice-ACC melt-KEY do-PST-DC
'Inho caused the ice to melt.'

(ii) Mary-ka Inho-eykey Tom-ul cwuk-i-key ha-(y)ss-ta.
Mary-NOM Inho-DAT Tom-ACC dead-CAU-KEY do-PST-DC
'Mary caused Inho to kill Tom.'

Unlike morphological causatives, the syntactic causatives are completely productive, given that they can be formed from morphological causative verbs, as seen in (ii).
A number of researchers (Shibatani 1975; Yang 1984; Lee 1985) have noted that syntactic causatives can express many other manipulative actions, such as command, order, permission, etc. In contrast, morphological causatives can only express causation and are considered to be semi-productive (e.g., Sohn 1999); morphological causatives are not as productive as syntactic causatives, but quite a large number of verbs undergo morphological causative formation. Since it is generally agreed that syntactic causatives are formed in the syntax and involve complex syntactic structures, this type of causative will not concern us here for the main purpose of the dissertation.

that can or cannot undergo morphological causativization. The conclusion that many researchers have drawn regarding this question is that a predicate's ability to undergo morphological causativization is not predictable on the basis of phonological, semantic, or syntactic information (e.g., Park 1986), and thus all morphological causative verbs are registered in the lexicon separately from their base verbs (Yeon 1994).

It may be true that one cannot predict which type of predicate undergoes morphological causativization on the basis of syntactic (or semantic) information. In Korean, there seems to be no syntactic constraint that would define the class of verbs that can enter into the non-causative and causative alternation. The type of predicate that is normally subject to the causative alternation across languages has been found to be unaccusative verbs (see Levin and Rappaport-Hovav 1995). The formation of morphological causatives in Korean, however, challenges this generalization since it applies more freely than in other languages (e.g., English); Korean allows morphological causativization of both intransitives (including unaccusatives and unergatives (§2.2.1)) and transitives (§2.2.2).[9,10] I will discuss the distribution of

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[9] Inherently ditransitive verbs (e.g., *cwu-* 'give'), however, are strictly prohibited from undergoing morphological causativization, as illustrated in (iiia). The productive syntactic causatives, however, can be formed based on these verbs, as in (iiib).

(iii) a. *John-i Mary-eykey senmwul-ul Inho-eykey cwu-i-ess-ta.
John-NOM Mary-DAT gift-ACC Inho-DAT give-CAU-PST-DC
'John caused Mary to give Inho a gift.'

b. John-i Mary-eykey senmwul-ul Inho-eykey cwu-key ha-(y)ss-ta.
John-NOM Mary-DAT gift-ACC Inho-DAT give-KEY do-PST-DC
'John caused Mary to give Inho a gift.'

morphological causatives on the basis of syntactic properties (e.g., the transitivity of base verbs) in great detail in the following section.

The conclusion drawn in the previous literature that a predicate's ability to undergo morphological causativization is not predictable on the basis of phonological information seems to be proven wrong. Once we look closely at phonological information about predicates that undergo morphological causativization, certain generalizations are indeed possible. Thus, before detailing out the distribution of morphological causatives, let us first consider what kind of phonological information plays a role in deciding whether certain predicates can be morphologically causativized. Taking phonological constraints into consideration is necessary, since it sheds some light on the apparent semi-productivity of morphological causatives. Two phonological constraints seem to be relevant for the well-formedness of morphologically derived causative verbs in Korean[11]: (1) The causative suffix is restricted to mono-syllable verb roots (e.g., **cala-i-* 'grow-CAUSE')[12]: (2) The causative suffix is resistant to verb roots

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[10] It has often been suggested that the causative alternation can be used as a diagnostic for unaccusativity in a number of languages (e.g., English) (Levin and Rappaport-Hovav 1995). Given the fact that both intransitive and transitive verbs can be morphologically causativized in Korean, the causative alternation is not a valid diagnostic for unaccusativity in Korean.

[11] Kim (1998) notes that the suffixation of the causative morpheme is restricted to native Korean verbs; none of Sino-Korean verbs, which are directly/indirectly borrowed from Chinese words, cannot form morphological causatives. This follows from the mono-syllable restriction since sino-Korean words are composed, by and large, of two or more morphemes, with each morpheme consisting of a single syllable, as in *yaksokha-* 'promise', *malha-* 'talk', etc. See Sohn (1999, pp. 102-115) for more examples.

[12] There are a couple of predicates with more than one syllable, which allow the causative morpheme (e.g., *telep-hi-* 'dirty-CAUSE' and *malu-i-* 'dry-CAUSE').

ending in the *-wi-* sound (e.g., **ttwi-i-* 'run-CAUSE'), although the number of verbs that end in this sound is very limited. As we will see later on, verb roots ending in the sounds /i/ or /y/ cannot take one of the *-i-* variants of the causative suffix, presumably due to some phonological constraint (e.g., a ban on a sequence of the same/similar vowels). Rather, the causative suffix is realized as *-wu-* (e.g., *pi-wu-* 'empty-CAUSE'). According to this general pattern for the phonological realization of the causative suffix, we might predict that when it combines with mono-syllabic verb roots ending in *-wi-*, the suffix would be realized as *-wu-* as a result of its following segment of the diphthong. However, verbs ending in *–wi-* (e.g., *ttwi-* 'run' and *thwi-* 'bounce') cannot take the causative suffix (e.g., **ttwi-wu-* 'run-CAUSE' and **thwi-wu-* 'bounce-CAUSE'). The ungrammaticality of 'run+CAUSE' and 'bounce+CAUSE' is difficult to explain on the basis of the verb's syntactic/semantic traits; the unergative verb *ket-* 'walk', with its similar syntactic and semantic properties, may be suffixed with the causative morpheme *-i-*, i.e., *kel-li-* 'walk-CAUSE'. The verb *thwi-* 'bounce', in so far as it is an unaccusative predicate, would appear to be a good candidate for the causative alternation. Therefore, the ungrammaticality of the aforementioned illicit causative verbs may only be explained by some phonological constraints active in Korean (e.g.,

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However, as far as the data reported in this work are concerned, the general pattern is that suffixation of the causative morpheme is restricted to one-syllable predicates. Furthermore, the causative verb *malu-i-* 'dry-CAUSE' is phonologically realized as *mal-li-* by deleting the vowel /u/ and re-syllabifying the onset of the second syllable /l/ as the coda of the first syllable. This seems to suggest that the underlying form of 'be dirty' is a single-syllable predicate *mal-*, rather than *malu-*. If this turns out to be true, there exists, to my knowledge, only one exception to the generalization that has been made here.

an illegal sequence of /wi/ and /wu/). The phonological conditions discussed thus far play an important role in constraining the range of possible verbs that undergo morphological causativization, which seems to be the source of semi-productivity of morphological causatives.[13]

Keeping in mind the phonological constraints identified above, let us now turn to more examples of the causative alternation in the following sections.

2.2.1 Intransitive Verb Bases

As mentioned earlier, both unaccusative and unergative predicates can participate in morphological causativization in Korean. However, the majority of the intransitive predicates that appear in the causative alternation are unaccusative predicates, which include (pure) stative and change of state (=inchoative) predicates, as illustrated in (21) and (22).[14]

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[13] Washio (1999) notes, citing Kwon (1991), that syntactic causatives and morphological causatives used to co-exist historically. Then some variants of the causative suffixes (e.g., *-i-*, *-hi-*, *-li-*, *-ki-*) came to function as passive suffixes, which led to the so-called 'homophony crush'. As the grammatical system requires such homophony crush to be avoided, Washio (1999) claims that the use of a number of morphological causative verbs has been suppressed by syntactic causatives. If this claim is right, 'homophony crush' may be considered to be another source of constraining verbs from undergoing morphological causatives.

[14] I make a distinction between two types of states, a result-state that entails some prior event that gives rise to the resulting state (e.g., *broken*) and a pure state that does not presuppose any prior event but simply denotes property concepts related to speed, age, dimension, etc. (e.g., *red*, *wide*). See also Koontz-Garboden and Levin (2004), Koontz-Garboden (2005), and Embick (2004) for the necessity of distinguishing a pure state from a result state and related references therein.

(21) a. Kil-i ***nelp***-ta.
Road-NOM wide-DC
'The road is wide.' (Stative)

b. Inpwu-ka kil-ul ***nelp-hi-***n-ta.
Worker-NOM road-ACC widen-CAU-PRES-DC
'Workers are widening the road.'

(22) a. Elum-i ***nok***-ass-ta.
Ice-NOM melt-PST-DC
'The ice melted.'

b. Chelswu-ka elum-ul ***nok-i***-ess-ta.
Chelswu-NOM ice-ACC melt-CAU-PST-DC
'Chelswu melted the ice.' (Change of State: Inchoative)

Example (21a) involves a stative predicate. The suffixation of *-i-* to the base predicate adds an argument interpreted as a participant who causes the argument of the existing predicate to be in the state denoted by the predicate, as in (21b). Example (22a) denotes the spontaneous event of ice undergoing a change of state, from being frozen to being melted. The suffix *-i-*, when affixed to the base predicate, as in (22b), adds an extra argument, which is understood to be an external force causing the ice to be in a state of being melted.[15]

A large number of transitive verbs in Korean are derived from underlying stative and change of state verbs, as listed in (23) and (24).[16]

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[15] I argue that the causative meaning in morphological causatives whose base predicates are unaccusatives does not include an inchoative meaning; the causative predicate *nok-i-* 'melt-CAUSE' is interpreted as 'cause to be melted', rather than 'cause to become melted'. See section 3.2.2 for detailed discussion regarding this claim.

[16] Although I try to illustrate as many verbs as possible that undergo morphological causativization, it should be noted that the list of the verbs provided in this dissertation is not exhaustive.

(23) Stative Predicates

Basic		Causative	
nwuk-	'soft/loose'	nwuk-***i***-	'soften/make tender'
noph-	'high'	noph-***i***-	'make higher'
malu-	'dry'	mal-***li***-	'make x dry'
nulk-	'old'	nulk-***hi***-	'make x old'
nelp-	'wide'	nelp-***hi***-	'widen'
malk-	'clear'	malk-***hi***-[17]	'make x clear'
cop-	'narrow'	cop-***hi***-	'make x narrow'
palk-	'bright'	palk-***hi***-	'brighten'
telep-	'dirty'	telep-***hi***-	'make x dirty'
cec-	'wet'	cek-***si***-	'make x wet'
pi-	'empty'	pi-***wu***-	'make x empty'
khu-	'large'	kh(u)-***iwu***-	'make x large'
nac-	'low'	nac-***chwu***-	'lower'
mac-	'fit'	mac-***chwu***-	'make x fit'
cha-	'cold'	cha-***ywu***-	'make x cold'
nuc-	'late'	nuc-***chwu***-	'delay'

[17] The causative verb *malk-hi-* 'clear-CAUSE' is no longer used in colloquial speech. However, this form is certainly a well-formed word according to the dictionary and can be used in the following context.

(iv) maum-ul takk-nun kes-to mwul-ul **malk-hi**-nun tey piha-myen
mind-ACC clear-REL thing-also water-ACC clear-CAU-REL case compare-if
coh-ul kes-i-ta.
good-REL hing-copular-DC
'We could compare cultivating one's mind to clearing water.'

The disappearance of the verbal form *malk-hi-* in colloquial speech seems to suggest that the process of morphological causativization in the past may have been more productive than it seems in the synchronic system. Thus, if one finds a gap for the causative-unaccusative pair, it may be due to the fact that the causative form underwent some historical change; it could be the case that the non-existing causative counterpart may have existed historically, but it is no longer used in the modern Korean.

(24) Change of State Verbs

Basic		Causative	
cwuk-	'die'	cwuk-***i***-	'kill'
cwul-	'decrease'	cwul-***i***-	'reduce'
nok-	'melt'	nok-***i***-	'melt x'
ik-	'be cooked'	ik-***hi***-	'cook'
kwut-	'harden (intran.)'	kwut-***hi***-	'harden (trans.)'
mwut-	'be stained (with)'	mwut-***hi***-	'stain/smear'
nam-	'remain'	nam-***ki***-	'leave'
el-	'be frozen'	el-***li***-	'freeze x'
olu-	'go up'	ol-***li***-	'raise'
nwut-	'get scorched'	nwul-***li***-	'scorch/overcook (e.g., rice)'
tha-	'burn'	tha-***ywu***-	'burn x'
sal-	'live'	sal-***li***-	'bring x to life'
kkay-	'wake up'	kkay-***wu***-	'wake x up'
tal-	'get hot'	tal-***kwu***-	'make x hot'
ttu-	'float/fly'	ttu-***ywu***-	'make x float/fly'
cha-	'be filled with'	cha-***ywu***-	'make x be filled with'

In Korean, unergative verbs can also undergo morphological causativization. Consider (25), for example.

(25) a. Mia-ka hakkyo-kkaci kel-ess-ta.
Mia-NOM school-until walk-PST-DC
'Mia walked to school.'

b. Chelswu-ka Mia-lul hakkyo-kkaci kel-***li***-ess-ta
Chelswu-NOM Mia-ACC school-until walk-CAU-PST-DC
'Chelswu made Mia walk to school.'

As with morphological causatives formed from unaccusative predicates, the added argument in the transitive alternant is interpreted as the causer that brings about the event denoted by the base verb. The accusative-marked DP of the causative sentence,

Mia, bears the same semantic role as the subject of the unergative base, i.e., the agent. More examples with unergative verb bases are given below.

(26) Unergative Verb Bases

Basic		Causative	
tul-	'enter'	tul-***i***-	'make x enter'
wul-	'cry'	wul-***li***-	'make x cry'
ket-	'walk'	ket-***li***-	'make x walk'
wus-	'laugh'	wus-***ki***-	'make x laugh'

Other typical unergative verbs in Korean such as 'run', 'dance', and 'sing' are either polysyllabic roots, or roots ending in the phonemic sequence -*wi*-, as illustrated in (27). These verbs, therefore, cannot undergo morphological causativization due to the phonological constraints discussed earlier.

(27) Unergatives that cannot appear in MC formation

Basic		*Causative	
ttwi-	'run'	*ttwi-***i**- or *ttwi-***wu**-	'make x run'
talli-	'run'	*talli-***i**- or *talli-***wu**-	'make x run'
chwum-(ul) chwu	'dance (a dance)'	*chwum(-ul) chwu-***i**-	'make x dance'

Furthermore, a large number of unergative verbs are sino-Korean words that are composed of more than two morphemes or even words (e.g., *swuyengha*- 'swim', *wundongha*- 'exercise', *nolay pwulu*- 'sing a song'). Thus, the small number of inventory of morphological causatives formed from unergatives may not be surprising.

2.2.2 Transitive Verb Bases

Korean also allows transitive verbs to be morphologically causativized, as illustrated in (28) through (30).

(28) a. Ai-ka os-ul ip-ess-ta.
child-NOM clothes-ACC put.on-PST-DC
'The child put on the clothes.'

b. Emma-ka ai-eykey os-ul ip-***hi***-ess-ta.
Mother-NOM child-DAT clothes-ACC put.on-CAU-PST-DC
'I dressed the child/ I caused the child to put on the clothes.'

(29) a. Ai-ka moca-lul ss(u)-ess-ta.
child-NOM hat-ACC put.on-PST-DC
'The child put on a hat.'

b. Emma-ka ai-eykey moca-lul ssu-***ywu***-ess-ta.
Mother-NOM child-DAT hat-ACC put.on-CAU-PST-DC
'Mother put a hat on the child.'

(30) a. Ai-ka chayk-ul ilk-ess-ta.
child-NOM book-ACC read-PST-DC
'The child read the book.'

b. Emma-ka ai-eykey chayk-ul ilk-***hi***-ess-ta.
Mom-NOM child-DAT book-ACC eat-CAU-PST-DC
'Mother made the child read the book'

As seen above, when the causative suffix is attached to transitive verb roots, the derived verbs take three event participants: the causer, the causee, and the theme. We have seen that when the causative suffix is attached to intransitive predicates, the causee of the causative variant bears the same semantic role as the subject of its non-causative counterpart. With transitive verb bases, however, the meaning of the causee, which invariantly bears an agent semantic role in the transitive variants, is not consistent in the

corresponding causative sentences; in the causativized sentences, the causee is interpreted either as an agent (e.g., (30b)) or a location (e.g., (28b) and (29b)). This difference in the semantics of the causee has led some researchers to further divide morphological causatives into two different types. I will come back to this issue in section 2.3.1.

A number of transitive verbs participate in the transitive-causative alternation, as seen in (31).

(31) Transitive Verb Bases (Not an Exhaustive List)

Basic		Causative	
ilk-	'read'	ilk-***hi***-	'make x read'
ttut-	'graze'	ttut-***ki***-	'make x (e.g., cattle) graze'
palp-	'step on/tread'	palp-***hi***-	'make x step on/tread'
kal-	'plow'	kal-***li***-	'make x plow'
kulk-	'scratch'	kulk-***hi***-	'make x scratch'
kkak-	'cut'	kkak-***i***-	'make x cut'
mek-	'eat'	mek-***i***-	'feed x'
ip-	'put clothes on one's body'	ip-***hi***-	'dress x'
sin-	'put x on one's foot'	sin-***ki***-	'put x on one's foot'
an-	'put x in one's arms'	an-***ki***-	'put x in someone's arms'
ep-	'put x on one's back'	ep-***hi***-	'put x on someone's back'
mwul-	'take x in one's mouth'	mwul-***li***-	'put x in someone's mouth'
ci-	'put x on one's back'	ci-***wu***-	'put x on someone's back.'
ssu-	'put x on one's head/face'	ssu-***ywu***-	'put x on someone's head/face'
cha-	'put x on one's wrist'	cha-***ywu***-	'put x on someone's wrist'

Before I present my own analysis, in the following section I will briefly review previous approaches to the morphological causative formation observed so far. This survey cannot do justice to all existing proposals, but I do hope to have chosen a representative sample.

2.3 Previous Approaches

In previous studies of Korean causatives, discussion has focused on (1) how the argument composition in causative constructions should be analyzed and (2) whether the surface structure of causatives has complex (bi-eventive) or simple (mono-eventive) structures.

It has been generally agreed (e.g., Yang 1974; Shibatani 1975; Lee 1983; Park 1986; Yeon 1991; Park 1993; Um 1995; Kim 1998) that complex predicate formation of syntactic (or analytic) causatives, whose predicates consist of verbal roots headed by *-key* and the light verb *ha-* 'do', takes place in the syntax; the meaning of syntactic causatives is compositional and has bi-eventive properties, which give rise to complex syntactic structures. This is shown by the fact that any adverbial modification creates two possible interpretations, as illustrated in (32) and (33).[18]

(32) John-i Chelswu-eykey chayk-ul yelsi-ey ilk-key ha-(y)ss-ta.
John-NOM Chelswu-DAT book-ACC 10o'clock-at read-KEY do-PST-DC
(i) 'At 10 o'clock, John made Chelswu read the book.'
(ii) 'John made [Chelswu read the book at 10 o'clock].'

[18] Other syntactic tests that provide arguments for the complex syntactic structure of syntactic causatives include the possibility of attaching the honorific marker *-si-* and the negation marker *-ci an-* to either an embedded verb or a causative verb. The honorific marker *-si-* and the negation marker *-ci an-* occur between a verb and a tense marker, and hence they are often regarded as occupying functional heads above VP and below T (e.g., Agr and Neg), Thus, it is argued that the fact that these markers can be attached either to the embedded verb or to the matrix verb *ha-* 'do' indicates that syntactic causatives must have complex syntactic structures in which the light verb *ha-* 'do' takes a functional phrase higher than a VP as its complement (e.g., Kim 1998).

(33) Emma-ka ai-eykey pap-ul pwuek-eyse mek-key ha-(y)ss-ta.
Mother-NOM child-DAT rice-ACC kitchen-LOC eat-KEY do-PST-DC
(i) 'In the room, Mother made the child eat in the kitchen.'
(ii) 'Mother made [the child eat rice in the kitchen].'

The time adverbial phrase 'at 10 o'clock' and the place adverbial phrase *pwuek-eyse* 'in the kitchen' can modify either the caused event or the causing event. Example (33), for example, can mean that the causing event—*the mother making the child eat rice*—happened in the kitchen. Or, it could also mean that only the caused event—*the child eating rice*—happened in the kitchen. The mother may have been in the living room while the child was eating.

With respect to the morphological causatives discussed in the preceding section, there has been much debate regarding how the argument composition of morphological causatives is derived from the verb root (e.g., Shibatani 1973; Park 1993; Yeon 1994; Um 1995; Kim 1998). Some researchers argue that morphological causatives are not decomposable (i.e., they have a single event) due to patterns that contrast with syntactic causatives in terms of adverbial modification (e.g., Shibatani 1973; 1975). As seen in (34), when time and place adverbials modify morphological causatives, the sentences are not ambiguous, unlike the syntactic causatives shown in (32) and (33).

(34) Emma-ka ai-eykey chayk-ul yelsi-ey ilk-hi-ess-ta.
Mother-NOM child-DAT book-ACC 10 o'clock-at read-CAU-PST-DC
(i) 'At 10 o'clock, Mother made the child read the book.'
(ii) *'Mother made [the child read the book at 10 o'clock].'

Unlike syntactic causatives, example (34) is not ambiguous; the time adverbial phrase 'at 10'o clock' is attributed only to the causing event—t*he mother making the child read the book*. For this reason, Shibatani (1973) argues that morphological causatives involve only a single event and have simplex syntactic structures. On the contrary, Yang (1974) argues that morphological causatives are not so much different from syntactic causatives, citing examples like (35), in which the durational adverb 'for five minutes' creates ambiguity.

(35) John-i Mary-lul o-pwun-dongan us-ki-ess-ta.
John-NOM Mary-ACC five-minute-for laugh-CAU-PST-DC
a. 'For five minutes, John (repeatedly) made Mary laugh.'
b. 'John made [Mary laugh for five minutes].' Yang (1974)

In (35), the durational phrase 'for five minutes' can modify either the causing event—*John making Mary laugh*, or the caused event—*Mary laughing*. Yang (1974) thus claims that morphological causatives also have complex syntactic, contrary to Shibatani's (1973) claim.

Kim (1998) argues that morphological causatives such as those in (34) and (35) are decomposable into the base verbs and a causative morpheme. She further argues that the puzzling facts shown in (34) and (35) with respect to adverbial modification in morphological causatives can be accounted for by assuming that different types of adverbs have different adjunction sites. Time/place adverbials such as those shown in (32) through (34) are adjoined to TP (i.e., IP in her analysis), and durational adverbs like 'for five minutes', as shown in (35), are VP-modifying adverbs.

With this assumption, the causative head of syntactic causatives (e.g., (32) and (33)) takes a TP as its complement, and thus there exist two TPs to which time/place adverbs can be adjoined. This gives rise to the ambiguity shown in (32) and (33). The causative head of morphological causatives, on the other hand, takes a VP as its complement, and thus there exist two VPs to which the durational adverb can be adjoined. Two available attachment points (i.e., two VPs) thus explains the ambiguity.

Examples shown below, however, lead to another puzzling fact among morphological causatives.

(36) Emma-ka ai-eykey pap-ul o-pwun-tongan mek-i-ess-ta.
mother-NOM child-DAT rice-ACC 5-nimute-for eat-CAU-PST-DC
a. 'For 5 minutes, Mother fed the child rice.'
b. *'Mother caused [the child to eat rice for 5 minutes].'

Unlike the morphological causative shown in (35), the durational adverbial phrase 'for 5 minutes' in (36) does not creat ambiguity; the durational adverb modifies only the causing event—*the mother feeding the child rice*. On the basis of the contrast between (35) and (36), a number of researchers (e.g., Patterson 1974; Park 1993; Um 1995; Kim 1998) have argued that morphological causatives in Korean must be divided into at least two different groups, a decomposable type (e.g., 35) and a non-decomposable type (36).[19] Examples of each type of morphological causative are discussed in detail in the

[19] Patterson (1974) notes that *ip-i-* 'dress/make wear', and *mek-i-* 'feed/make eat' belong to either one of the two groups, but other researchers (e.g., Um 1995 and Kim 1998) argue that these verbs belong to the non-decomposable type in which the subject is the only agent. I treat these verbs as members of non-agentive morphological

subsequent section.

2.3.1 Agentive Causatives and Non-Agentive Causatives

According to Um (1995) and Kim (1998), morphological causatives in Korean are divided into two different types on the basis of semantic and syntactic properties such as the scope of adverbial modification and the semantics of the causee.

In the first type, the causee is interpreted as an agent involved in the caused event. I will call the causatives involving the agentive causee "agentive morphological causatives (agentive MCs)". In agentive MCs, manner adverbs often create scope ambiguity, as illustrated in (37).[20]

(37) Mary-ka tongsayng-eykey chayk-ul *ppali* ilk-***hi***-ess-ta
Mary-NOM sister-DAT book-ACC *quickly* read-CAU-PST-DC
a. 'Mary made her sister quickly read the book.'
b. 'Mary quickly made her sister read the book.'

The causee 'sister' is interpreted as the agent of *reading the book*, and the subject 'Mary' is interpreted as a causer that brings about the event—*the sister reads the book*. In addition, the property of 'quickly' can be attributed both to the caused event and the causing event, as shown in (37a) and (37b). For this reason, it has often been claimed

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causatives (i.e., the non-decomposable type) in accordance with Um (1995) and Kim (1998).

[20] In this section, I only illustrate examples with transitive verb bases. Morphological causatives with intransitive verb bases are also divided into two different types on the basis of the same criteria; morphological causatives with unergative bases belong to the decomposable type, which I call "the agentive morphological causative". Morphological causatives with unaccusative bases belong to the other type, the non-agentive morphological causative (see the tables in (39) and (40)).

that the agentive morphological causative is decomposable and involves two events (e.g., Um 1995; Kim 1998).

In the second type, the causee does not participate in the caused event as an agent. Rather, it is interpreted as a location, as illustrated in (38).

(38) Emma-ka ai-eykey sinpal-ul *ppali* sin-***ki***-ess-ta.
Mother-NOM child-DAT shoes-ACC *quickly* put.on-CAU-PST-DC
a. 'Mother quickly put the shoes on the child.'
b. *'Mother caused the shoes to be quickly put on the child.'

Ai-eykey 'the child' in (38) is not an agent of the caused eventuality but a goal who is the target of the action carried out by the causer 'Mother'; the child is not the participant in control of the event of putting the shoes on, but the mother is. The state of the shoes being on the child is a result state of the Mother's action performed on the child. Furthermore, no ambiguity is observed with respect to adverbial modification; the adverb 'quickly' only describes how the action of the Mother was carried out. Hence, it has been argued that morphological causatives with a non-agentive causee (hereafter non-agentive morphological causatives or non-agentive MCs in short) involve only a single event and cannot be decomposed (e.g., Um 1995).[21,22]

[21] There exists another subgroup of non-agentive morphological causatives with transitive verb bases, as Um (1995) also notes. The argument structure of this type takes a form different from that of the non-agentive morphological causatives (MCs) discussed in this section with respect to the semantics of the causee and its case marking; the causee of non-agentive MCs discussed here has a goal interpretation and is marked by dative case. The causee of another subgroup of non-agentive MCs is interpreted as a theme/patient and is marked by either accusative or genitive case, but not dative case. Furthermore, when the causee is marked by accusative case, there is an

The tables in (39) and (40) illustrate non-causative-causative pairs that belong to either one of the two morphological causative types.

(39) Agentive Morphological Causatives

	Non-Causatives		Causatives	
a. Intran.	wus-	'laugh'	wus-***ki***-	'make x laugh'
	wul-	'cry'	wul-***li***-	'make x cry'
	tul-	'enter (room)'	tul-***i***-	'make x enter'
	ket-	'walk'	ket-***li***-	'make x walk'
b. Trans.	ilk-	'read'	ilk-***hi***-	'make x read'
	ttut-	'graze'	ttut-***ki***-	'make x (e.g., cattle) graze'
	palp-	'step on/tread'	palp-***hi***-	'make x step on/tread'
	kal-	'plow'	kal-***li***-	'make x plow'
	kulk-	'scratch'	kulk-***hi***-	'make x scratch'
	kkak-	'cut'	kkak-***i***-	'make x cut'

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obligatory inalienable possession relation between the causee (i.e., the first accusative marked DP) and the theme (i.e., the second accusative marked DP), as shown in (v).

(v) Chelswu-ka tongsayng-**ul/uy/*eykey** meli-lul ssis-***ki***-ess-ta.
Chelswu-NOM sister/brother-**ACC/GEN/*DAT** hair-ACC wash-CAU-PST-DC
'Chelswu washed his sister/brother's hair.'

Due to the additional semantic factors associated with this type of non-agentive MC (e.g., the inalienable possession relation between two objects), an analysis of non-agentive MCs such as (v) would take us too far afield from the issues at stake here. See Sim (2005) for a recent event-based approach to this construction.

[22] As Jónsson (2000) notes, goals are 'endpoints of motion' both literally and metaphorically under the usual definition. They are often associated with dative case and can be subclassified into recipients, benefactives, and what might be called targets, which are neither recipients nor benefactives (e.g., location). When I use the term 'goal' for the semantic role of the causee associated with non-agentive MCs, it is intended to be a cover term for both recipients and locations.

(40) Non-Agentive Morphological Causatives

	Non-Causatives		Causatives	
a. INTRAN	cwuk-	'die'	cwuk-***i***-	'kill x'
	nok-	'melt'	nok-***i***-	'melt x'
	el-	'freeze'	el-***i***-	'freeze x'
	cwul-	'decrease'	cwul-***i***-	'decrease x'
	mwut-	'be stained (with)'	mwut-***hi***-	'stain/smear x'
	tal-	'get hot'	tal-***kwu***-	'make x hot'
	kkay-	'wake up'	kkay-***wu***-	'wake someone up'
	(and all stative and change of state verbs listed in (23) and (24)			
b. TRANS	mek-	'eat'	mek-***i***-	'feed x'
	ip-	'put clothes on one's body'	ip-***hi***-	'dress x'
	sin-	'put x on one's foot'	sin-***ki***-	'put shoes on x'
	an-	'put x in one's arms'	an-***ki***-	'put x in someone's arms'
	ep-	'put x on one's back'	ep-***hi***-	'put x on someone's back'
	mwul-	'take x in one's mouth'	mwul-***li***-	'put x in someone's mouth'
	ci-	'put x on one's back'	ci-***wu***-	'put x on someone's back'
	ssu-	'put x on one's head/face'	ssu-***ywu***-	'put x on someone's head/face'
	cha-	'put x on one's wrist'	cha-***ywu***-	'put x on someone's wrist'

As seen above, the intransitive verb roots that appear in each type of MC are unambiguously unergatives and unaccusatives, respectively. In particular, the relation between the pairs of transitive versus unaccusative verbs in (40) is comparable to the inchoative versus causative alternation found in English (and in many other languages), as seen in (18), and repeated in (41).

(41) a. The ice melted.
b. John melted the ice.

(41a) denotes a change-of-state event that happened spontaneously without any external force. (41b) is interpreted as denoting a change-of-state event caused by some external

force, *John*.

It has often been believed that the precise classification of transitive verb roots in (39b) and (40b) is not predictable. For this reason, no systematic classification has been attempted so far regarding the type of transitive verb that occurs in each type of morphological causative. However, I will show that once we adopt a decomposition approach to predicate formation on the basis of the semantic/aspectual properties of the verb, it is possible to systematically categorize transitive verbs that occur in each type. The distinction between the transitive base verbs that occur in non-agentive morphological causatives and those that occur in agentive morphological causatives will be shown to parallel the unaccusative versus unergative distinction, i.e., the absence versus presence of an agent-introducing verbal head. I will come back to this issue in Chapter 3.

Most theories dealing with Korean causatives (and perhaps those dealing with causatives in other languages) have contended that morphological causatives that are not decomposable must be treated separately from those that are. Kim (1998), for instance, has claimed that two different types of morphological causatives are formed at separate levels; the decomposable type is formed in the syntax, whereas the non-decomposable type must be dealt with in the lexicon as a separate phenomenon.

Contrary to the previous claims, consideration of further data in connection with adverbial modification suggests that the non-agentive MCs in (40) are also decomposable into two separate events, a causing event and a caused eventuality (i.e., a result state). In what follows, I will demonstrate that the Korean event-modifying

adverb *tasi* 'again' creates two different readings in non-agentive MCs, in which *tasi* modifies either a causing event or a result state. This phenomenon, which has not drawn much attention in connection with Korean causatives, will provide new evidence that non-agentive MCs are decomposable into two events, and that the component expressing a result state is not only conceptually available in the logical meaning of the non-agentive MC verbs, but also receives a grammatical realization in the syntax. Before discussing 'again' modification in Korean, let us turn to a brief summary of the recent work that provides arguments in support of employing 'again' to detect the syntactic decomposition of predicates.

2.4 Again and the Syntactic Decomposition of Predicates [23]

The view that the complex event structure of a single predicate is encoded both in the semantics and syntax follows from a number of syntactic and semantic facts with regard to adverbial modification. In particular, a growing body of recent works on adverbial modification has demonstrated that *again* can be used as a detector for a syntactic constituent denoting a result state (e.g., Harley 1996; von Stechow 1996; Tenny 2000; Beck and Johnson 2004). For instance, von Stechow (1996) has proposed that different readings of *wieder* 'again' in German provide a test for both the syntactic and semantic decomposition of predicates, and for a syntactic constituent denoting a result state encoded in the verb meaning. Let us consider the following German example, which is

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[23] 'Almost' is another type of adverb that has been employed in favor of semantic and syntactic decomposition of predicates in terms of event structure (e.g., Rapp and von Stechow 1999; Pylkkänen 2000). Consider the following example in English:

(vi) Mary almost opened the window.

The sentence is ambiguous; it can mean that Mary almost performed an action of opening the window but did not initiate it. It can also mean Mary initiated the action of opening the window, but the window was not opened all the way; Mary opened the window almost all the way. The ambiguity of the sentence thus implies that the event denoted by the sentence can be decomposed into two separate parts: the causing event, which involves Mary, and the caused event, which focused on the state of the window as a result of the opening event. Along the same line, Higginbotham (1997) notices that some adverbs can modify only one of the two sub-events, as shown in the following examples.

(vii) a. John sat his guest on the floor on purpose.
b. John sat his guest on the floor slowly. (Higginbotham 1997)

In (vii-b), in particular, the adverb can only modify the sitting event of his guest, the caused event. This again confirms the need for bi-eventive analysis of the causative sentence.

ambiguous when *wieder* 'again' modifies the sentence.

(42) (weil) Sally die Tür **wieder** öffnete
(because) Sally the door again opened
a. Sally opened the door, and she had done that before. [repetitive]
b. Sally opened the door, and the door had been open before. [restitutive]

The semantics of *again* is assumed to be of type <<s,t><s,t>>, operating on a property of events, and indicates the repetition of events characterized by that event (von Stechow 1996; Beck and Johnson 2004). Simply put, the meaning of 'again' *presupposes* that there was a previous event of the same kind that has the property and asserts that the property is true of the event. On the repetitive reading in (42a), the event that is repeated is the previous event in which the door was opened by Sally. On the restitutive reading in (42b), the event that is repeated is the state in which the door was open at a prior time without the involvement of any agent. Von Stechow proposes that these two different interpretations are made possible by decomposing the verb *open* into a phonologically null verbal category and the adjective 'open'. The former expresses the meaning of CAUSE BECOME, and the latter constitutes a small clause expressing a result state, as illustrated in (43).[24]

(43) [$_{vP}$ Sally *v* [$_{VP}$ BECOME [$_{SC\ =AP}$ the door open]]]

[24] Von Stechow (1996) notes that CAUSE needs to be represented only in the lexical-semantic representation of the verb, but not in the syntactic structure. The BECOME operator, however, is argued to be necessary in the syntactic structure to allow two different readings of *wieder*. See von Stechow (1996) for details.

Having the lexical decomposition reflected in the syntactic structure, the scope ambiguity of *again* can easily be accounted for; 'again' can be adjoined to two different syntactic constituents, *v*P and SC (=AP), as illustrated in (44).

(44) a. [***again*** [$_{vP}$ Sally *v* [$_{VP}$ BECOME [$_{SC=AP}$ open door]]]]
b. [$_{vP}$ Sally *v* [$_{VP}$ BECOME ***again*** [$_{SC=AP}$ open door]]]

If *again* has scope over *v*P, as in (44a), it yields the repetitive reading, as paraphrased in (42a). If it occurs in a position lower than the BECOME operator, as in (44b), it yields the restitutive reading, as paraphrased in (42b).

One may argue that the ambiguity of 'again' observed above simply arises from the availability of result states at a conceptual level, and that 'again' indicates repetition of those result states rather than the repetition of a property of events that it modifies (e.g., see Fabricius-Hansen 2001). If the existence of separate result states is only a fact about concept formation, 'again' could not be used as a test for a syntactic constituent that denotes result states; the ambiguity of 'again' would simply be lexical, rather than syntactic. Von Stechow, however, provides an important argument in favor of the syntactic account by demonstrating that the ambiguity is sensitive to the syntactic context (e.g., word order). In German, the availability of a result-state reading depends on the position of 'again'; a restitutive reading is only possible when *wieder* follows the direct object, as shown in (42). If *again* precedes the object, only the repetitive reading is available, as illustrated in (45).

(45) (weil) Sally ***wieder*** die Tür öffnete [ONLY repetitive]
(because) Sally again the door opened
'Sally again opened the door.'

Von Stechow accounts for the positional effect shown in (45) by arguing that the direct object in German undergoes obligatory movement to [Spec, AgrO], the projection of which resides at a fairly high position in the structure (i.e., above the projection headed by BECOME). Thus, when *wieder* precedes the direct object, it must take scope over BECOME, as shown in (46a). This explains why only the repetitive reading is available. On the other hand, when *wieder* follows the direct object, as in (46b), it may be above or below the BECOME operator, and thus the ambiguity arises.

(46) a. [***wieder*** [$_{AgrOP}$ die Tür$_i$ AgrO ..[BECOME [SC t_i öffnete](ONLY Repetitive)

b. [[$_{AgrOP}$ die Tür$_i$ AgrO.. ***wieder*** [BECOME ***wieder*** [SC t_i öffnete] (Ambiguous)

repetitive *restitutive*

If the ambiguity is argued to be lexical (i.e., 'again' has dual interpretations), it would be difficult to explain the disappearance of the restitutive reading when *wieder* precedes the object. The positional sensitivity of *wieder* with respect to the result-state reading, therefore, supports the structural analysis that assumes a decomposition of the verbal meaning in the syntactic structure.

The facts regarding the positional effect of 'again' have also been observed in English (e.g., Harley 1996; Beck and Snyder 2001; Beck and Johnson 2004). Beck

and Johnson (2004), for example, argue that von Stechow's structural explanation for the ambiguity of 'again' extends straightforwardly to English; example (47a), which exhibits the eventive verb 'open', is ambiguous between a repetitive and a restitutive reading when 'again' follows the object. However, the restitutive reading disappears when 'again' precedes the verb, as shown in (47b).

(47) a. Thilo opened the door again. (repetitive and restitutive)
b. Thilo again opened the door. (repetitive only)

Beck and Johnson argue that in (47a) two adjunction sites for 'again' are possible, but not in (47b) (see Beck and Johnson for detailed structures). Therefore, they also conclude that, on the basis of the word-order facts, there is sufficient support for the structural nature of 'again' modification in both German and English; the properties of the events that 'again' operates on are directly provided as the denotations of constituents in the syntactic structure. 'Again' adjoins to those constituents.

2.5 Syntactic Decomposition of Events and 'again' in Korean

The aforementioned 'again' test reveals that non-agentive MCs in Korean are also decomposable into two separate events, contrary to what some previous analysts have claimed. When added in non-agentive MCs, the Korean adverb *tasi* 'again' gives rise to ambiguity between two readings, a restitutive reading and a repetitive reading, as shown

in (48) and (49).[25]

(48) Emma-ka ai-eykey sinpal-ul ***tasi*** sin-***ki***-ess-ta
Mother-NOM child-DAT shoes-ACC again put.on-CAU-PST-DC
a. 'Mother made [the shoes be put on the child **again**].' (restitutive)
b. 'Mother **again** made the shoes be put on the child.' (repetitive)

(49) Yenghi-ka koki-lul ***tasi*** el-***li***-ess-ta.
Yenghi-NOM meat-ACC again freeze-CAU-PST-DC
a. Yenghi made [the meat freeze **again**].' (restitutive)
b. Yenghi **again** made the meat freeze.' (repetitive)

Concentrating for expository purposes on (48), the restitutive reading in (48a) presupposes an event in which the child was wearing the shoes sometime in the past, but it is not required that the Mother herself have caused that previous event. In fact, it is not necessary for anyone to have caused this event; the restitutive reading focuses only on the state prior to the utterance time in which the shoes were on the child, regardless of how that state had been brought about. In contrast, the repetitive reading in (48b) presupposes that the Mother herself had caused the shoes to be put on the child before, and she had repeated the same action. Therefore, *tasi* can modify either the

[25] Unlike German and English, in Korean the behavior of *again* appears to be insensitive to different syntactic positions; even when *tasi* precedes two objects (both indirect and direct objects), two different readings are still available for (48), according to native speakers. It is still unclear to me why *again* in Korean is insensitive to syntactic context, given that both German and Korean display robust scrambling of NPs. Satoshi Tomioka (p.c.) has pointed out that German scrambling is quite different from that of Korean or Japanese; scrambling in German affects the interpretation of DPs (e.g., definiteness), while scrambling in Korean and Japanese is more or less semantically vacuous. The insensitivity of *again* to syntactic context, therefore, may come from different factors particular to Korean, such as scrambling, a different case marking system, etc. I will leave this issue as an open question and argue that the cross-linguistic observations (e.g., German and English) that support the syntactic analysis of *again* are sufficient motivation for extending the syntactic theory of *again* to Korean MCs.

result state—*the shoes being on the child*, or the causing event—*Mother putting the shoes on the child*.

The scope ambiguity of *tasi* 'again' is also observed in agentive MCs, which are independently argued to be decomposable on the basis of manner adverbial modification. Consider (50), for example.

(50) Mary-ka ye tongsayng-eykey chayk-ul ***tasi*** ilk-***hi***-ess-ta.
Mary-NOM female younger.sibling-DAT book-ACC again read-CAU-PST-DC
a. 'Mary again made her sister/brother read the book.' (repetitive)
b. 'Mary made [her sister/brother read the book again].' (restitutive)

The repetitive reading in (50a) presupposes that Mary made her sister read the book before, and she has done it again. The restitutive reading in (50b) presupposes that there was an event in which her sister read the book before, but it is not required that Mary or anyone else have caused that event. Instead, the sister may have read the book of her own free will.[26] Therefore, *tasi* modifies either the caused event—*the sister reading the book*, or the causing event—*Mary making her sister read the book*.

As we have seen thus far, adverbial modification with the event-modifying adverb *tasi* 'again' indicates that not only agentive MCs but also non-agentive MCs are decomposable into two separate events, contrary to previous claims. Adopting the structural theory of 'again' proposed by von Stechow (1996), I argue that non-agentive

[26] Strictly speaking, (50b) is not a restitutive reading but a repetitive reading in the sense that (50b) denotes a *repetition* of the event denoted by the embedded verb—*the sister reading a book*. A restitutive reading normally refers to a reading in which a state of an entity is restored to its original state, rather than a reading in which an event is repeated.

MCs involve more complex event structures than was previously believed, and that the ambiguity of *tasi* arises due to the presence of two different adjunction sites available in the syntactic structure. The scope ambiguity of *tasi* in (48) through (50) can be easily accounted for if we decompose the verb *sinki-* in (48) into 'put on + CAUSE', and this decomposition is reflected in the syntax. For instance, the ambiguity of (48) can be explained by assuming that *tasi* has narrow scope with respect to CAUSE if it is generated in the lower position, as in (51a), hence the restitutive reading. If *tasi* is generated in the higher position, it has wide scope with respect to CAUSE, as shown in (51b), and we get the repetitive reading.

(51) a. [[$_{VP}$ ***again*** [$_{VP}$ put-on]] CAUSE] → **Restitutive reading**
b. [***again*** [$_{VP}$ [$_{VP}$ put-on] CAUSE]] → **Repetitive reading**

The syntactic and semantic patterns of the two MCs we have seen so far are summarized in (52).

(52) Syntactic-Semantic Patterns of Two Types of MCs

	Morphological Causatives	
	Non-Agentive MCs	Agentive MCs
a. Event Modification of Caused Events with 'Again'	√	√
b. Manner Adverbial Modification of Caused Event	×	√
c.Thematic Role of the Causee	Location	Agent

On the basis of the facts regarding 'again' modification, we have seen that both

agentive and non-agentive MCs are decomposable into two separate events. The 'again' test, therefore, suggests that all MC formation in Korean takes place in the syntax on the basis of the structural nature of 'again' modification, as was observed in other languages (e.g., German and English). However, the facts with regard to the modification of manner adverbs in (52b) and the semantics of the causee in (52c) still leave open the question of where the differences between agentive MCs and non-agentive MCs come from. In particular, two important issues will be of primary concern in the next section: (1) What determines different realizations of argument structure in MC formation (e.g., whether the thematic role of the causee is an agent versus a goal)? (2) How is the argument composition of causatives inherited from their non-causative counterparts? In other words, where does the non-causative versus causative alternation come from?

Following recent proponents of event decomposition in the syntax (Hale and Keyser 1993; Harley 1995; von Stechow 1996; Travis 2000; among many others), I derive the patterns in (52), in particular the different argument realizations, from independent semantic and structural considerations regarding the base verb. It is argued that the differences in the agentivity of the causee, in particular, are associated with the absence or presence of an external-argument-introducing functional head in the underlying structure of a base verb. The basic idea is that non-agentive MCs take base verbs that lack an agent-introducing *v* head in their underlying representation (e.g., unaccusatives), hence the non-agentivity of the causee. Agentive MCs, in contrast, take base verbs that contain an agent-introducing *v* head in their underlying representations,

hence the agentive interpretation of the causee. By allowing different domains of complements for which the causative head selects, an explanation for the contrasts (e.g., 52b) and the similarities (e.g., 52a) outlined above will follow naturally.

2.6 A Unified Syntactic Analysis

Before turning to the main discussion, the following subsections discuss some basic assumptions and theoretical positions adopted in the present analysis. I first review the syntactic and semantic representation of CAUSE in the following subsection based on Pylkkänen (2002). In Section 2.6.1.2, I lay out the theory of eventiveness associated with functional verbal categories, and discuss how argument structure and its meaning are determined by these functional elements.

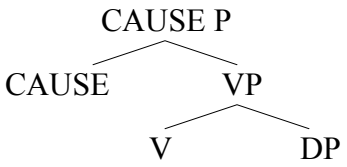
2.6.1 Basic Assumptions

2.6.1.1 Representation of CAUSE

Advocating a bi-eventive analysis of causative constructions, Pylkkänen (2002) argues that what universally distinguishes causative verbs from their non-causative counterparts is a syntactically implicit *event argument* ranging over causing events. That is, a universal property of CAUSE is that it introduces an implicit event argument (i.e., a causing event) to the event of a base sentence (hence the bi-eventive approach), rather than an external argument introduced by Voice. Crucial to this claim is the assumption that CAUSE is separate from an external-argument-introducing Voice. Pylkkänen claims that separation of CAUSE from Voice follows crucially from the

existence of unaccusative causatives in some languages (e.g., Finnish desiderative causatives). In unaccusative causatives, CAUSE only introduces a new event argument into the semantics of a non-causative counterpart expressed by VP; there is no individual (e.g., no agent) involved in the causing event. A syntactic structure for unaccusative causatives as proposed by Pylkkänen (2002) is given in (53).[27]

(53) Unaccusative Causatives



Pylkkänen (2002) further argues that languages that do not exhibit unaccusative causatives (e.g., English) would not allow the structure in (53), in which CAUSE is separate from Voice.[28] In Korean, we do not observe any empirical evidence for the existence of unaccusative causatives; all apparent causative constructions discussed in §2.2 involve new external arguments (e.g., causers, agents) that are not present in their non-causative counterparts. This seems to suggest that Korean behaves like English. According to Pylkkänen (2002), causatives in English have a structure that has only one functional head exhibiting properties of both Voice and CAUSE, i.e., Voice-bundling

[27] See Pylkkänen (2002) for examples of unaccusative causatives found in Japanese and Finnish.

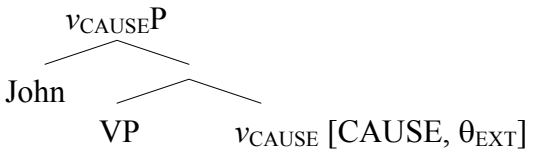
[28] Pylkkänen (2002) argues that cross-linguistic variation has two sources, one of which has to do with Voice-bundling. Voice-bundling refers to variation in the syntactic realization of CAUSE: CAUSE can occur either as its own syntactic head separate from Voice (e.g., Finnish) or it can be "bundled" together with Voice into one syntactic node (e.g., English). See Pylkkänen (2002) for a theory dealing with the parametric variation in the relationship of CAUSE and Voice.

CAUSE. This functional head must introduce an external argument along with a causative meaning. Therefore, adopting Pylkkänen's syntactic and semantic representation of Voice-bundling CAUSE, I assume that CAUSE and the external thematic relation form a syntactic unit in the formation of Korean morphological causatives. The causative relation and the external theta-role, θ_{EXT} (e.g., causer, agent, source), are bundled into one causative morpheme, as illustrated in (54).

(54) The causative morpheme: [CAUSE, θ_{EXT}], where
CAUSE : $\lambda f_{<s,t>}\ \lambda e.\ \exists e'.\ [f(e') \ \&\ \text{CAUSE}(e, e')]$ and
θ_{EXT} : $\lambda x.\ \lambda e.\ \theta_{EXT}(e,x)$

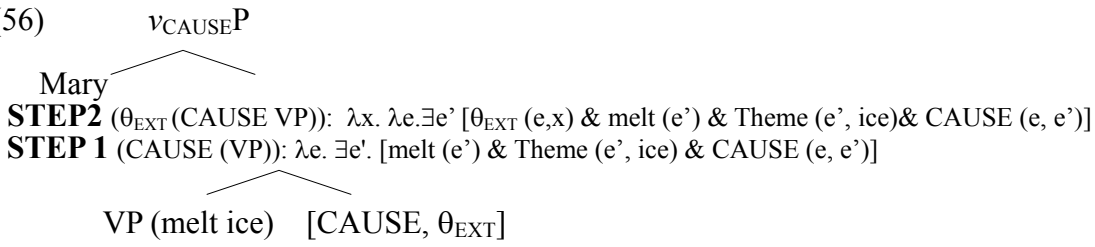
As Pylkkänen (2002) also notes, this analysis is in line with the assumption adopted by Distributed Morphology that morphemes are bundles of features situated in the terminal nodes of the syntactic structure (Halle and Marantz 1993, among others). Example (54), therefore, maps two interpretable features into a single syntactic head, which is spelled out as the causative morpheme *-i-* in Korean, and yields the structure in (55). In Pylkkänen (2002), the projection headed by the abstract causative morpheme is considered to be VoiceP. I will replace VoiceP with v_{CAUSE}P in order to avoid confusion with Kratzer's external-argument-introducing VoiceP, which does not necessarily include the CAUSE component.

(55)



Adopting Pylkkänen's (2002) proposal concerning the interpretation of the v_{CAUSE} head in (55), I further assume that the contents of v_{CAUSE} in which two features are bundled together is semantically complex. In other words, CAUSE and θ_{EXT} are a unit only syntactically but not semantically. The interpretation of the v_{CAUSE} head is thus carried out in two steps in which CAUSE applies before θ_{EXT}, as illustrated in (56). (See Pylkkänen 2002 for a justification of this approach.)

(56)



The denotation of the v_{CAUSE} head with these two features is interpreted as building a relation between two events, a result state and a causing event in which an external argument (e.g., an agent) is introduced. CAUSE is defined as 'for all eventualities *e*, *e'*, CAUSE (e, e')=1 iff *e'* is a caused eventuality of *e.* I claim that the causation in Korean is expressed by the same syntactic head that introduces the external argument, v_{CAUSE}, equivalent to Pylkkänen's Voice-bundling CAUSE, and that the semantic and syntactic representation of CAUSE illustrated in (56) applies to the underlying functional architecture of all types of morphological (and lexical) causatives.

2.6.1.2 Event Structure and Variants of *v*

As discussed in the introductory chapter, an important aspect of the analyses presented in this work is the claim that a verb itself does not directly encode a complete, well-formed lexical semantic and syntactic structure. Rather, verb meanings are constructed by a combination of category-less verb roots that provide semantic content or a core meaning component of the verb and a verbalizing functional head, *v*, equivalent to Kratzer's (1996) Voice or Harley's (1995) Event head. Thus the semantic load is distributed through overt (e.g., root and affixal) and covert (e.g., abstract functional) morphemes; the meaning of a verb as a whole is calculated by referring to its complete syntactic derivation.

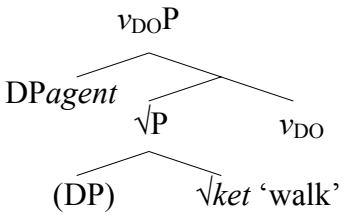
Adopting the theoretical position that the event structure of verbal meaning is reflected in the syntax, I further assume that roots do not carry information regarding the event structure of the sentence, but the event structure—whether the verb denotes a spontaneous change of state, a change of state which is externally caused, etc.—is determined by a verbalizing head with which the verb root merges (Harley 1995; Folli and Harley 2002; Embick 2004, among others). Thus, the functional element *v* is both a category and an event determiner (see also Harley and Noyer 1998; McGinnis 2000; Folli and Harley 2002; Lin 2004). The hypothesis that there are different flavors of *v* with different syntactic and semantic feature specifications, as discussed by Harley (1995) and Harley and Noyer (1998), provides the background for the association of different event types with the verbalizing head *v*. The inventory of possible feature specifications for *v* includes CAUSE, INCHOATIVE (usually expressed as BECOME

in the literature), DO, and BE, which roughly reflect ontological event types or semantic primitives drawn from a conceptual inventory that is provided by UG.[29] I postulate at least four variants of an event-determining verbal category in Korean, v_{DO}, v_{CAUSE}, v_{INCHO}, and v_{BE}. The verbalizing heads v_{CAUSE}, v_{INCHO}, and v_{DO} license meaning related to dynamic eventiveness as opposed to the category v_{BE}, the meaning contribution of which is non-dynamic and stative. v_{DO} licenses activities (*run*, *walk*, *dance*, etc.) and accomplishments (*read*, *make*, *build*, etc.) and requires a DP occurring in its specifier position to be interpreted as an agent (see Folli and Harley 2002). The verbalizing head v_{BE} licenses non-dynamic, stative situations and is compatible only with roots denoting homogeneous states (*dirty*, *clean*, *intelligent*, etc.). The meaning contribution of v_{CAUSE} and v_{INCHO} to a verb is essentially a change of state, analogous to Harley's (1995) Event head. In Harley's theory of eventiveness, EventP's semantic contribution to the verbal meaning is 'change of state', regardless of whether the Event head has an argument in its specifier. If the event denoted by the head has an external argument (e.g., an agent or a causer), the Event head is interpreted as *CAUSE*; if, on the other hand, there is no argument in the specifier of EventP, the Event head is interpreted as *BECOME/HAPPEN*. Along the same lines, I assume that v_{CAUSE} licenses a "change of state" event that is externally caused by some individual or natural force, while v_{INCHO} licenses an event in which a change of state occurs spontaneously. Thus, v_{CAUSE} gives rise to a causative event and v_{INCHO} to an inchoative event. An illustration of each

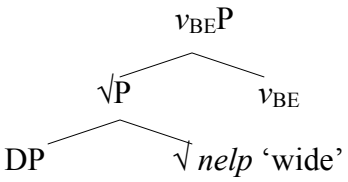
[29] In a later section, I will argue that this is not a complete inventory of possible feature specifications for *v* in Korean, and that there are a few more features that need to be postulated in order to explain argument structure alternations (e.g., v_{APPL} and v_{RFL}).

verbalizing head with a relevant example is provided in (57).[30]

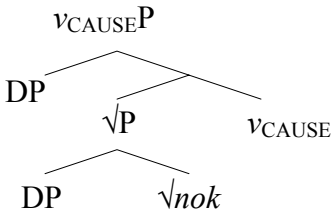
(57) a. v_{DO} (e.g., *ket-* 'walk', *ilk-* 'read', etc.)



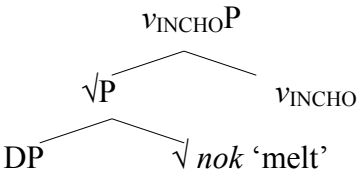
b. v_{BE} (e.g., *nelp-* 'wide')



c. v_{CAUSE} (e.g., *nok-i-* 'melt-CAUSE)



d. v_{INCHO} (e.g., *nok-* 'melt')



As seen in (57b) and (57d), v_{BE} and v_{INCHO} preclude the possibility of having an argument in the specifier position (since neither v_{BE} nor v_{INCHO} selects an external argument). v_{DO} and $v_{CAUSE,}$ on the other hand, force the appearance of an agent/causer DP in the specifier position. These two external-argument-introducing heads, however, place different restrictions on their subjects; as has been mentioned earlier, v_{DO} requires an (animate) agent argument. $v_{CAUSE.,}$ however, does not require that the argument be an agent but only that the argument be a possible cause (e.g., an agent, an instrument, or

[30] I assume that the entire verbal phrase is further embedded under a tense projection with the possibility of intervening aspectual/mood functional projections. I omit these projections for simplicity, unless otherwise indicated for explanatory purposes.

natural force).[31] In the current analysis, $v_{CAUSE.}$ and v_{DO} also differ in their semantics; $v_{DO,}$ equivalent to Kratzer's (1996) Voice, only has an agent semantic feature and is interpreted as a thematic relation between an agent and an event. On the other hand, v_{CAUSE} bears two semantic features, CAUSE and an external argument θ_{EXT}, and establishes a relation between two events: one denoted by the root, and one introduced by a v_{CAUSE}, which is analogous to Pylkkänen's (2002) Voice-building CAUSE discussed in the previous section. Therefore, when roots combine with $v_{CAUSE,}$ the complete verb meaning denotes a complex event structure with two separate events, a causing event and a caused eventuality (e.g., a result state or a caused event depending on the complement type).

2.6.2 A Unified Syntactic Analysis of Morphological Causatives

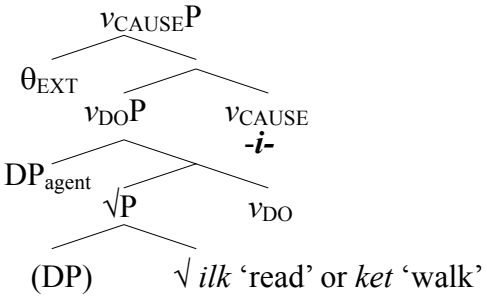
Building upon the notion that eventiveness is associated with variants of the verbalizing head, I argue that an explanation for the morphological causative (MC) split in Korean, as described in section 2.3.1, follows from a difference in the size of the complement for which v_{CAUSE} selects: namely, v_{DO}P, which contains an agent-argument introducing verbal head, and √P, which excludes an external-argument introducing verbal head. The MC split, therefore, is associated with the presence or absence of an external-argument-introducing *v* head in the underlying structure of the base verb.[32] I assume that in the

[31] See Folli and Harley (2002) for a presentation of arguments in favor of postulating two different flavors of causative/agentive *v* on the basis of Italian data.

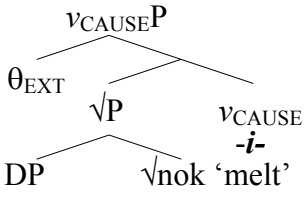
[32] The analysis of morphological causative formation with the unaccusative bases presented here is analogous to the syntactic treatment of Japanese lexical causatives

agentive MC, v_{CAUSE} merges with v_{DO}P, which denotes an agentive and dynamic eventiveness. In the non-agentive MC, in contrast, v_{CAUSE} merges with √P, which lacks an external argument and denotes a result state. The syntactic structure of each type under the present proposal is schematized briefly as (58).

(58) a. Agentive MCs (e.g., (37))



b. Non-Agentive MCs (e.g., (24))



As shown in (58a), the v_{CAUSE} in agentive MCs takes an agentive-event-denoting v_{DO}P as its complement, regardless of whether the base verb is transitive (e.g., 'read') or intransitive (e.g., 'walk'). This explains why the causee receives the agent thematic role; since the agent is explicitly expressed in the underlying structure of the base predicate, the external argument introduced by v_{CAUSE} cannot receive an agent interpretation but is interpreted as a causer.

As shown in (58b), v_{CAUSE} in non-agentive MCs takes a verbal projection smaller than v_{DO}P, i.e., √P, which lacks an external-argument-introducing verbal head. A

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proposed by Pylkkänen (2002); in her analysis Japanese lexical causatives are analyzed as a root-selecting CAUSE. However, the current analysis for MCs with unergative/transitive bases is not in accordance with her theory of causativization due to a number of problems that arise otherwise. See Son (2005) forthcoming.

number of researchers (e.g., Hale and Keyser 1993, Embick 2004, Lin 2004) argue that the structure of causatives embeds the structure of the inchoatives, giving rise to the meaning 'CAUSE x to BECOME state', rather than 'CAUSE x to be in a state', which is the interpretation that (58b) produces. However, I argue against this approach because the causative and the inchoative morphemes in Korean compete for the same syntactic position. A further argument in favor of the structure given in (58b) for causatives with unaccusative bases comes from the scope ambiguity of *tasi* 'again'. In a causative structure that embeds an inchoative structure, we would predict that there would be a three-way ambiguity, with *tasi* operating on three different verbal projections, √P, BECOME-P, and CAUSE-P. However, *tasi* only exhibits a two-way ambiguity, which does not include the intermediate reading with the BECOME component. I will come back to the discussion of the causative-inchoative alternation in Section 3.2.2.

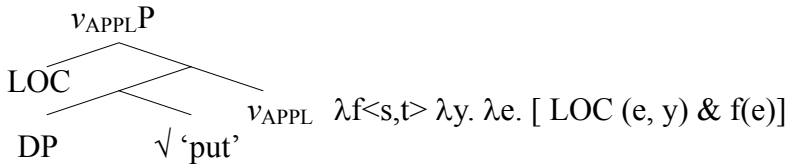
While the structure given in (58b) straightforwardly accounts for non-agentive morphological causatives with unaccusative verb bases, it is unclear how argument composition is inherited from the base verb in non-agentive MCs with transitive verb bases; it is not evident how and from where *ai-eykey* 'child-DAT' in (38), repeated as (59), receives the thematic role, goal, and thus is understood as the final location of the event.

(59) Emma-ka ai-eykey sinpal-ul sin-***ki***-ess-ta.
Mother-NOM child-DAT shoes-ACC put.on-CAU-PST-DC
'Mother (quickly) put the shoes on the child.'

To explain why the causee is interpreted as a location in non-agentive MCs, I propose

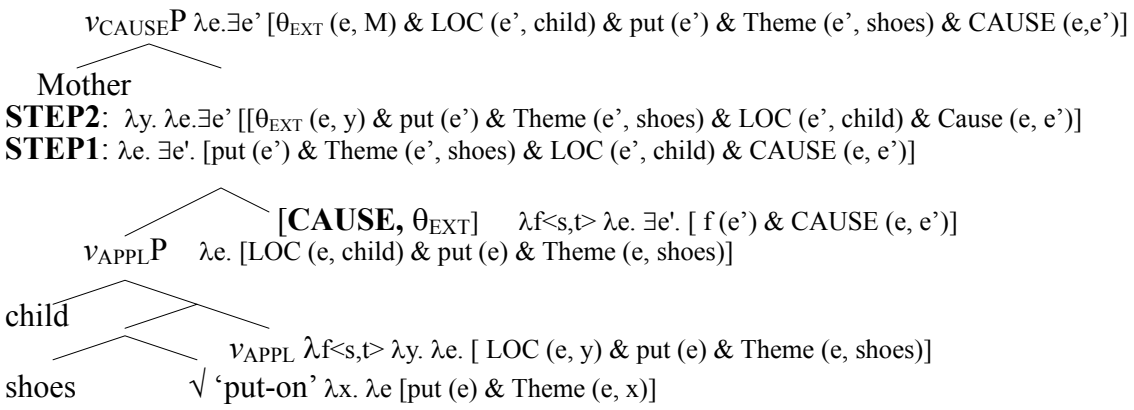
that the transitive verb bases occurring in non-agentive MCs have a more complex internal structure than it may seem; they are further decomposed into an applicative verbal head, v_{APPL}, another type of verbalizing head, and a root, as illustrated in (60). If v_{CAUSE} merges with a verb whose base form is unaccusative, however, no additional projection of v_{APPL}P is necessary, as seen in (58b). The postulation of v_{APPL}P is not tailored specifically for causatives but is assumed for the underlying representation of transitives as well. The motivations for postulating v_{APPL}P are discussed in detail in Section 3.2.1.1.

(60) Transitive Base



The syntactic and semantic configuration proposed for non-agentive MCs with transitive bases is similar to that of high applicatives, as proposed by Pylkkänen (2002); the v_{APPL} head denotes a relation between an individual (i.e., a location or a goal in the broad sense) and an event (i.e., an endstate in the sense of Tenny 1992, 2000) denoted by the root; the argument introduced by the v_{APPL} head is a positional endpoint of the theme. The fully specified underlying syntactic and semantic representation of the non-agentive MCs with transitive bases in (60) thus has the structure as (61).

(61) Representation of Non-Agentive MCs with Transitive bases



v_{APPL} is of type <<s,t><e<s,t>> taking a √P and an individual as arguments. The v_{APPL}P, denoting a result state, then, combines with v_{CAUSE} by functional application in which v_{CAUSE} takes the eventuality denoted by v_{APPL}P as its argument. This constitutes a first step in the interpretation of v_{CAUSE}. In the second step, the meaning of [v_{CAUSE}(v_{APPL}P(√P))] combines with the meaning of θ_{EXT} by event identification (Kratzer 1996), as defined in (16). (16) is repeated as (62).

(62) Event Identification (Kratzer 1996)

f	g	→	h
<e <s,t>	<s,t>		<e, <s,t>>
λx. λe. θ_{EXT} (e, John)	λe. wash (e, clothes)	→	λx. λe. [θ_{EXT} (e, John) & wash (e, clothes)]

Therefore, the interpretation of the sentence in (59) based on the semantic computation in (61) can be paraphrased as: There exists *e'* such that the shoes are on the child and *e'* is a result state of *e* such that the Mother is an agent. The underlying structure with the abstract v_{APPL} in (61), therefore, determines that the thematic role of the causee will be a

location, rather than an agent.[33]

2.6.3 Lexical Causatives and *tasi* 'again'

It should be noted that the aforementioned 'again' test also shows ambiguity for the lexical causatives, in which the meaning of causation is embedded in a single lexical verb without any overt causative morpheme. Consider (63) and (64), for example.

(63) Chelswu-ka mwun-ul ***tasi*** yel-ess-ta.
Chelswu-NOM door-ACC again open-PST-DC
a. 'Chelswu [open the door ***again***].' [Restitutive]
b. 'Chelswu ***again*** [open the door].' [Repetitive]

(64) Inho-ka changmwun-ul ***tasi*** tat-ass-ta.
Inho-NOM window-ACC again close-PST-DC
a. 'Inho cause [the window to be closed ***again***].' [Restitutive]
b. 'Inho ***again*** caused [the window to be closed].' [Repetitive]

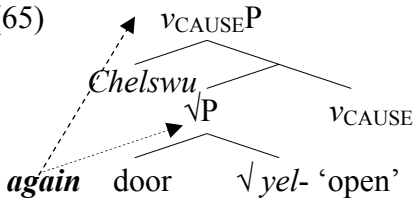
The restitutive reading in (63a), for example, presupposes that there was a state in which the door was open sometime before. However, it is not required that *Chelswu* himself had opened it previously, nor is it entailed that anyone had opened the door beforehand; the door may have been originally built in an open position. The repetitive reading, in contrast, presupposes that *Chelswu* had opened the door sometime before, and he repeated the same action. The same kind of ambiguity holds for (64).

The fact that *tasi* creates scope ambiguity in (63) and (64) indicates that lexical causatives also involve complex event structure. Thus, I argue that there is an

[33] The semantic structure of other morphological causatives can be represented in an identical way to (61) with the same semantic representation of v_{CAUSE}.

abstract CAUSE head, $v_{CAUSE,}$ in the current analysis, in the underlying representation of (63), as depicted in (65).

(65)



Decomposing lexical causatives into v_{CAUSE} and a root morpheme leads to two available adjunction sites for *tasi*; *tasi* can be adjoined either to √P, where is has scope over the result state—*the door being open*, or to v_{CAUSE}P, where it has scope over the causing event—*Chelswu opening the door*. The ambiguity of *tasi* 'again' observed in both lexical and morphological causatives, therefore, suggests that both types of causatives contain an abstract v_{CAUSE} head, regardless of whether v_{CAUSE} is visibly realized in the morphology; the suffix *-i-* is a morphological reflex of v_{CAUSE} and the spell-out of v_{CAUSE} is presumably determined by the root.

2.7 Adverbial Modification and Morphological Causatives

An analysis of morphological causatives that I propose on the basis of the theory of syntactic decomposition of predicates in terms of event structure attributes the aforementioned dichotomy in morphological causatives to structural differences. I argued that v_{CAUSE} in agentive MCs takes v_{DO}P, which denotes an agentive event, as its complement. On the other hand, v_{CAUSE} in non-agentive MCs takes as its argument a

result-state-denoting constituent that lacks an external-argument-introducing *v* head, namely √P for unaccusative bases and v_{APPL}P for transitive bases. The structural analysis of morphological causatives advanced in this work provides straightforward explanations for the similarities and the differences between two types of MCs in terms of the adverbial modification observed for manner adverbs and the eventive adverb 'again'. In the following section, I will first discuss how the ambiguity of *tasi* 'again' with respect to non-agentive MCs is explained on the basis of the proposed syntactic structure. For explanatory purposes, I will only be concerned with non-agentive MCs derived from transitive bases; nevertheless, the scope ambiguity of *tasi* with agentive MCs receives the same explanation. In Section 2.7.2, I shall demonstrate that the structure proposed for each type of MC provides a straightforward explanation for the difference in manner-adverbial modification between two types of MCs, provided that manner adverbs modify an (dynamic) event, rather than a (result) state.

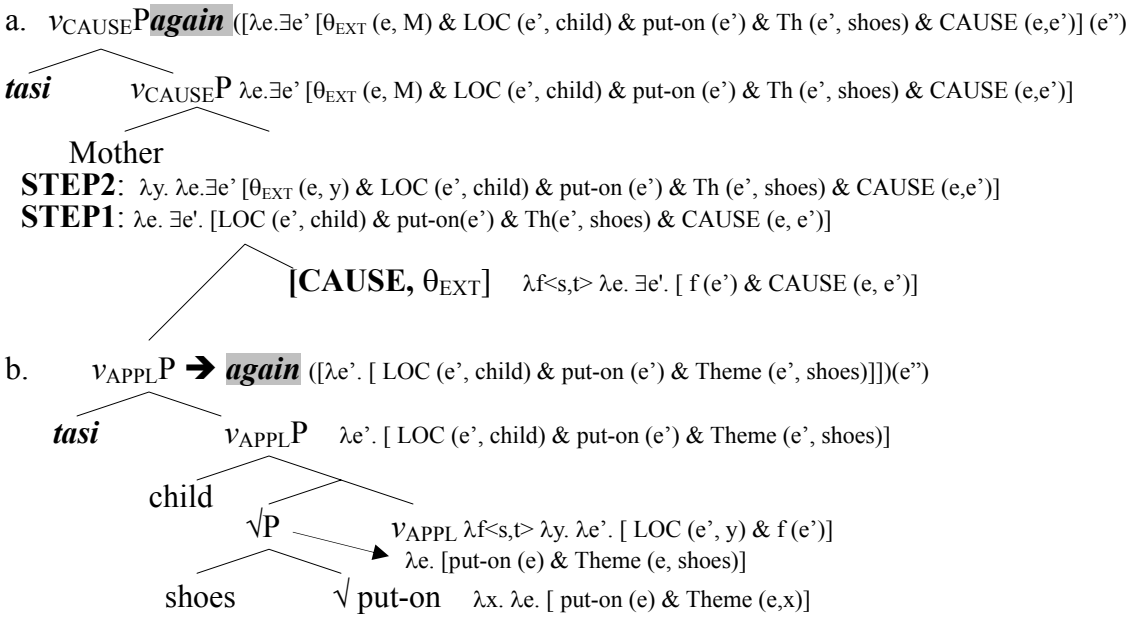
2.7.1 Syntax and Semantics of the Scope Ambiguity of *tasi* 'again'

The scope ambiguity of *tasi* indicates that non-agentive MCs involve a complex event structure, and that the event structure is explicitly reflected in the syntax. Example (48) is repeated as (66).

(66) Emma-ka ai-eykey sinpal-ul ***tasi*** sin-ki-ess-ta
Mother-NOM child-DAT shoes-ACC again put.on-CAU-PST-DC
a. 'Mother made [the child put on his shoes again].' [[$_{VP}$ ***again*** [$_{VP}$ put-on]] CAUSE]
b. 'Mother again made the child put on his shoes.' [***again*** [$_{VP}$ [$_{VP}$ put-on] CAUSE]]

Non-agentive MCs (as well as agentive MCs) have complex event structures composed of a causing event and a caused eventuality expressed by separate verbal projections in the syntax. Therefore, under the syntactic decomposition approach to non-agentive MCs, a natural explanation presents itself for the ambiguity of *tasi* 'again' observed in (66). We have seen that the syntactic structure of non-agentive MCs contains v_{APPL}P, a result-state-denoting constituent separable from v_{CAUSE}. Therefore, *tasi* can be adjoined either to the v_{APPL}P (or √P for unaccusatives), where it takes scope over the result state, or to the v_{CAUSE}P, where it takes scope over the causing event. The different syntactic positions for *tasi*, therefore, trigger two different interpretations: the restitutive reading, as in (67b), and the repetitive reading, as in (67a).

(67) Semantics and Syntax of the Ambiguity of *tasi* 'again'



For the meaning of 'again', I adopt the semantics proposed by von Stechow (1996); 'again' is of type <<s,t><s,t>>, a function taking two event arguments. Its meaning is defined as (68).

(68) Let P be a property of eventualities and let *e* be an eventuality.
again(P)(e) is defined only if ∃e' [⟦MAX⟧ (P)(e')=1 & e' < e]
Where defined, ⟦again⟧ (P)(e)=1 iff P(e)=1

The definition is read as follows: P is a property of eventualities, and '<' is the relation of temporal precedence. P is true of any two eventualities if the first is temporally located entirely before the second. MAX(P)(e') means that e' is a maximal P-event. More specifically,

(69) MAX is a symbol of type <<s,t>,<s,t>>. ⟦MAX⟧ (P)(e)=1 iff P(e) and there is no e' such that e is a proper part of e' and P(e')=1

To put it simply, the semantics of *again* presupposes that the same kind of event occurred previously. Therefore, the denotation of the higher v_{APPL}P in (67b), which yields the restitutive reading, can be read as 'e" is an event such that the shoes are on the child, and there was a maximal event of the same kind before.' By combining the meaning of v_{APPL}P with that of the causing event denoted by v_{CAUSE}P, we will reach the following meaning: 'there exists e' such that the shoes are on the child and the child has been in the same kind of state before.' e' is a result-state of e in which the Mother is an agent.

The repetitive reading is derived by adjoining *tasi* to v_{CAUSE}P, as in (67a). Therefore, the denotation of v_{CAUSE}P with the adjoined adverb can be read as 'there exists e' such that the shoes are on the child and e' is a result state of e" in which the Mother is an agent, and there has been a maximal event of the same kind as e" beforehand'.

2.7.2 Manner Adverbs

We have seen that manner adverbs give rise to ambiguity with agentive MCs, but not with non-agentive MCs. The examples in (37) and (38) are repeated as (70) and (71), respectively.

(70) Mary-ka tongsayng-eykey chayk-ul *ppali* ilk-***hi***-ess-ta
Mary-NOM sister-DAT book-ACC *quickly* read-CAU-PST-DC
a. 'Mary made her sister quickly read the book.'
b. 'Mary quickly made her sister read the book.'

(71) Emma-ka ai-eykey sinpal-ul *ppali* sin-***ki***-ess-ta.
mother-NOM child-DAT shoes-ACC *quickly* put.on-CAU-PST-DC
a. 'Mother quickly put the shoes on the child.'
b. *'Mother caused the shoes to be quickly put on the child.'

The contrast between agentive MCs and non-agentive MCs in adverbial modification with adverbs like 'quickly' also follows from the current proposal that the MC split in Korean comes from differences in the size of the complements with which v_{CAUSE} merges. In line with Chomsky (1995) and Cinque (1996), I assume that adverbials can be based-adjoined to various maximal projections in the sentence depending on their

semantics. I suggest that manner adverbs such as 'quickly' are base-adjoined to an event-denoting *v*P (e.g., v_{CAUSE}P, v_{INCHO}P, and v_{DO}P), and describe how an action/event took place, but not how something has been caused by a particular action or event (i.e., a result state). Consider the examples in (72) and (73), taken from Déchaine (1993).

(72) a. Jane wrote the letter angrily.
b. Jane put on her shirt quickly.

(73) a. *Jane squashed the bug flatly.
b. *Jane submitted the book tidily.

As demonstrated in (73), manner adverbs cannot be construed with non-subject positions (e.g., theme arguments) by describing how the result state was brought about; it is not semantically coherent to interpret (73a) as 'the state of the bug being squashed has come about flatly' or (73b) as 'the state of the book being submitted has come about tidily.' Given that manner adverbs cannot be interpreted with theme arguments, which usually participate in a result state, we can conclude that manner adverbs like 'quickly' and 'slowly' can only modify a dynamic event, which corresponds to a verbal projection headed by an eventive *v*. In the current analysis this would include projections headed by v_{CAUSE}, v_{INCHO}, and v_{DO}.

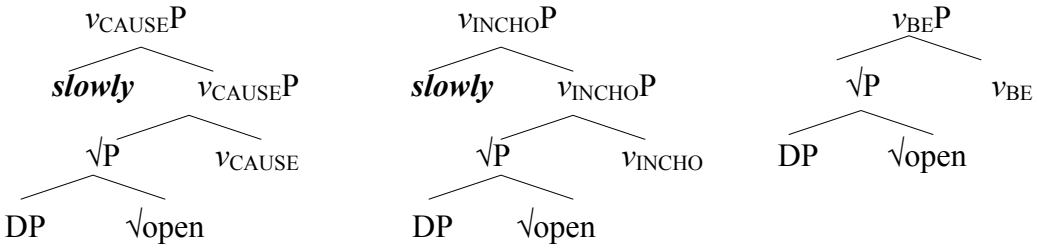
The claim that eventive *v*Ps are potential attachment points for manner adverbs is also compatible with the structure proposed for unaccusatives, which postulates v_{INCHO}, the verbal head that yields the spontaneous 'change of state' event. As shown in (57a) and (57d), the underlying structural difference between unergatives/transitives and unaccusatives comes from the variants of a verbal head in

the sense of Harley and Noyer (1998) and Folli and Harley (2002); the eventive *v* can maximally contain three (possible) abstract heads: one that selects an agent, v_{DO} for unergatives and some transitives: one that selects an external causer (e.g., agent, source) with a causative meaning, v_{CAUSE} for causatives: and one that does not project an argument in its specifier position, v_{INCHO} for unaccusatives (i.e., inchoatives). Simple stative, non-eventive predicates such as *dirty*, on the other hand, are assumed to be associated with a non-eventive v_{BE}. If we extend the hypothesis that variants of a verbal head determine argument structure and the eventiveness of the verb, and moreover that an eventive *v*P is an adjunction site for manner adverbs, a natural explanation presents itself for the (in)felicity of 'slowly' in the following sentences.

(74) a. Mary opened the door slowly.
b. The door opened slowly.
c. *The door is open slowly.

Open in (74a) is a causative verb taking v_{CAUSE}P. *Open* in (74b) is an inchoative verb taking v_{INCHO}P, and *open* in (74c) is a stative verb taking a non-eventive v_{BE}.

(75) a. open (tran.) b. open (intrans) c. open (stative)

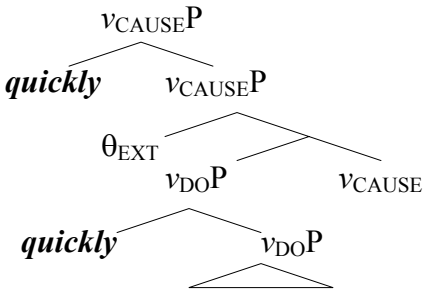


As observed in (75c), the incompatibility of 'slowly' and the stative predicate 'be open'

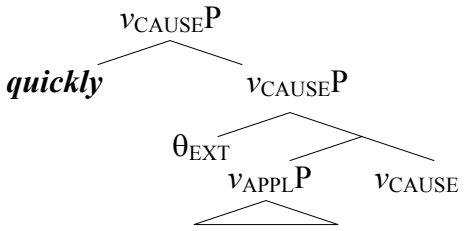
can be attributed to the absence of an eventive *v*P to which 'slowly' can be adjoined. In contrast, an eventive *v*P is present in the other two eventive predicates, as in (75a) and (75b), and thus these structures provide a relevant attachment point for 'slowly'. This explains the compatibility of 'slowly' in (75a) and (75b).

Assuming that manner adverbs are adjoined to an event-denoting *v*P, the contrast between agentive MCs and non-agentive MCs is accounted for by the number of eventive *v*Ps in their structures. The proposed structures for each MC type are repeated below.

(76) a. Agentive MCs



b. Non-Aentive MCs



In the agentive MCs, there exist two eventive *v*Ps: v_{CAUSE}P and v_{DO}P. The adverb 'quickly' can be adjoined either to the lower *v*P or to the higher *v*P, hence the ambiguity. In the non-agentive MCs, however, only one eventive *v*P is present, thus there is only one available position to which the adverb can be adjoined. Therefore, no scope ambiguity is observed, as we would expect under the current analysis.

The difference between the two adverbs 'quickly/slowly' and 'again' in their base position can be attributed to their semantic differences. For instance, the

manner adverb *ppali* 'quickly' can only quantify over a set of (dynamic) events, i.e., an eventive *v*P. The adverb *tasi* 'again', on the other hand, can quantify over the set of any eventualities, including result states, i.e., $\sqrt{P}/v_{APPL}P$.

2.8 Summary

This chapter was primarily concerned with two types of morphological causatives and their respective argument structures in Korean. The specific questions I investigated regarding morphological causatives were: (1) whether or not they involve a single, atomic event (i.e., whether they are decomposable or not) (2) How the argument composition of MCs is inherited from their base verbs, i.e., how causatives relate to their non-causative counterparts, and (3) Why the adverb 'again' creates scope ambiguity in both types of MCs, while some manner adverbs, like 'quickly', show contrasting behavior with respect to the two types of MCs.

On the basis of the cross-linguistic observations, 'again' modification has been shown to be able to be used as a diagnostic for the semantic and syntactic decomposability of predicates. Adopting the structural theory of 'again', I demonstrated that *tasi* 'again' gives rise to ambiguity not only with all instances of morphological causatives but also with lexical causatives. This fact regarding 'again' modification in Korean therefore suggested that both morphological and lexical causative verbs do not form syntactically atomic units but are decomposable into separate morphemes, roots and abstract verbal heads. I argued that all causative verbs, whether lexical or morphological, have a verbal projection headed by v_{CAUSE} that contains two

interpretable features, CAUSE and the external theta role, θ_{EXT}. I also argued that the causative suffix *-i-* is a morphological reflex of this verbal head. The analysis of MC split advanced in this work relies on the theory of syntactic decomposition of events. I proposed that MC split in Korean follows from the size or height of the complement that the causative head selects for: an event-denoting v_{DO}P versus a result-state-denoting v_{APPL}P/√P. Thus, the difference between non-agentive and agentive MCs has been argued to come from the absence or presence of an external-argument introducing *v* in the underlying structure of the base verb.

The similarities and differences in adverbial modification between non-agentive and agentive MCs were shown to follow directly from the proposed structures; similarities in 'again' modification with respect to the two types of MCs (i.e., scope ambiguity), follows from the decomposition of causative verbs into separate morphemes that project separate verbal projections in the syntactic structure. The decomposition thus provides two different adjunction sites for *tasi* 'again' in both types of MCs. The differences in adverbial modification with manner adverbs were shown to correlate with the number of an event-denoting verbal projection (e.g., v_{DO}P, v_{CAUSE}P) in the structure; the agentive MC contains two v_{DO}Ps, thereby providing two attachment points for manner adverbs. In contrast, the non-agentive MC contains only one projection that denotes a dynamic eventiveness, v_{CAUSE}P. Thus no ambiguity arises.

Having laid out the analysis of the MC split that arises from structural differences, important questions one must ask are the following: (1) Why do certain verbs allow a causative head to select a constituent that excludes an external argument,

while others allow the causative head to merge with a verbal projection with an external argument. In other words, why do certain verbs appear in non-agentive MCs, while others appear in agentive MCs? (2) Can we find a way to systematically categorize verbs of each type on the basis of their syntactic and semantic properties?

These questions will be the leading inquiries of the next chapter. I shall argue that certain generalizations are indeed possible with respect to the type of transitive verb that occurs in each type of MC. I shall argue that transitive verbs occurring in non-agentive MCs form a semantically coherent class, and that the distinction between transitive verbs that occur in non-agentive MCs and those that occur in agentive MCs is similar to the well-recognized unaccusative versus unergative distinction.

CHAPTER 3

On Argument Structure Alternations

3.1 The Unaccusative and Unergative Distinction

Of primary interest in this chapter is the problem of characterizing as precisely as possible the class of verbs that may enter into morphological causativization.

It is widely held in the current literature on the lexicon-syntax interface that there is a close correlation between verbal meaning and structure, and that the verbal behavior, particularly with respect to the expression and interpretation of its arguments, is, to a large extent, determined by its meaning. That is, verbs that display the same syntactic patterns in the realization of their argument structure are assumed to share certain meaning components and are organized into a semantically or syntactically coherent class. Thus, as an attempt to systematically categorize verbs occurring in each type of morphological causative, I would like to consider the semantic and syntactic properties of verb roots independently. I shall argue that factors that seem to make a difference to the linguistic behavior of verbs in morphological causative formation, i.e., whether they appear in an agentive or the non-agentive MC, are closely correlated with inherent components of verbal meaning, in particular, event structure of verbs.

Building upon the view that verbs that show the same linguistic behavior share certain semantic properties, I argue that each group of transitive verbs appearing in non-agentive and agentive MCs shares certain semantic (and structural) properties. In

previous studies of morphological causatives in Korean, it has generally been accepted that intransitive verb bases that occur in each type of MC are systematically distinguished from one another; verbs that appear in non-agentive MCs are unaccusatives (stative and inchoative verbs), and those that appear in agentive MCs are unergatives. However, no systematic classification has been attempted for transitive verb bases occurring in each type of MC. Rather, it has often been believed that the variety of transitive verb that appears in each type is unpredictable and idiosyncratic, and thus no explanation can be provided as to why some transitive verbs are associated with non-agentive MCs while others undergo agentive causativization. In this work, however, I suggest that once we adopt a theory of syntactic decomposition of events, certain generalizations are possible regarding the type of transitive verb that occurs in each type of morphological causative. In particular, I shall argue that transitive verbs that are associated with non-agentive MCs form a semantically coherent class, and thus, they have the same syntactic structure, which differs from normal transitives; transitive verbs occurring in non-agentive MCs lack an external-argument introducing *v* in their underlying representation. This mirrors the structural configuration of unaccusatives. In contrast, verbs that occur in agentive MCs contain an external argument in their underlying structure. Therefore, I argue that the distinction between transitive verbs occurring in the non-agentive MC and those occurring in the agentive MC is analogous to the unaccusative-unergative distinction.

In what follows, I will first develop an argument that transitive verbs associated with non-agentive MCs form a semantically coherent class, which I term

'verbs of the 'put-on' class'. I further argue that these verbs form a syntactically coherent class with unaccusative verbs in the sense that they both lack an external-argument in their underlying representation. In section 3.3, I turn to verbs that occur in agentive MCs. I shall argue that transitive verbs associated with agentive MCs form a syntactically coherent class with unergative verbs in the sense that their vocabulary items are specified for a syntactic environment that involves v_{DO}, hence the presence of an agent argument in the underlying structure.

3.2 Non-agentive MCs and Unaccusativity of Base Verbs

3.2.1 Transitive Bases and Unaccusativity

The hypothesis that the unaccusative-unergative distinction for intransitives is based on the syntactic configuration is a familiar one. The single argument of an unaccusative verb is an internal argument normally interpreted as a theme or a patient, while the single argument of a unergative verb is an external argument that normally receives an agent interpretation (Perlmutter 1978, 1983; Burzio 1981, 1986). In this section, I shall demonstrate that a distinction between two groups of intransitive verbs on the basis of their syntactic configuration (i.e., the presence of an external argument) can also extend to transitive verbs that undergo morphological causativization.

In the previous section, I argued that the transitive verbal bases in non-agentive MCs contain an abstract v_{APPL}, which determines that the thematic role of the causee is interpreted as a location. It is important to note that the postulation of the abstract v_{APPL}P is not tailored specifically for causatives but comes from certain

semantic/aspectual properties that these transitive verb roots share. If we look closely at the semantic characteristic of the transitive verb bases associated with non-agentive MCs listed in (40), the verbs all take an internal argument that undergoes a change of location. The list of transitive verbs which form non-agentive MCs is repeated in (77). (Again, the list in (77) is not an exhaustive list.)

(77) Transitive Verbs Associated with Non-Agentive MCs: Verbs of the 'Put-On' Class

Transitive Base		Causative	
mek-	'eat'	mek-***i***-	'feed x'
ip-	'put clothes on one's body'	ip-***hi***-	'dress x'
sin-	'put x on one's foot'	sin-***ki***-	'put shoes on x'
an-	'put x in one's arms'	an-***ki***-	'put x in someone's arms'
ep-	'put x on one's back	ep-***hi***-	'put x on someone's back'
mwul-	'take x in one's mouth'	mwul-***li***-	'put x in someone's mouth'
ci-	'put x on one's back'	ci-***wu***-	'put x on someone's back'
ssu-	'put x on one's head/face'	ssu-***ywu***-	'put x on someone's head/face'
cha-	'put x on one's wrist'	cha-***ywu***-	'put x on someone's wrist'

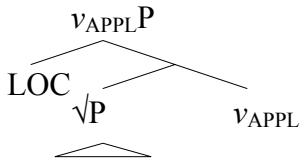
I categorize the verbs in (77) as members of the 'put-on' class; verbs of relating the meaning 'to put x on one's body' are expressed in Korean using different lexical items depending on which body part is involved. Crucial to the generalization I would like to make regarding the categorization of the verb bases in (77) is the notion of the argument undergoing some sort of identifiable *locational* change/transition. In other words, the common trait of the theme objects selected by the verbs of the 'put-on' class is that they all undergo movement from one location to another. The truth condition of the sentence *the child put on his/her shoes*, for example, involves a situation where the shoes undergo a change of location from, for instance, a shoe-rack to the child's feet. The

sentence *Mary took a teddy bear in her arms* involves a situation where the teddy bear changes its location from, for example, a chair to Mary's arms. The same implication applies to other verbs of the 'put-on' class as well. This suggests that this kind of verbal meaning would always involve an inherent *locational* endpoint, which is the child's feet in the former example and Mary's arms in the latter. The common semantic and aspectual properties that verbs of the 'put-on' class share therefore suggest that v_{APPL} is inherently encoded in the meaning of verbs belonging to the 'put-on' class. Therefore, the postulation of the v_{APPL}P in non-agentive MCs, as proposed in (60), is not stipulative, but is conceptually motivated by the semantic properties of the verb roots, given that location is specified in both transitive base and causative sentences.

I propose that v_{APPL} is another type of verbalizing category and determines the event structure of a verb. v_{APPL} is shared by all verbs of the put-on class. What distinguishes one verb from the other members of the 'put-on' class is the meaning denoted by the root which introduces the idiosyncratic component of the verb meaning, i.e., different body parts. For instance, the verbs *sin-* 'put shoes on one's foot' and *ssu-* 'put x one one's head' have the same semantic and syntactic structures; they are both verbs of 'putting something on'. However, the semantic content of *sin-* differs from that of *ssu-* because it denotes a different body part, i.e., foot versus head.

As discussed in Section 2.6.2, I argue that verbs of the 'put-on' class have a structure that lacks an external-argument introducing verbal head, as shown in (60), and repeated as (78).

(78) Underlying Structure of Verbs of the 'put-on' Class



As seen in (78), 'put-on' verbs are assumed to be represented without an external-argument-introducing verbal head, mirroring the syntactic configuration of unaccusative predicates.[34] Thus intransitive and transitive verbs that occur in non-agentive MCs form a syntactically coherent class in the sense that they both lack an external-argument-introducing *v* in their underlying structure. This similarity with respect to the syntactic configuration then explains the similar distribution of unaccusatives and verbs of the 'put-on' class in morphological causatives; their occurrence in non-agentive MCs is not coincidental but follows from their shared syntactic properties, i.e., the absence of an external argument.

It should be noted that the locative argument introduced by v_{APPL} may or may not be distinct from the entity that initiates the event denoted by the verb (i.e., the agent). As we saw in section 2.6.2, the locational endpoint in a causative sentence is

[34] Here, I define an external argument as an argument introduced by an eventive verbal head (e.g., v_{DO} and v_{CAUSE}); the argument selected by an eventive verbal head is interpreted as a participant in the initiating event, regardless of whether the initiating event brings about a result state. The external argument in this respect cannot be construed as an entity/individual that participates in a result state. Therefore, the locative argument introduced by v_{APPL}, which participates in result states of 'put-on' verbs is not an external argument, unlike the argument introduced by a high applicative head in Pylkkänen (2002); in her theory, an argument introduced by a high applicative head (e.g., a beneficiary) is argued to be an external argument, as opposed to an internal argument selected by the verb.

distinct from the agent. The causative sentence in (38) is repeated as (79), wherein the agent argument introduced by the causative head, 'Mother', is an individual distinct from the final location of the event, the child.

(79) Emma-ka ai-eykey sinpal-ul sin-***ki***-ess-ta.
mother-NOM child-DAT shoes-ACC put.on-CAUSE-PST-DC
'Mother put the shoes on the child.'

In contrast, in a transitive sentence like (80), the location of the theme coincides with the individual that initiates the event; the agent himself/herself is the terminal location where the theme ends up upon completion of the event (cf. the reflexive nature of verbs of wearing, Du 2000).

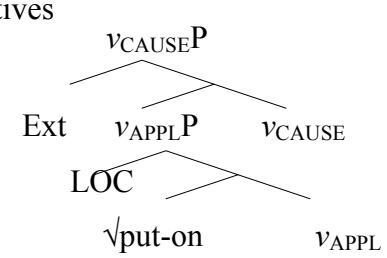
(80) Ai-ka sinpal-ul sin-ess-ta.
child-NOM shoes-ACC put.on-PST-DC
'The child put the shoes on (himself).'

The examples in (79) and (80) thus indicate that the interpretation of an argument introduced by v_{APPL} as a location or an agent depends on the presence or absence of an external individual distinct from the location (cf. Anagnostopoulou 2000).[35] I translate this into my analysis as the argument structure of verbs being

[35] Anagnostopoulou (2000) presents similar arguments for the structure of verbs of 'ingesting' such as *eat*, which I categorize as one of the verbs of the 'put-on' class. She argues that the verbs of 'ingesting' are essentially unaccusative verbs, not unergative verbs, and take a form similar to the double object construction wherein the verb root takes an indirect object (i.e., a goal) higher than the direct object in the structure. In her analysis, the person that eats is interpreted as an agent when an external causer is absent lacking a verbal projection (*v*P) above the VP. When there is another external causer projected by an additional verbal category above the VP, the person who eats is

determined by the type of *v* head with which they combine. In causatives, we have seen that v_{APPL} merges with the v_{CAUSE} that introduces an external argument, and thus the agent is distinct from the location. This is repeated in (81).

(81) Causatives



(e.g., *Mother put the shoes on the child*.)

In the transitive counterpart of the causative, however, the agent and the location roles are shared by a single argument (i.e., the subject), as we have seen from the examples above (e.g., 80)). In other words, 'put-on' verbs are lexically reflexive in the sense that the locational endpoint of the theme is also the agent that initiates the event (cf. Nam 2001; Kim 2001).

It should be noted, however, that transitive variants of the verbs of the 'put-on' class are ambiguous between two readings, an eventive reading, as shown in

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interpreted as a goal, which derives the meaning *feed*. She characterizes the goal role as a "dependent role downwards", in the sense that an argument is interpreted as a goal or an agent depending on the presence of the external causer, citing Marantz (1991). She argues that when an external causer argument is absent, the goal argument of the verb is externalized and becomes the agent, which derives the meaning 'eat' However, she does not make this externalization process explicit in her analysis. As we will see shortly, the externalization process is made explicit in this work. I argue that v_{APPL}P, the head of which introduces a locative (or goal) argument, merges with v_{RFL}. This merger results in the locative argument realized as an agent argument, giving rise to a single DP bearing two thematic roles, an agent and a location.

(80), and a stative reading, in which the subject is non-agentive. Consider (82), for example.

(82) Yeonghi-ka ecey say wundonghwa-lul sin-ess-ta.
Yeonghi-NOM yesterday new sneakers-ACC put.on-PST-DC
a. 'Yeonghi put on the new sneakers yesterday.' (Eventive)
b. 'Yeonghi wore the new sneakers yesterday.' (Stative)

(82a) describes a dynamic event in which Yeonghi put on the new sneakers. In this reading, *Yeonghi* is agentive. The eventive reading is contrasted with the reading in (82b) in which *Yeonghi* is non-agentive; (82b) describes a simple state in which *Yeonghi* had the new sneakers on (her feet). I will, therefore, refer to (82b) as a stative. The sentences in (83) with adverbial modification show further evidence that example (82) has two possible interpretations.

(83) a. Yeonghi-ka ecey say wundonghwa-lul halwucongil sinessta.
Y-NOM yesterday new sneakers-ACC all day put.on-PST-DC
'Yeonghi wore the new sneakers all day.'(Focus on State)
*'Yeonghi put on the new sneakers all day.'

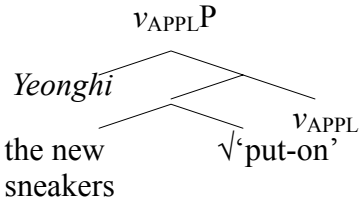
b. Yeonghi-ka ecey say wundonghwa-lul himtulkey sinessta.
Y-NOM yesterday new sneakers-ACC with difficulty put.on-PST-DC
'Yeonghi put on the sneakers with difficulty.'(Focus on Action)
*'Yeonghi wore the new sneakers in a difficult manner.'

The analysis of the stative/eventive difference advanced in this work posits different verbal heads that determine event types, as discussed in section 2.6.1.2. As I have argued, an eventive predicate is derived by merging v_{APPL}P with one of the eventive verbal heads (e.g., v_{DO} and v_{CAUSE}). On the other hand, stative predicates are

produced by merging a root with v_{APPL}, a non-eventive verbal head. Therefore, the ambiguity between the stative and the eventive interpretation in (83) can be argued to arise from a structural difference; when v_{APPL}P stands on its own, the stative meaning is derived, while the eventive meaning is derived by merging v_{APPL}P with one of the eventive verbal heads posited in the inventory of *v*s.

Let us first consider the structure for the stative interpretation, in which the subject is interpreted as a location. As illustrated in (84), I assume that v_{APPL}P can stand on its own without being embedded under another event-determining verbal head and produces a stative variant of verbs of the 'put-on' class.

(84)



The structure given in (84) has the meaning roughly as: the new sneakers are put on Yeonghi, which can be paraphrased as Yeonghi wears the new sneakers.

In order to produce the eventive meaning of 'put-on' verbs in a transitive context, as in (82a), v_{APPL}P merges with an eventive *v* head. However, the current inventory of eventive *v*s does not license the desired eventive interpretation of the verb, in which the location coincides with the agent; both v_{DO} and v_{CAUSE} introduce a separate external argument in their specifier positions. Thus, merging v_{APPL}P with either one of these heads would result in an interpretation in which the agent is separate from the

final location of the theme.[36] In order to derive the reflexive reading for these verbs when they have an eventive interpretation (i.e., a single DP bearing two thematic roles, agent and location), I propose introducing another eventive *v* to the inventory of Korean verbalizing heads: v_{RFL}. This head is analogous in its semantics to the reciprocal Voice head discussed in Bruening (2004). To derive the eventive interpretation in (82a) and (83b), I assume that v_{APPL}P merges with v_{RFL}, which, like other eventive *v*s, introduces an agent argument and denotes an agentive event. What is unique about v_{RFL}, however, is that its semantics selects an open predicate with an unsaturated individual argument and states that the agent introduced by v_{RFL} is identified with this argument. This is formally represented in (85).[37]

(85) v_{RFL} (with verbs of the 'put-on' class)

$\lambda P_{<e,<s,t>>} \lambda x. \lambda e. \exists e' [P(e', x) \& Agent(e,x) \& CAUSE(e, e')]$

v_{RFL} requires a predicate of type <e <s,t>> as its argument and returns a predicate of the same type (i.e., <e<s,t>>). Due to its semantic specification, upon merging with v_{APPL}P in (78), v_{RFL} enforces a syntactic detransitivization of the v_{APPL}P, as shown in (86).

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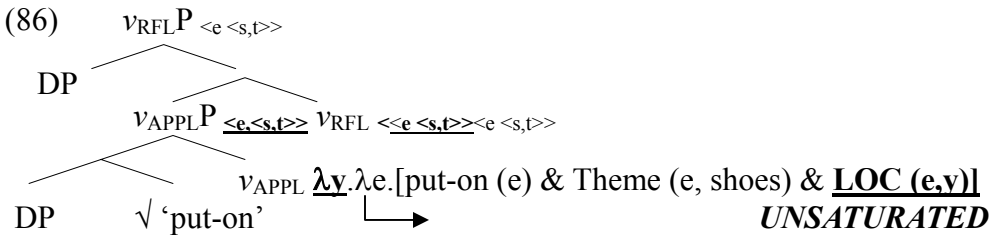
[36] In fact, v_{DO} is not compatible with v_{APPL}P since merging v_{APPL}P with v_{DO} does not license two separate events, but only a single event. However, we have seen from 'again' modification that these verbs involve two separate events when they occur in morphological causatives (see section 2.5).

[37] The CAUSE component in the semantics of v_{RFL} is attributed to the fact that the ambiguity of *tasi* 'again' is also found with transitive verbs; when *tasi* is added in (82), the sentence is ambiguous between a restitutive and a repetitive reading, suggesting that the result-state-denoting component is present in transitives as well.

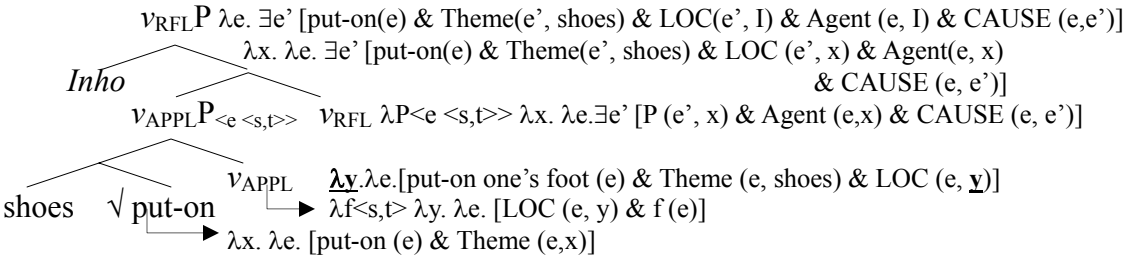
(86)



As seen in (86), no syntactic argument is projected in the specifier position of v_{APPL} in transitives.[38] Were it to be projected, this would result in a type mismatch between v_{RFL} and v_{APPL}P; if the locative argument is saturated within the domain of v_{APPL}P, the v_{APPL}P ends up with type <s,t>, a function from an event to a truth value. However, v_{RFL} requires an argument of type <e<s,t>>. A fully specified syntactic and semantic representation of transitive verbs of the 'put-on' class (e.g., (82a)) is given in (87).

[38] Another possibility for satisfying the semantic requirement of v_{RFL} is to detransitivize the √P, creating an unsaturated theme argument, as in the denotation of √P as: λy λe. [put-on (e) & Theme (e, y)]. However, detransitivizing √P results in a type mismatch between v_{APPL} and √P. The semantics of v_{APPL} is of type <<s,t><e<s,t>> and requires the type <s,t> as its first argument: v_{APPL} = λf <s,t> λy λe [f(e) & Loc (e)]. However, detransitivizing √P turns its type into <e <s,t>> due to the unsaturated argument created by the detransivization. Because of the type mismatch between v_{APPL} and √P, the possibility of detransitivizing √P is ruled out, which seems compatible with the observed facts; verbs of the 'put-on' class in an active transitive sentence cannot have an interpretation in which the agent is also the theme that undergoes a change of location. For instance, 'Inho put himself on someone else's body part' is not a possible interpretation in any transitive context. This interpretation, however, is indeed possible when the sentence is passivized, i.e., when the theme undergoes DP movement (see section 4.1 on passivization of verbs of the 'put-on' class).

(87) Underlying Representation of Verbs of the 'put-on' Class



Since no DP is projected by v_{APPL}, the locative argument in the semantics of v_{APPL} remains unsaturated when we get to the interpretation of v_{APPL}P. By combining v_{APPL}P with v_{RFL}, the unsaturated argument (i.e., location) is identified with the agent selected by v_{RFL}. These two semantic arguments are then saturated by the DP projected by v_{RFL}, *Inho*, and we arrive at the intended reading: namely, that *Inho* is both the agent and the location of the event. Therefore, the effect of merging two thematic roles into a single DP is attributed to the semantics of v_{RFL}.[39]

It has been argued thus far that the causative and non-causative alternation associated with verbs of the 'put-on' class is determined by the type of verbal head with which v_{APPL}P merges. This analysis is based on the assumption that the syntactic configuration of these verbs is in parallel with that of unaccusatives in terms of the absence of an external-argument-introducing *v*. Thus, the interpretation of verbs as causatives or as transitive (either eventive or stative) is structurally determined; if

[39] The syntactic and semantic representation proposed for Korean 'put-on' verbs is probably necessary in general for Agent-Goal verbs, which are common in many languages (e.g., agent-goal verbs such as 'buy' and 'acquire' in English, Tenny, 1992; verbs of ingesting such as 'learn' and 'eat' in Greek and English, Anagnostopoulou, 2000).

v_{APPL}P merges with an external-argument-introducing v_{CAUSE}, the sentence is interpreted as causative. If the v_{APPL}P combines with v_{RFL}, the sentence receives an eventive transitive interpretation. Direct merge of v_{APPL} with v_{BE} yields a stative interpretation.

Maintaining the idea that an argument structure alternation is determined structurally by the type of verbal head, I suggest that the causative-inchoative alternation also results from different structural configurations associated with variants of the eventive *v* head, as briefly discussed in section 2.6.1.2. The relevant eventive *v* heads for the causative-inchoative alternation are v_{CAUSE} and v_{INCHO}, both of which denote a change of state. That is, something *happens* in both cases, whether it is caused by some external argument (i.e., causatives) or occurs spontaneously (i.e., inchoatives). The analysis propounded in this work, therefore, takes a non-directional approach to the causative-inchoative alternation, contrary to directional approaches claiming that one form is derived from the other. I will refer to the former approach as the "independent theory" and to the latter as "the dependent theory", borrowing terminology from McGinnis (2004). In the following section, I will briefly summarize two versions of the dependent theory: the causativization of inchoatives and the decausativization of causatives. Both approaches postulate one of the following alternates: either an inchoative or a causative verb is taken as a basic form, while the other alternate is derived from it; one form is dependent on the other form, hence the term "the dependent theory". I will then demonstrate that the dependent theory is inadequate in accounting for the causative-inchoative alternation in Korean on the basis of two facts: a paradigmatic relation between a causative and an inchoative morpheme that compete

for the same syntactic position, and ambiguity of *tasi* 'again'. These facts, in turn, will provide evidence in favor of the claim that a causative and an inchoative morpheme are alternative spell-outs of an eventive verbal head (cf. EventP in Haley (1995)) implicated in sentences with complex event structures.

3.2.2 The Causative-Inchoative Alternation

3.2.2.1 The Dependent Theory versus the Independent Theory

The causative-inchoative alternation has traditionally been modeled in terms of the causativization of inchoative verbs (e.g., Hale and Keyser 1993; Embick 2004; Lin 2004) or the decausativization of causative verbs (e.g., Levin and Rappaport Hovav 1995; Reinhart 1996, 2002; Chierchia 2004). These two approaches posit one of the two alternates to be a basic form, and the other to be a form derived through some lexical or syntactic process. The primary arguments brought forward in favor of these approaches are based on the surface morphology of the verbs in question. Arguments in favor of the decausativization of causative verbs, for instance, are based on the cross-linguistic tendency for inchoative verbs to be derived from causative verbs. French and Italian, for example, employ reflexive clitics to derive inchoative verbs from their causative counterparts, as illustrated in (88) and (89).

(88) a. Jean a cassé la branche. (French)
Jean has broken the branch
'Jean broke the branch.'

b. La branche ***s***'est cassée
the branch SE.is broken
'The branch broke.'

(89) a. Maria ha rotto la finestra (Italian)
Mary has break the window
'Mary broke the window.'

b. La finestra ***si*** è rotta
the window SI is break
'The window broke.' (Folli (2001))

As seen above, the inchoative verbs 'break' in French and Italian are formed by inserting the inchoative/reflexive markers *se* and *si*. The patterns observed in French and Italian, therefore, have often been considered evidence in support of the hypothesis that inchoatives are derived from causatives (Burzio 1986; Manzini 1986; Cinque 1988; Reinhart 1996, 2002, *inter alia*). It is argued that the appearance of the reflexive marker *se/si* in the inchoative variants is the reflex of an operation, whether lexical or syntactic, on the external causer argument. Reinhart (2002), in particular, argues that inchoative verbs are derived by a lexical operation affecting the reduction (i.e., suppression of the causer) from the basic causative/transitive lexical entry (cf. Levin and Rappaport Hovav 1995 and Chierchia 1989, 2004).[40] Thus, inchoative verbs are believed to be derived by a process of decausativization or anti-causativization.

[40] Reinhart (2002) adopts a proposal advanced by Chierchia (1989). It is crucial to stress that although the technical apparatus employed by Reinhart is the same as the one proposed by Chierchia, Chierchia uses it only to derive unaccusatives from transitives, while Reinhart extends it to the derivation of unergatives in an attempt to provide a unified theory of the reflexive marker appearing in various constructions (e.g., reflexives, inchoatives, middles, etc.).

The arguments brought forward in favor of the causativization of inchoative verbs are based on another type of cross-linguistic pattern in which causative verbs are morphologically more complex than their inchoative counterparts; causative verbs are more marked than inchoative verbs. Khalka Mongolian, Hindi/Urdu and Turkish belong to a list of languages which seems to indicate that causative verbs are derived from their inchoative counterparts by affixation. Consider (90), for example.

(90) Khalka Mongolian (Haspelmath 1997)

	Inchoative		Causative	
a.	ser-ex	'wake up'	ser-***e***-ex	'wake x up'
b.	ongoj-x	'open'	ongoj-***lg***-ox	'open x'
c.	xat-ax	'dry'	xat-***a***-ax	'dry x'

The causative-inchoative alternation found in languages like Khalka Mongolian thus is considered to be evidence for the hypothesis that the causative verbs are derived form their inchoative counterparts. The lexicalist theory, in particular, treats causativization as the affixation of a causative morpheme to the inchoative, along the lines of (91):

(91) V*incho* + CAUSE = V*cause*

The overt morphology in the causative variants shown in (90) can then be regarded as the reflex of a process, either in the lexicon or the syntax depending on the analysis, which adds an external causer into the argument structure. Thus, causative verbs are believed to be derived by a process of causativization, rather than decausativization.

On the basis of the morphological causativization we observed in section

2.2, the causative-inchoative alternation in Korean *prima facie* would suggest that Korean provides additional support for the causativization approach; we have seen that causative verbs are derived by the suffixation of *-i-* while inchoative verbs are unmarked. The examples in (22) are repeated in (92).

(92) a. Elum-i nok-ass-ta.
Ice-NOM melt-PST-DC
'The ice melted.'

b. Chelswu-ka elum-ul nok-***i***-ess-ta.
Chelswu-NOM ice-ACC melt-CAU-PST-DC
'Chelswu melted the ice.' (Change of State: Inchoative)

This observation, however, is contradicted by another type of alternation in which inchoative verbs are more morphologically complex than their causative counterparts; some causative-inchoative pairs exhibit a pattern in which the causative forms are basic and inchoative verbs are derived by attaching an inchoative morpheme *–hi-* to the causative counterpart. Consider (93) and (94), for instance.[41]

(93) a. Inho-ka mwun-ul yel-ess-ta.
Inho-NOM door-ACC open-PST-DC
'Inho opened the door.'

b. Mwun-i yel-***li***-ess-ta.
door-NOM open-INCHO-PST-DC
'The door opened.'

[41] The morpheme *-hi-* can also be used as a passive morpheme, and thus the sentence in (93b) is ambiguous between an inchoative and a passive reading. I suggest in the next chapter that the morpheme *-hi-* is neither an inchoative marker, nor a passive suffix, but is a morphological reflex of an eventive verbal head that lacks a case feature (e.g., v_{INCHO}, and passive counterparts of v_{CAUSE} and v_{RFL}).

(94) a. Mary-ka changmwun-ul tat-ass-ta.
Mary-NOM window-ACC close-PST-DC
'Mary closed the window.'

b. Changmwun-i tat-***hi***-ess-ta.
window-NOM close-INCHO-PST-DC
'The window closed.'

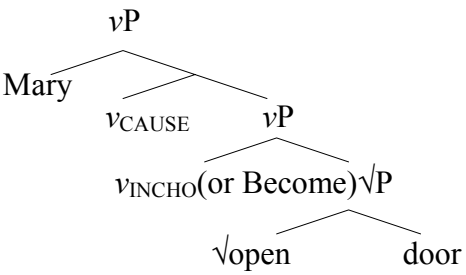
If we take the surface morphology at face value, the alternating pattern in (93) and (94) suggests that the causative-inchoative alternation involves *decausativization* of causative verbs, rather than causativization of inchoative verbs.

The existence of a bi-directional alternation between causative and inchoative verbs thus suggests that any general account of the causative-inchoative alternation in which causative verbs are derived from inchoative verbs or vise versa is misguided. Suppose that the preferred account claims that causative verbs are derived from inchoative verbs, then there will be no straightforward explanation for the pattern found in (93) and (94), which exhibit the opposite direction of derivation. Alternatively, suppose that the preferred account states that inchoative verbs are derived from causative verbs. As such, there will be no straightforward way to derive inchoative verbs like those in (92). In order to resolve this paradox, I claim that neither inchoative nor causative verbs are derived from their causative or inchoative counterparts. Rather, they are both derived from their shared verb roots.[42] I will call this approach the independent theory (McGinnis 2004) in the sense that neither inchoative nor causative forms are dependent on their (causative or inchoative) counterparts. The essence of this

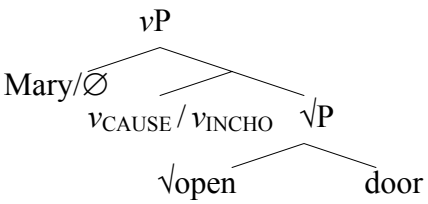
[42] See Harley (1995) and Pylkkänen (2002) for similar approaches to the causative-inchoative alternation in Japanese.

approach to the causative-inchoative alternation is that the causative structure does not entail the inchoative structure, contrary to the assumptions of the dependent theory, which states that the inchoative structure is part of the causative structure. Compare the two structures assumed in each theory, as illustrated in (95).

(95) a. Dependent theory



b. Independent theory

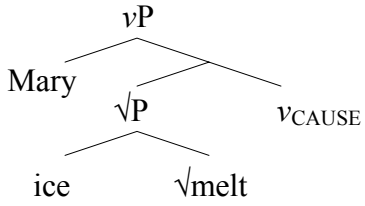


The common trait of the two versions of the dependent theory discussed above lies in the assumption that there is an entailment relation between the causative and the inchoative structure; the causative structure in (95a) denotes the causation of another event, such that the ice *became* melted. Thus the causative entails the inchoative component in its meaning; the causativization approach states that an extra argument is simply added to the inchoative structure, which is then taken to be the underlying structure. The decausativization approach simply reduces the structure above the inchoative structure, i.e., the higher *v*P in (95a), by taking the causative structure as an underlying representation.

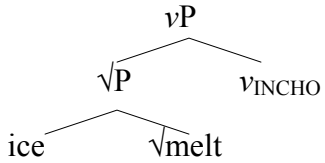
The causative structure assumed by the independent theory, in contrast, does not entail the inchoative structure, as shown in (95b). Instead, the verbal head expressing the inchoative meaning, $v_{\text{INCHO,}}$ substitutes for the causative verbal head,

v_{CAUSE}, in the syntactic structure; the two eventive verbal heads compete for the same syntactic position. The causative-inchoative alternation thus is determined structurally by two variants of the eventive *v* head with which the same root projection merges. As discussed earlier, v_{CAUSE} and v_{INCHO} differ with respect to the presence of an external argument, but the semantic content common to both is that of eventiveness/change of state; something *happens* in both cases, whether caused (i.e., causative) or spontaneous (e.g., inchoative). The causative versus inchoative alternation for *nok-* 'melt' can therefore be syntactically and semantically represented as (96) and (97).

(96) a. Causative



b. Inchoative



The denotation of v_{CAUSE} proposed in the preceding chapter is repeated as (97a), which is interpreted in two steps (see the computation in (56)).

(97) v_{CAUS}: [CAUSE, θ_{EXT}], where
CAUSE : $\lambda f_{<s,t>}\ \lambda e.\ \exists e'.\ [f(e') \ \&\ CAUSE(e, e')]$ and
θ_{EXT} : $\lambda x.\ \lambda e.\ \theta_{EXT}(e,x)$

where CAUSE (e)(e') is defined as:
for all eventualities *e*, *e'*, CAUSE (e, e')=1 iff *e'* is a caused eventuality of *e*.

I assume the denotation of v_{INCHO} to be of type <s,t><s,t>, a function from an

eventuality to a truth value, adopting the semantics of BECOME used in Beck and Johnson (2004).

(98) v_{INCHO} : λP ∃e [BECOME (P)(e)=1]

where BECOME (P)(e) is defined as:
for all eventualities e, [BECOME](P)(e)=1 iff e is the smallest event such that P is not true of the prestate of e but P is true of the result state of e.

Thus v_{INCHO} combines with √P and yields ∃e [BECOME (λe". melt (e") and ice(e"))(e), which is read as: "There exists an inchoative event which results in the eventuality in which the ice is melted". The inchoative structure in (96b) thus denotes a change-of-state event occurring without an implied agent and is interpreted as 'the ice *became* frozen', reflecting the eventive property of the predicate; the change of state interpretation is licensed by v_{INCHO}. The corresponding causative structure in (96a) denotes a change-of-state event caused by some external individual and is interpreted as 'cause to *be* frozen', rather than 'cause to *become* frozen'. Causative verbs represent the event of the causation of a *state*, not the event of the causation of another event of *becoming* a state (also see Harley 1995).

In what follows, I will present further evidence that supports the idea that the causative and inchoative morphemes are alternative spell-outs of an eventive verbal head implicated in a sentence with a complex event structure.

3.2.2.2 Evidence for the Independent Theory

The claim that the causative and the inchoative verbal head occupy the same syntactic position is further evidenced by another paradigm of causative-inchoative alternation, in which a verbal root *must* be affixed with either an inchoative or a causative morpheme in order to produce a well-formed verb stem, which is then inflected with the usual tense morphology. The table in (99) lists the pairs of verbs that pattern in this way.

(99) The Causative(-*ttuli*-)-Inchoative (-*ci*-) Alternation

Inchoative		Causative	
mangkule-***ci***-	'break'	mangkule-***ttuli***-	'break x'
cappa-***ci***-	'fall on one's back'	cappa-***ttuli***-	'make x fall on one's back'
ppa-***ci***-	'fall into x (e.g., water)	ppa-***ttuli***-	'make y fall into x'
ilkule-***ci***-	'be distorted'	ilkule-***ttuli***-	'distort x'
the-***ci***-	'explode'	the-***ttuli***-	'detonate x'
phe-***ci***-	'spread out'	phe-***ttuli***-	'spread x'
nwukule-***ci***-	'be softened'	nwukule-***ttuli***-	'soften x (e.g., emotion)
mwune-***ci***-	'collapse/be destroyed'	mwune-***ttuli***-	'collapse/destroy x'
ssule-***ci***-	'fall down/collapse'	ssule-***ttuli***-	'bring x down/
pwuse-***ci***-	'crumble to ground'	pwuse-***ttuli***-	'crumble x to
ccwukule-***ci***-	'be pressed out of shape'	ccwukule-***ttuli***-	'press x out of shape'
nule-***ci***-	'hang down'	nule-***ttuli***-	'hang x down'
mie-***ci***-	'be torn'	mie-***ttuli***-	'tear a hole'
ttele-***ci***-	'fall/drop'	ttele-***ttuli***-	'drop x/ make x fall'

As seen from the above table, the inchoative-causative pair has a shared root component. The root component cannot surface on its own but must be suffixed with either -*ci*- or -*ttuli*- to derive the intransitive/inchoative or the transitive/causative

member of the pair, respectively. The morpheme *-ci-* is an inchoative marker which normally turns a stative predicate (e.g., *ppalka-* 'red') into an eventive (inchoative) verb (e.g., *ppalkay-ci-* 'red-become'). The morpheme *-ttuli-* is yet another type of causative/transitive morpheme.[43] Contrary to what the dependent theory would predict, no morpheme stacking is allowed, as illustrated in (100). .

(100) a. *mangkule-***ci-ttuli-** 'break x'
b. *cappa-***ci-ttuli-** 'make x fall on one's back.'
c. *ppa-***ci-ttuli-** 'make x fall into y'

The inchoative-causative pairs shown in (100) thus reveal the complementarity of the causative and inchoative morphemes in the syntactic structure. On the view adopted here, morphological make-up reflects properties of the syntactic structure. Thus, if two morphemes compete for the same slot, this can be interpreted as the two morphemes competing for the same syntactic position. This is precisely what the independent theory predicts.

Another source of evidence in favor of the independent theory comes from the scope ambiguity of *tasi* 'again'. If the dependent theory is correct, whether causatives or inchoatives are syntactically or lexically derived, we would expect the relevant utterances to exhibit a three way ambiguity with *tasi* 'again'. Since the dependent theory states that the causative simply adds (or reduces) extra structure, the

[43] If there exists an unmarked causative verb with the same root (e.g., *kkay-* 'break-CAUSE'), the causative verb marked with the morpheme *-ttuli-* (e.g., *kkay-ttuli-* 'break-CAUSE') has a meaning in which an action is emphasized. If there exists no unmarked causative verb, however, *-ttuli-* has the same function as the causative morpheme *-i-*, which introduces an external causer argument.

causative verb ends up with three heads, as in [CAUSE [BECOME [√open the door]]] (e.g., Hale and Keyser 1993; von Stechow 1996; Embick 2004). This type of analysis should yield three adverbial scopes for *tasi* 'again', i.e., those indicated in (101).[44]

(101) a. Inho-ka mwun-ul tasi yel-ess-ta.
Inho-NOM door-ACC again open-PST-DC

(i) Inho's action is repeated (repetitive): John did the opening of the door twice.
(ii) Caused event is repeated: *John did something and as a result the door ***became*** open again.
(iii) Result-state is repeated (restitutive)
John did something and as a result the door returned to its previous state of being opened.

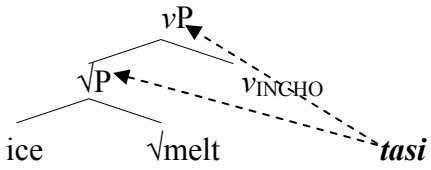
However, as von Stechow points out with respect to German data, the intermediate scope interpretation is not available. This indicates that the dependent theory, which postulates CAUSE-BECOME-ROOT decomposition, is problematic. In the independent theory, however, the unavailability of intermediate scope is precisely what we would predict; *tasi* 'again' can modify only the result-state denoted by the root projection or the causing event introduced by v_{CAUSE}.

It should be noted that the inchoative structure assumed in the independent theory, as in (95b), also predicts that *tasi* 'again' give rise to ambiguity when it modifies inchoative sentences. The theory predicts that a structure receives the repetitive reading

[44] Pylkkänen (2002) also notes an inadequacy of the dependent theory for English lexical causatives by demonstrating the scope ambiguity of 'again'. English lexical causatives also involve only a two-way ambiguity which excludes an intermediate reading with the BECOME component.

when *tasi* has a scope over *v*P and the restitutive reading when *tasi* quantifies over the result-state denoting √P, as illustrated in (102).

(102) Inchoative Structure



This prediction is born out, as indicated in (103).

(103) Mwun-i tasi yel-li-ess-ta.
door-NOM again open-INCHO-PST-DC
(i) 'The door is open again' (restitutive)
(ii) 'The door became open again' (repetitive)

The restitutive reading expresses that the door returned to its original state of being open. The repetitive reading expresses the repetition of the event in which the door became open; the door became open twice without any implied agent. The restitutive reading is certainly possible under the following scenario: Imagine that Paul goes into a haunted house out of curiosity, having seen that the front door was wide open. Nobody knows whether someone left it open or the door was originally built in the open position. The house is known to be haunted, so no one has been living in the house for decades. As soon as Paul goes into the house, the door suddenly closes as we have often seen in scary movies. After wandering around in the house for hours trying to find another way out, Paul comes back to the original spot where he entered the house. He is

desperately looking at the door wishing for some miracle to occur, and then suddenly the door opens again. In this situation, 'again' modifies the root and expresses that the door is restored to its original state of being open. The repetitive reading is available under a scenario in which Paul saw the door becoming open by itself. He closes it, but a few minutes later, the door opens again. Thus, the event of the door becoming open happened twice, the reading of which is attained when *tasi* 'again' has a scope over the *v*P containing the BECOME component.

The analysis of the causative-inchoative alternation presented in this work, therefore, explains not only the morphological facts of the causative-inchoative alternation observed in Korean, but also the scope ambiguity of *tasi* 'again', which does not permit an intermediate reading in causatives where it could modify the putative BECOME component.

3.3 Agentive MCs and Unergativity

In the preceding section, I argued that verbs occurring in non-agentive MCs lack an external-argument-introducing *v* head; v_{CAUSE} selects as its complement a (result-)state-denoting constituent, i.e., v_{APPL}P for transitive bases and √P for unaccusative bases. In contrast, as discussed in section 2.6.2, v_{CAUSE}, in agentive MCs, selects an event-denoting v_{DO}P as its complement, and the causative expresses the causation of an event, rather than a state. The verb types that are associated with agentive MCs have been shown to be unergative (e.g., *walk*) and normal (accomplishment) transitive verbs (e.g., *read*). The question that naturally arises then is why v_{CAUSE} selects v_{DO}P with normal

transitive and unergative verbs, rather than √P. Under the decomposition approach to predicate formation, in which an external argument is not part of the verb's argument but is introduced by a separate verbal head (Kratzer 1996), the √P of these verbs would certainly be a possible target for $v_{CAUSE,}$ as is the case for non-agentive MCs. However, the combination of v_{CAUSE} and √P with normal transitive verbs as well as unergatives does not exist, as illustrated in (104).[45]

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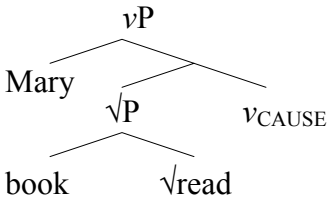
[45] In theories which do not distinguish v_{DO} from v_{CAUSE}, (104a) is indeed the structure assumed for accomplishment verbs like 'read', which yield the interpretations like 'Mary caused the book to be read, with the implication that Mary is the agent of the event.' However, under the current analysis, in which v_{DO} is distinguished from v_{CAUSE} in its semantics, the structure in (104a) gives rise to an interpretation with a complex event structure and predicts that *tasi* 'again' will create ambiguity. However, the sentence 'Mary read the book again' in Korean does not create the kind of ambiguity we observe with non-agentive MCs. Consider (viii).

(viii) Mary-ka chayk-ul tasi ilk-ess-ta.
Mary-NOM book-ACC again read-PST-DC
'Mary read the book again.'
(a) Mary read the book some time before, and she had done it again (repetitive)
(b) *The book was in the state of being read some time before, and it returned to its original state (restitutive).

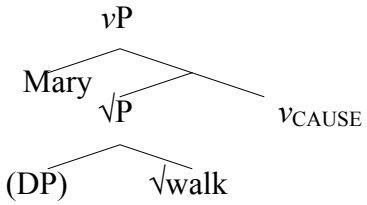
It is hard to imagine a situation in which the book is in the state of being read without any implied agent. On the basis of our real-world knowledge about the meaning of 'read', a book cannot have the property of being read from the start, although we can easily imagine a situation in which a door has a property of being open from its original state. A door can be built open, but a book cannot be originally made being read. This is incompatible with our read-word knowledge. Some speakers point out that the sentence in (viii) is also ambiguous between two interpretations: one indicated in (viiia), in which Mary read the book twice, and one, in which the book was read by someone else (e.g., John), and Mary read it again. However, the second reading cannot be construed as a restitutive reading in which *tasi* 'again' has a scope over √P. Rather, it should be understood as a repetitive reading which necessarily implies an agent. Although it is not clear at this point how the second reading (with the implicit agent) is

(104) a. *v_{CAUSE}+√read



*Mary caused the book to be read.

b. v_{CAUSE}+√walk



* Mary caused to walk (the playground).

According to the theory of Distributed Morphology adopted in this work, the syntax generates any syntactically legitimate structure, which then is filled with appropriate vocabulary items (phonological expressions); vocabulary items are inserted into syntactic structures at Spell-Out after syntactic operations (i.e., Late Insertion). Given that the syntactic structure provided in (104) is certainly allowed according to the theory, an explanation for the non-existence of the combination of v_{CAUSE} and √transitive/unergative must come from somewhere else. One possibility is to argue that vocabulary items which may be inserted at a given root node are specified for a certain syntactic environment, as proposed by Harley and Noyer (1998). If we accept the idea that vocabulary items are specified for the possible syntactic contexts in which they may appear, we can argue that vocabulary items like 'read' and 'walk' are specified for the type of eventive *v* to which they can raise. Let us assume that vocabulary items for verbs like 'read' and 'walk' (i.e., typical accomplishment and unergative verbs) are specified for the feature [+agent] or [+do]. If we assume that only v_{DO} has the same

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derived, √P cannot be a possible result-state-denoting constituent for 'read' to which *again* can be adjoined, since √P precludes an implied agent interpretation.

feature specification as vocabulary items like 'read and 'walk', we can argue that 'read' and 'walk' can only be inserted in a syntactic environment that involves v_{DO}. Therefore, verbal roots of unergative and transitive verbs can only merge with v_{DO}; √Ps of these verbs are not accessible to any other type of verbal heads but v_{DO}, because of the subcategorization information specifying the possible syntactic context, in which they may appear. This may explain why v_{CAUSE} can only be added on top of v_{DO}P.

Another possible way to rule out the v_{CAUSE}+√read/√walk combination is to make reference to its interpretability or semantic compatibility. That is, one could claim that non-sensical derivations are ruled out at LF. For instance, according to our real-world knowledge about the meaning of 'read', the event of a book being read cannot happen spontaneously without an implied agent. Thus, the syntactic environment associated with v_{INCHO} is ruled out. The event of reading a book cannot be caused by someone who is not the actual agent of reading the book. As such, this rules out v_{CAUSE} (also see footnote 50). The meaning of 'read' does not describe the properties of any entity (e.g., a book), so this precludes the possibility of merging √P with v_{BE}. Therefore, the only verbal head that can be properly paired with 'read' is v_{DO}.

The same kind of semantic restriction can apply to unergative verbs as well; the event of walking cannot happen spontaneously or be caused by some external causer without an implied agent that actually walks. Thus, the non-existence of the v_{CAUSE} + √transitive/unergative combination may boil down to semantic incompatibility. 'read' and 'walk' may enter into the root node in the syntactic environment associated with

v_{CAUSE}, v_{INCHO}, v_{BE}, and so forth, but the structure simply fails to be interpreted according to our real-world knowledge about the meaning of these verbs; the derivations corresponding to non-sensical events crash, thereby explaining the impossibility of v_{CAUSE} directly merging with the √P of unergative and normal transitive (accomplishment) verbs.

3.4 Verbs that Alternate

Harley and Noyer (1998) argues that a vocabulary item may be underspecified for a given possible syntactic configuration, permitting it to appear with or without that particular syntactic element. An item which is underspecified for [+/- v], for example, may appear in the context of v, producing a verb, or in some other context – it may, for instance, appear in a root node which is the sister to a determiner or some other nominal element. The vocabulary item then will be realized as a noun rather than a verb. Similarly, a vocabulary item may be specified to appear in the context of a particular verbal head e.g., v_{DO}. If a vocabulary item appears in the context of v_{DO}, it will necessarily have an agent argument. We have seen in the preceding section that a licensing condition proposed by Harley and Noyer (1998) may provide an explanation for the verbal behavior of those unergatives and normal accomplishment verbs that appear in agentive MCs; one could suggest that vocabulary items associated with these verbs are specified for v_{DO}, which demands an agent argument, and thus they do not permit any other syntactic environment. Harley and Noyer further argue that argument structure alternations (the causative-inchoative alternation) arise when vocabulary items

may be licensed in more than one syntactic structure, i.e., when a licensing condition is underspecified, like those cases in which a vocabulary item can be realized either as a noun or a verb. Following this, we could perhaps provide the same explanation for the behavior of verbs that occur in non-agentive MCs; we have seen that unaccusative verb roots can merge either with v_{CAUSE} or v_{INCHO}, which give rise to an inchoative and a causative meaning, respectively. This may suggest that the vocabulary items associated with these verbs are underspecified in terms of the appropriate syntactic environment in which they can appear. Therefore, they can be inserted at a root node when the syntactic context involves v_{CAUSE} that licenses a causative interpretation, or v_{INCHO} that gives rise to an inchoative interpretation.

For verbs of the 'put-on' class, however, it is not the vocabulary items that have an underspecified licensing condition, since roots must merge with v_{APPL} before they merge with an event-determining verbal head, such as v_{RFL} and v_{CAUSE}. Thus it should be argued that the vocabulary items are specified for v_{APPL}, but v_{APPL} may be argued to be underspecified, by analogy to the vocabulary items associated with the unaccusative and causative alternations. However, the underspecification of a licensing condition does not explain why those vocabulary items that may appear in more than one syntactic environment do not have maximal freedom, appearing in all other possible environments. For instance, why is *nok-* 'melt' in Korean not permitted in the syntactic environment that involves v_{DO}? Similarly, why is *sin-*v_{APPL} 'put on one's foot' compatible only with two variants of the verbal head: v_{RFL} and v_{CAUSE}. If a licensing condition for v_{APPL} is underspecified, other verbal heads such as v_{INCHO} and v_{DO} should

be able to merge with v_{APPL}. However, this is not the case.

The fact that the underspecification of a licensing condition does not provide satisfactory account for the absence of non-existing syntactic structures seems to suggest that constraints on vocabulary insertion into a root node may just boil down to the semantic compatibility or interpretability of the syntactic structure. I have suggested earlier that the semantic compatibility may be an alternative way of explaining the non-existence of the $\sqrt{P} + v_{CAUSE}$ combination for unergative and normal accomplishment verbs (see footnote 5). For instance, v_{DO} and v_{INCHO} are ruled out with verbs of the 'put-on' class by semantic incompatibility; the syntactic output is not compatible with our real-world knowledge about the meaning of verbs of the 'put-on' class. As has been mentioned in footnote 5, 'put-on' verbs involve complex event structures, but v_{DO} does not license two separate events, but only a single event licensed via event identification between the event denoted by the verb and the event denoted by v_{DO}. v_{INCHO} is ruled out since having something on one's body cannot be brought about spontaneously, although inanimate beings may be built with shoes or hats attached to them; when we express 'the statue wears red boots' or 'the statue has read boots on it' in Korean, there is no prior event implicated in the sentence that brings about the current state of the statue, but we simply describe the state in which the statue has on red boots. This explains why v_{INCHO} is not compatible with verbs of the 'put-on' class. Similarly, syntactic contexts with certain verbal heads (e.g., v_{DO}) cannot license the insertion of unaccusative vocabulary items; the combination of v_{BE} or v_{DO} with inchoative roots results in the semantic output that is incompatible with our real-world knowledge, and

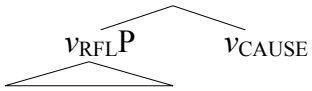
thus the derivation crashes at LF.

Let us yet again consider a similar empirical issue raised by the sentence in (105).

(105) Emma-ka ai-eykey sinpal-ul sin-ki-ess-ta.
Mother-NOM child-DAT shoes-ACC put.on-CAU-PST-DC
a. Mother caused the shoes to be put on the child.' (Causation of a state)
b. *Mother caused the child to put shoes on himself.' (Causation of an event)

We have seen that v_{CAUSE} can select either a (result-)state-denoting constituent, as in the case of non-agentive MCs, or an event-denoting-constituent, as in the case of agentive MCs. The question that immediately arises is why the causative sentence in (105) cannot receive a reading that denotes the causation of an event, as in (105b); (105) only expresses the causation of the state in which the shoes are on the child, but not the causation of another event in which the child performs the action of putting the shoes on himself/herself. In other words, the combination of *v_{CAUSE} + v_{RFL}P is ruled out, as illustrated in (106).

(106) *v_{CAUSE} + v_{RFL}P

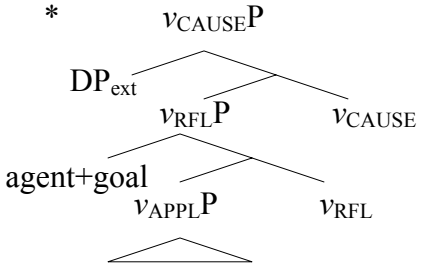


(where v_{RFL}P denotes an event in which the child puts the shoes on himself.)

Nothing about interpretability rules out the structure in (106); it is certainly possible for v_{CAUSE} to have an event-denoting-constituent as its complement, as is the case for

agentive MCs. One possible explanation for the non-existence of the v_{CAUSE} and v_{RFL}P combination may be provided by exerting some sort of a constraint requiring v_{RFL} to be the topmost argument-introducing verbal head. Under this constraint, v_{RFL}P prevents another verbal head from merging on top of it, as shown in (107).[46]

(107) *



This line of explanation seems plausible, given that it is common to find instances of the top-most argument having two thematic roles in a word domain (e.g., 'agent+goal' or 'agent+source'), but we rarely find instances where an argument that is not in the top-most verbal projection receives two thematic roles (e.g., *'goal+theme' or *'theme+source') when an agent argument is present in the syntactic structure. Typical examples are found with verbs like *buy* and *sell*. In the sentence *John bought a house*

[46] The constraint given in (107), however, does not apply to syntactic causatives, the predicates of which are formed by the complementizer *–key* and the independent auxiliary verb *ha-* 'do'. Assuming that *ha-* is another instance of the morphological reflex of v_{CAUSE}, we can see below that the causative head does not directly merge with v_{RFL}P but is separated by the complementizer *–key*.

(ix) Emma-ka ai-eykey sinpal-ul sin-key ha-yss-ta.
Mother-NOM child-DAT shoes-ACC shoes-KEY do-PST-DC.
'Mother caused the child to put the shoes on himself/herself.'

Therefore, the constraint in (107) does not apply to (ix), and thus syntactic causatives can express the causation of the event denoted by v_{RFL}P.

from Mary, *John* is both the agent who initiates the event of buying the house and the goal in which the theme ends up. In the sentence *John sold a house to Mary*, the subject *John* bears two thematic roles, the agent and the source, but *Mary* (the goal) or *the house* (the theme), cannot bear more than one thematic role.

3.5 Summary

We have seen thus far that the distinction between non-agentive and agentive MCs follows from independent structural considerations concerning base predicates: in specific, the presence of an agent-introducing verbal head. Intransitive verbs that occur in non-agentive and agentive MCs are categorized unambiguously as unaccusatives and unergatives, respectively. I have argued that an unaccusative and unergative distinction can extend to transitive verbs that undergo morphological causativization as well; I proposed that transitive verbs occurring in non-agentive MCs, which are categorized as 'put-on' verbs, lack an external-argument-introducing verbal head. In contrast, those transitive verbs occurring in agentive MCs must appear in a syntactic environment which involves an agent-introducing verbal head, v_{DO}. The dichotomy between verbs of the 'put-on' class and normal (accomplishment) transitive verbs in terms of the presence of an external argument thus has provided us with a basis for a systematic classification of verbs occurring in two types of MCs; verbs associated with non-agentive MCs all lack an external argument, while those associated with agentive MCs must contain an external argument in their syntactic environment.

According to the theory of distributed morphology adopted in this work,

the syntax generates any legitimate structure. The structure then is filled out with relevant vocabulary items at Spell-Out. The non-existence of certain syntactic structures, however, suggests that some mechanisms must be implemented in order to constrain the range of possible structures. Here, I have suggested that non-existing structures are ruled out on the basis of semantic incompatibility; the syntactic outputs of those non-existing structures are non-sensical, and hence the derivation crashes at LF.

CHAPTER 4

Additional Support for Predicate Decomposition in Syntax[47]

4.1 Introduction

In the previous chapter, I proposed that verbs of putting x on *one's body* in Korean are singled out as a separate verb class because their verbal behavior is different from normal transitive (accomplishment) verbs. One such difference is found in the argument structure realization in morphological causatives, as discussed in Chapter 2. When regular transitives are causativized, the causee, the agent of non-causative counterparts, is realized as an agent. On the other hand, when verbs of the 'put-on' class are causativized, the causee, the agent of non-causative counterparts, is realized as a location, rather than an agent. I argued that the crucial distinction between the two verb types is in the way the subject is structurally introduced, which follows from the difference in their intrinsic verbal meaning. The subjects of normal transitives are external arguments introduced by v_{DO}, which requires the DP in its specifier to be interpreted as an agent. On the other hand, the subjects of verbs of the 'put-on' class can be introduced by different verbal heads depending on the meaning denoted by the verbs. The verbs of putting x one one's body are ambiguous between an eventive (i.e., 'put x

[47] Part of the material discussed in this chapter was presented at the 23rd West Coast Conference (WCCFL) held at the University of California, Davis, California, the First European Conference on Korean Linguistics held at the International Institute for Asian Studies, the University of Leiden, Leiden, the Netherlands, and the 29th Penn Linguistics Colloquium (PLC) held at the University of Pennsylvania, Philadelphia, PA.

on') and a stative (i.e., 'wear x') meaning. I argued that the ambiguity is explained by a structural difference; the eventive meaning is licensed by v_{RFL}, which has a specific semantic condition that requires an agent argument to be identified with some other argument. The semantics of v_{RFL} thus gives rise to a reflexive meaning in the sense that two thematic roles are merged into a single DP, the subject. When verbs of the 'put-on' class have a stative meaning, v_{APPL}P stands on its onw without further merging with an event-determining verbal head. The subject with the stative meaning thus is introduced by v_{APPL} and is interpreted as a location.

The possibility of v_{APPL} merging with variants of the event-determining verbal head relies on a decomposition approach to predicate formation both in the semantics and syntax. I argued that the complete meaning of a verb of the 'put-on' class is not encoded by the lexical verb alone but is syntactically constructed by separate verbal projections; the underlying representation of the verbs of the 'put-on' class is decomposed into v_{APPL} that introduces a locative argument denoting an endpoint of the event and a verb root that encodes the core meaning component of the verb. On the basis of 'again' modification, the projection headed by v_{APPL} is further argued to be a constituent separable from an external-argument-introducing *v* and denotes a result state of some event, analogous to the verb root of inchoatives.

In this chapter, I provide additional evidence in favor of the underlying semantic and syntactic structure of verbs of the 'put-on' class proposed in the previous chapter, which in turn offers additional support for event decomposition of verbs in the syntax. The two constructions under primary consideration are morphological passives

and an aspectual construction expressed by *–ko iss-*. These two constructions are appropriate targets for examination since their argument structure patterns mirror the proposed underlying structure of the verbs of the 'put-on' class in a quite transparent manner. When these two constructions are associated with verbs of the 'put-on' class, derived predicates involve atypical argument structures: (1) When verbs of the 'put-on' class are combined with the passive morpheme *-hi-*, the passive verbs bear an argument structure that differs from normal transitive verbs[48]; the agent and the theme of the corresponding active sentence are realized in the passive as a location and an agent respectively. Thus, morphological passives in Korean involve a thematic role transition unlike the pattern found with proto-typical passives: (2) When verbs of 'put-on' class are combined with the aspectual marker *-ko iss-*, which is prototypically used as a progressive marker in Korean, the sentence has two interpretations, a progressive interpretation and a (result)-state interpretation.

The purpose of this chapter is to show that the atypical argument structures in the aforementioned constructions are natural outcomes of the proposal made earlier regarding the underlying semantic and syntactic structure of verbs of the 'put-on' class.

[48] In a later section, I will show that characterizing the morpheme *-hi-* as a passive suffix is not entirely correct due to its function associated with an inchoative interpretation, as briefly mentioned in the previous chapter. See section 4.2.5 for details and a unified morpho-syntactic analysis of the morpheme.

4.2 Two Types of HI Passives and Argument Structure Alternations

4.2.1 Introduction

Let us first consider morphological passive constructions in which verbs of the 'put-on' class are distinguished from typical transitive verbs in terms of argument structure realization. Morphological passives in Korean are formed by suffixation of the morpheme *-hi-* to verbal roots, hence the HI passive, as shown in (108).[49]

(108) a. Kwunin-tul-i ku kenmwul-ul hel-ess-ta.
Soldier-PL-NOM the building-ACC demolish-PST-DC
'The soldiers demolished the building.'

b. Ku kenmwul-i (kwunin-tul-eykey) hel-***li***-ess-ta.
The building-NOM (soldier-PL-by) demolish-PAS-PST-DC
'The building was demolished by the soldiers.'

The sentences in (108) illustrate a regular active-passive alternation; when the verb *hel-* 'demolish' is suffixed with *-hi-*, the theme of the active sentence is made a subject by passivization, and the agent is expressed in an optional 'by' phrase (*-eykey*-marked in Korean).[50] The thematic roles of the arguments in (108) thus are invariant regardless of the different syntactic position of the arguments and different verbal morphology. The alternation in (108) is found with a large number of verbs that can undergo morphological passivization. However, a limited set of verbs combined with *-hi-*

[49] The passive suffix in Korean is realized in four different forms,*-i-, -hi-, -li-,* and *-ki-*. The occurrence of these variants is conditioned by the stem-final sound. I will regard *-hi-* as the underlying form of these allomorphs, distinguished from the underlying form of a causative morpheme (i.e., *-i-*), as shown in Section 2.2.

[50] In Korean passives, the agent argument can be marked by either *-ey uyhay* or *-eykey*.

involve an argument structure alternation that differs from the regular active-passive alternation; a surface subject, the theme of an active counterpart, is interpreted as an agent, and an *-eykey*-marked DP is interpreted as a location, rather than an agent. Consider (109), for instance.

(109) a. Inho-ka ai-lul ep-ess-ta.
Inho-NOM child-ACC put.on.one's back-PST-DC
'Inho put the child on his (=Inho's) back.'

b. Ai-ka Inho-eykey ep-***hi***-ess-ta.
Child-NOM Inho-DAT put.on.one's back-PAS-PST-DC
'The child ***got on*** Inho's back.'

As seen above, the dative-marked DP, *Inho*, the agent of the active sentence in (109a), is no longer interpreted as an agent in (109b). Rather, it is understood to be a location where the subject 'the child' is situated at the end of the event. Furthermore, despite the passive morphology on the verb, the surface subject in (109b) is interpreted as a volitional agent, rather than a theme; despite the presence of the suffix that has a clear function as the passive morpheme with a number of other verbs, the sentence in (109b) has an active meaning, rather than a passive meaning. The active meaning of (109b) thus presents an obvious challenge to morphological description with respect to the morpheme *-hi-*; the *-hi-* suffix has an apparent passive function with a number of verbs, but in some cases it has an opposite function and appears to change thematic roles of the arguments. On the basis of the semantic difference between (109a) and (109b), it has often been argued (e.g., Hong 1992; Park 2001) that the combination of the verb and *-hi-* in (109b) is formed in the lexicon, and that the surface subject is base-generated as

an external argument, a unergative (lexical) approach. Given that there also exist HI passives with a proto-typical argument structure (e.g., (108)), the unergative approach to the HI passive with a non-standard argument structure makes a tacit claim that morphological passives in Korean are divided into two types, one formed in the syntax e.g., (108)) and one formed in the lexicon (e.g., (109)).[51] However, given that the theoretical position adopted in this work is that there is only one generative component in the grammar, i.e., the syntax, I argue against the morphological passive split which relies on construction in different modules (i.e., the lexicon versus the syntax). Crucially, I will demonstrate examples that militate against the lexical approach to the HI passive with an atypical argument structure. An explanation for the differences in argument

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[51] Ahn (1998) takes a lexicalist approach to the formation of all morphological passives (as well as morphological causatives). His lexicalist approach to morphological passive formation, however, overlooks an important fact that a large number of verbs derived by the morpheme *-hi-* are ambiguous between a passive and an inchoative reading, as seen in (x).

(x) Mwun-i cecello/Inho-ey uyhay yel-li-ess-ta.
door-NOM by.itself/Inho-by open-PAS-PST-DC
a. The door opened by itself.
b. The door was opened by Inho.

If the combination of the verb and the passive morpheme *-hi-* is subject to a process that applies in the lexicon, we are faced with enormous numbers of lexical items that need to be stored in the lexicon, not to mention dual functions of the morpheme *-hi-* as a passive and an inchoative morpheme. Furthermore, analyzing the morpheme *-hi-* as having dual functions as a passive and an inchoative morpheme makes their common properties difficult to state in a uniform way, resulting in a loss of generalization; the commonality between a passive and an inchoative morpheme lies in the fact that both intransitivize base verbs with which they combine, i.e., both are intransitivizers. I will argue in a later section that a syntactic approach to the formation of morphological passives not only allows a uniformed (morpho-)syntactic analysis of the morpheme *-hi-* in passives but also explains its occurrence in an inchoative context.

structure realization seen above will be drawn from differences in the underlying semantic and syntactic structure of a base verb with which the morpheme *-hi-* combines. In particular, I shall show that verbs associated with atypical argument structure patterns in morphological passives are identified as members of the verbs of 'put-on' introduced in § 3.2.1, and that the atypical argument structure is predicted by the semantic and syntactic structure of these verbs proposed in the preceding chapter. By demonstrating counter-examples to the unergative approach to the HI passive with an atypical argument structure, I shall further claim that the surface subject in (109b) must be base-generated as an internal argument of the verb, and that the atypical argument structure shown in (109b) is an expected outcome of the semantic and syntactic structure of base verbs which involves v_{RFL} in a transitive context and $v_{\text{APPL.}}$

This section is organized as follows: in Section 4.2.2., I will provide more examples of the HI passives with two differing argument structures, a proto-typical and an atypical argument structure. I shall then demonstrate that the unergative approach to the HI passive cannot be maintained on the basis of two facts: (1) the acceptability of an agentive 'by' phrase, and (2) the compatibility with a result-state-denoting aspectual marker, which requires a verb as its complement that does not contain an external argument in the syntax (e.g., unaccusatives and passives). In Section 4.2.3, I present a unified syntactic analysis of the HI passives. I argue that the different argument structure realizations observed in Section 4.2.2 are attributed to the difference in the semantic and syntactic structure of active transitive verbs with which the morpheme *-hi-* combines, but not to the morpheme *per se*. Section 4.2.4 provides an explanation for the

contradictory facts with respect to the interpretation of the subject in the HI passive with an atypical argument structure. Section 4.2.5 presents further consequences of the proposal regarding the function of the morpheme *-hi-*. I show that a unified treatment of *-hi-* as a morphological reflex of an eventive verbal head that lacks a case feature captures the fact that verbs combined with *-hi-* are ambiguous between a passive and an inchoative interpretation.

4.2.2 HI Passives and Different Argument Structure Alternations

4.2.2.1 HI Passives with Proto-typical Argument Structure

As has been mentioned earlier, a great number of verbs combined with the morpheme *-hi-* show patterns similar to those of proto-typical passives. Examples from (110) through (112), for instance, illustrate that the theme argument, the accusative-marked DP in the active, is made a subject by passivization. The agent, the nominative-marked DP in the active, is expressed by an optional 'by' phrase in the passive.

(110) a. Senhi-ka elyewun mwuncey-lul swipkey phwul-ess-ta.
Senhi-NOM difficult problem-ACC easily solve-PST-DC
'Senhi solved that difficult problem easily.'

b. Elyewun mwuncey-ka (Senhi-ey uyhay) swipkey phwul-***li-***ess-ta.
Difficult problem-NOM (Senhi-by) easily solve-PAS-PST-DC
'The difficult problem was solved easily (by Senhi).'

(111) a. Yeonghi-ka pyenci-lul kalkikaki ccic-ess-ta.
Yeonghi-NOM letter-ACC into pieces tear-PST-DC
'Yeonghi tore the letter into pieces.'

b. Phyenci-ka (Yenghi-ey uyhay) kalkikalki ccic-***ki***-ess-ta.
Letter-NOM (Yenghi-by) into pieces tear-PAS-PST-DC
'The letter was torn into pieces (by Yenghi).'

(112) a. Inpwu-tul-i ttang-ul nemwu kipkey pha-ass-ta.
Worker-PL-NOM ground-ACC too deeply dig-PST-DC
'The workers dug the ground too deeply.'

b. Ttang-i (inpwu-tul-ey uyhay) nemwu kipkey pha-***i***-ess-ta.
Ground-NOM (worker-PL-by) too deeply dig-PAS-PST-DC
'The ground was dug too deeply (by the workers).'

More examples of the HI passives with a proto-typical argument structure are provided in (113).[52]

(113) HI Passives with Proto-Typical Argument Structure (not an exhaustive list)

Active		Passive	
tat-	'close x'	*tat-hi-*	'be closed'
yel-	'open x'	*yel-li-*	'be opened'
kkek-	'cut x'	*kkek-ki-*	'be cut'
twycip-	'turn x over'	*twycip-hi-*	'be turned over'
pakkwu-	'change x'	*pakkwu-i-*	'be changed'
ssah-	'collect x'	*ssa(h)-i-*	'be collected'
kulk-	'scratch x'	*kulk-hi-*	'be scratched'
cicpalp-	'trample on x'	*cicpalp-hi-*	'be trampled on'

[52] A number of verbs marked with the morpheme *-hi-* are often ambiguous between an inchoative and a passive meaning, as shown below.

(xi) Mwun-i Swunhi-ey uyhay yel-li-ess-ta.
door-NOM Swunhi-by open-PAS-PST-DC
'The door was opened by Swunhi.' (PASSIVE)

(xii) Mwun-i cecello yel-li-ess-ta.
door-NOM by.itself open-INCHO-PST-DC
'The door opened by itself.' (INCHOATIVE)

It should be noted that in Korean the agent argument in the passive can also be marked by *–eykey* (as shown in (108)), the form of which is identical to the dative marker but has an agentive interpretation (hereafter, agentive *–eykey*).[53] Examples with the agent marked by the agentive *–eykey* in passives are illustrated in (114) and (115).

(114) a. Inho-ka namwu kaci-lul kkek-ess-ta.
Inho-NOM tree branch-ACC break.off-PST-DC
'Inho broke off a branch from the tree.'

b. Namwu kaci-ka (Inho-eykey) kkek-***i***-ess-ta.
Tree branch-NOM (Inho-by) break.off-PAS-PST-DC
'A branch of the tree was broken off (by Inho).'

(115) a. Kyengchal-i salinpem-ul ccoc-ass-ta.
police-NOM killer-ACC chase-PST-DC
'The police chased the killer.'

b. Salinpem-i keyngchal-eykey ccoc-***ki***-ess-ta.
Killer-NOM police-by chase-PAS-PST-DC
'The killer was chased by the police.'

[53] *-eykey* is proto-typically used as a dative marker which expresses a spatio-temporal location or a goal to which a theme is moved or transferred. Due to similarities between the dative *-eykey* and the agentive *-eykey* with respect to co-occurrence restriction with other types of locative phrases, some argue that the agentive *–eykey* is closely related to the dative (or locative) *-eykey* (e.g., Park 1978). However, a number of facts (e.g., entailment of a possessive relation between a theme and a goal) have shown that the two uses of *-eykey* cannot be collapsed into one (e.g., Ahn and Lee 1995). I adopt the latter position and tentatively assume that *–eykey* has two difference uses, an oblique marker denoting agentivity and a dative marker denoting an end point of the event (e.g., location, recipient, etc.).

4.2.2.2 HI Passive with Atypical Argument Structure [54]

In proto-typical passive constructions, thematic roles of the arguments are invariant regardless of whether the event involving them is expressed in the active or in the passive, as seen from (110) through (112). However, the HI passive with certain verbs in Korean involves arguments that bear thematic roles different from their active counterparts. More examples are illustrated in (116) and (117).

(116) a. Emma-ka ai-lul kikkei an-ass-ta.
Mother-NOM child-ACC willingly put.on.one's arms-PST-DC
'Mother willingly put the child in her arms.'

b. Ai-ka emma-eykey kikkei an-***ki***-ess-ta.
Child-NOM mother-DAT willingly put.on.one's arms-PAS-PST-DC
'The child willingly threw herself/himself in(to) mother's arms.'

(117) a. Inho-ka somaychiki-lul kikkei cap-ass-ta.
Inho-NOM pickpocket-ACC willingly catch-PST-DC
'Inho willingly caught the pickpocket.'

b. Somaychiki-ka Inho-eykey kikkei cap-***hi***-ess-ta.
Pickpocket-NOM Inho-DAT kikkei catch-PAS-PST-DC
'The pickpocket willingly got himself caught by Inho.'

As seen above, the nominative-marked DPs in the (b) sentences are interpreted as having agentive properties; the property of the agent-oriented adverb 'willingly' is attributed to the action performed by the subjects, *the child* in (116b) and *the pickpocket* in (117b). The (b) sentences are contrasted with the (a) sentences in (116) and (117), in

[54] I put aside HI passives whose active counterparts contain more than one accusative-marked DP with an inalienable possession relation due to complications associated with the construction itself. See Sim (2005) for an event-based analysis of the multiple accusative construction with inalienable possession structure and their passive counterparts.

which the property of 'willingly' is attributed to the action performed by *the mother* in (116a) and *Inho* in (117a). Furthermore, the dative-marked NPs, *emma* 'the mother' in (116b) and *Inho* in (117b), which are the agents of the active sentences, are understood to be the final locations where the subjects end up at the end of the event described by each verb.

The truth-conditional difference between the active and the passive observed in (116) and (117) has led a number of authors (e.g., Hong 1992; Park 2001) to conclude that the combination of the verb and the morpheme *-hi-* is derived in the lexicon as an unergative predicate, and that the surface subject is base-generated as an external argument, an unergative (lexical) approach.

In the following section, however, I will show that the unergative approach to the HI passive is untenable by demonstrating constructions that point to a direction where we should posit the surface subject of the HI passive as an internal (theme) argument, rather than an external argument.

4.2.2.3 Counterexamples to Unergative Approach

The unergative lexical approach to the HI passive shown in (116) and (117) predicts that subjects of the HI passive be always interpreted as agents. Contrary to the prediction, surface subjects associated with the HI passive (e.g., (116b)) may retain a theme interpretation in certain environments (e.g., in the presence of an agentive 'by' phrase and the aspectual marker *-a/e iss-*). Let us first consider examples in which the passive

sentences in (109) and (117b) allow an agentive 'by' phrase.[55, 56]

(118) Ai-ka ***salam-tul-ey uyhay*** Inho-eykey ep-***hi***-ess-ta.
Child-NOM person-pl-by Inho-DAT put.on.one's back-PAS-PST-DC
'The child was put on Inho's back by people.'

(119) Ai-ka ***salam-tul-ey uyhay*** emma-eykey an-***ki***-ess-ta.
Child-NOM person-PL-by mother-DAT put.on.one's arms-PAS-PST-DC
'The child was put into Mother's arms by people.'

(118) and (119) describe situations in which there exist some external individuals that bring about the event described by each verb; the child in both sentences has no control over the event. He/she is an individual simply affected by the action performed by *salamtul* 'people'. The non-agentive interpretation of the subject in the presence of an agentive 'by' phrase, therefore, provides evidence against the claim that the surface subject of the HI passive associated with an atypical argument structure is externalized by some processes in the lexicon.

Another source of evidence against the unergative approach to the HI passive comes from a construction with the aspectual marker *-a/e iss-*. The aspectual marker *-a/e iss-* in Korean expresses the continuation of a result state, as shown in (120).

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[55] The agentive *-eykey* is not allowed in (116) and (117) due to a co-occurrence restriction of an *-eykey* phrase in the same clause regardless of its meaning (cf. Ahn and Lee 1995).

[56] When the agent is overtly expressed by an agentive 'by' phrase, some speakers prefer to use a syntactic passive construction formed by the auxiliary verb *ci-* 'become'. However, all of the Korean speakers whom I have consulted find these sentences grammatical.

(120) a. Kwail-i ssek-e iss-ta.
fruit-NOM rotten-E be-DC
'The fruit has rotted and is still in the state of being rotten.'

b. Elum-i nok-a iss-ta.
ice-NOM melt-A be-DC
'The ice has melted and is still in the state of being melted.'

It has often been noted (cf. Kim 1990; Nam 2004) that the type of predicate that is compatible with *-a/e iss-* is mostly unaccusatives, as illustrated in (121).

(121) Predicates compatible with *-a/e iss-*

tteleci-	'fall'	*mwuneci-*	'collapse'
sos-	'rise, tower up'	*phi-*	'bloom'
cwuk-	'die'	*nok-*	'melt'
el-	'freeze'	*nam-*	'remain'
nathana-	'appear'	*situl-*	'wither'
say-	'leak'	*ssek-*	'rot'
tha-	'burn'	*cwul-*	'decrease'
kkay-	'wake up'	*sokha-*	'belong'

Unergative and transitive verbs cannot occur in the *-a/e iss-* construction, as shown in (122).

(122) a. *Chelswu-ka wul-e issta.
Chelswu-NOM cry-E be-PST-DC
'Chelswu has cried.'

b. *Inho-ka chayksang-ul kochi-e iss-ta.
Inho-NOM desk-ACC fix-E be-DC
'Inho has made the desk.'

The distinction between unaccusatives versus unergatives/transitives is often argued to be the presence of an external argument in their syntactic configurations (e.g.,

Perlmutter 1978, 1983; Burzio 1981, 1986; and subsequent works). This would mean that predicates that are compatible with the result-state-denoting aspectual marker do not contain an external argument in their argument structure.[57] The lack of an external argument as a condition for predicates to occur in the *-a/e iss-* construction is further evidenced by the fact that when the external argument in (122b) is syntactically suppressed by passivization, the sentence is compatible with the aspectual marker; the (syntactic) passive counterpart of (122b) can occur in the *-a/e iss-* construction, as shown in (123).[58]

(123) Chayksang-i kochi-e ci-e iss-ta.
Desk-NOM fix-E become-E be-DC
'The desk is in the state of having been fixed.'

The compatibility of the passive predicate with *-a/e iss-*, therefore, further indicates that the result-state-denoting aspectual marker can only combine with predicates that lack an external argument in the syntax, and that the surface subject is an internal argument.

Verbs combined with the morpheme *-hi-* (e.g., (109b) and (116b)) show patterns parallel to unaccusatives (e.g., (120)) and passives (e.g., (123)), rather than unergatives (e.g., (122a)). As shown in (124), the HI passive predicates in (109b) and (116b) can co-occur with the result-state-denoting aspectual marker, on a par with other

[57] The absence of an external argument is a necessary, but not sufficient, condition for the *-a/e iss-* construction. Among unaccusative predicates which roughly include inchoatives and statives, only inchoative predicates are compatible with *-a/e iss-*, the verbal meaning of which encodes a result state of a spontaneous event (e.g., *melt*, *die*, *freeze*, *fall*, etc.).

[58] The verb *kochi-* 'fix' cannot undergo morphological passivization for independent reasons (see Sohn 1999).

predicates whose subject is an internal argument.

(124) a. Ai-ka Inho-eykey ep-***hi***-e iss-ta.
Child-NOM Inho-DAT put.on.one's back-PAS-E be-DC
'The child is on Inho's back.'

b. Ai-ka emma-eykey an-***ki***-e iss-ta.
Child-NOM mother-DAT put.on.one's arms-PAS-E be-DC
'The child is in her/his mother's arms.'

The sentences in (124) express the continuation of the result states of the events described by the verbs. Example (124a), for instance, describes a situation in which there was some event that caused the child to be located on Inho's back, and the result state —*the child being on Inho's back*—continues at the reference time.

On the basis of the fact that the result-state-denoting aspectual marker *-a/e iss-* is compatible only with unaccusative and passive predicates, we can conclude that the subjects in (124) must be derived from internal argument positions, rather than being generated as external arguments. The compatibility of the HI passive with the aspectual marker *-a/e iss-*, therefore, provides further evidence against the unergative (lexical) approach to the HI passive.

We have seen so far that despite the same morphology (i.e., *-hi-*) and surface syntax (DP-NOM DP-*eykey* Verb), morphological passives in Korean show different argument structure realizations. While a number of verbs combined with *-hi-* show patterns similar to those of proto-typical passives, a limited number of verbs combined with *-hi-* bears an argument structure that differs from proto-typical passives; the surface subject, a theme of the active, receives an agent interpretation, and an -

eykey-marked DP, an agent of the active counterpart is interpreted as a location. Contrary to the claim that the verb combined with -*hi*- is an unergative predicate derived in the lexicon, the facts associated with the acceptability of an agentive 'by' phrase and the aspectual marker -*a/e iss*- indicate that the surface subject of the HI passive should be posited as an underlying theme argument. This leaves us with a contradictory fact that the subject of the HI-passive associated with an atypical argument structure can be either agentive (e.g., (109b)), or non-agentive in the presence of an additional 'by' phrase (e.g., (118)) and the aspectual marker –*a/e iss*- in a sentence (e.g., (124)).

On the basis of the facts described so far, the main questions that have to be addressed with respect to the formation of morphological passives are the following: (1) What gives rise to the different argument structure realizations of the HI passives despite the same morpheme attached to verbs?: (2) Why does the surface subject of the HI passives associated with an atypical argument structure receive either an agentive or a theme interpretation?

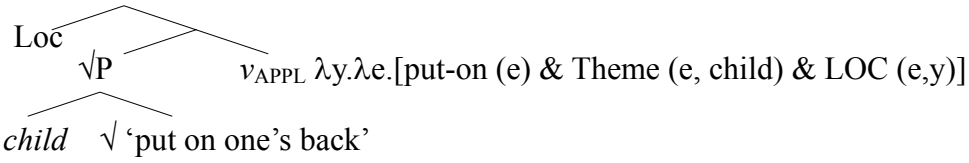
In order to resolve the problems identified above, I argue that the atypical argument structure of the HI passive is due to the semantic and syntactic properties of the base predicate with which -*hi*- combines, and not due to the morpheme *per se*. I further claim that the morpheme -*hi*- has a unified morpho-syntactic function, contrary to previous claims; -*hi*- is a morphological reflex of an eventive verbal head that lacks a case feature.

4.2.3 A Unified Syntactic Account of HI Passives

4.2.3.1 Structure of HI Passives with Atypical Argument Structure

Close examination of the HI passives indicates that the base verbs that create an atypical argument structure alternation are members of the verbs of the 'put-on' class discussed in the previous chapter. We have seen that the event of 'putting x on one's body' is expressed in Korean by different lexical verbs depending on which body part is involved, and that these verbs have an underlying structure that differs from normal transitive verbs, as shown in (125).

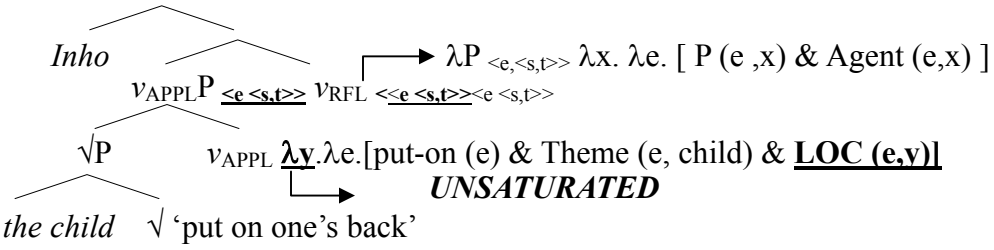
(125)



The postulation of v_{APPL}P has been argued to be due to the intrinsic meaning of the verbs which involves an inherent locational endpoint of the theme. I also claimed that v_{APPL}P can merge with two variants of the event-determining verbal head, v_{CAUSE} and v_{RFL}, which give rise to different event and argument structures. In particular, v_{RFL} has been argued to license an eventive interpretation in a transitive context, in which an agent and a location of the event is realized by the same syntactic argument. The semantic representation that gives rise to a (transitive) eventive interpretation is repeated as (126).[59]

[59] This section is concerned mainly with the structure that licenses a (transitive) eventive interpretation, since the HI passive is the passive counterpart of an active

(126) v_{RFL}P λe. [put-on (e) & Theme (e, child) & Loc (e, Inho) & Agent (e, Inho)



('Inho put the child on his back.')

As seen above, the semantics of v_{RFL} takes an open predicate as its argument. As a consequence of its semantics, v_{RFL} merges with a (syntactically) detransitivized v_{APPL}P in an active transitive, which does not project an argument in its specifier. As a result, two thematic roles, an agent and a location, are merged into the single DP, *Inho*, which captures the reflexive meaning of the verbs in a transitive context.

On the basis of the semantic and syntactic structure of verbs of the 'put-on' class shown above, I shall demonstrate in the following subsections that the atypical argument structure of the HI passive (e.g., the agentivity of the subject with passive morphology) follows from the semantics of v_{RFL} that requires an open predicate as its first argument.

4.2.3.1.1 Syntactic Representation

As would normally be assumed for typical passive constructions, I assume that the passive counterpart of (126) (e.g., (109b)) is derived by merging v_{APPL}P with a passive

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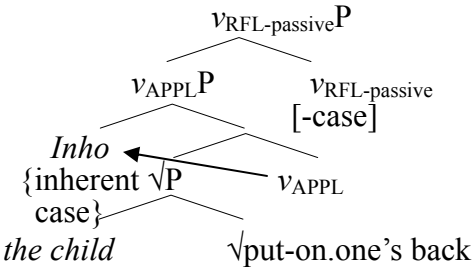
eventive sentence with the meaning 'put something on', rather than a stative sentence that means 'wear/have something on one's body part'.

counterpart of v_{RFL}, which lacks a case feature and syntactically suppresses an external argument. This is briefly schematized in (127).[60]

(127) Passive of (126)



As seen in (127), I assume that the passive counterpart of v_{RFL} lacks a case feature, as normally argued for a passive *v* or Voice. I further argue that the morpheme *-hi-* is a morphological reflex of an eventive verbal head that lacks a case feature. (e.g., a passive *v* and v_{INCHO}). The lack of a case feature on v_{RFL}, therefore, triggers movement of an internal argument to the subject position (e.g., [Spec, TP]); the theme DP raises to the next case checking position, presumably [Spec, T], given that the theme argument is realized in the subject position and is marked by nominative case in the passive, as seen in (109b). I further assume that when *v* cannot license an internal argument (i.e., when it lacks an [ACC] case feature), no external argument position is projected in the syntax (cf. Burzio's generalization: Burzio 1986).

[60] I assume that the locative argument introduced by v_{APPL} receives inherent case by its licensing head, v_{APPL}. Thus only the internal argument, 'the child' in (127), enters into an Agree relation with $v_{RFL.}$

4.2.3.1.2 Semantic Representation

Let us now consider how the structure proposed for the HI passive (e.g., (127)) is interpreted. The active and the passive version of v_{RFL} differ only in the presence/absence of a case feature, but their semantics remains the same; both have an [AG(ent)] semantic feature and require an open argument. In order to arrive at the desired interpretation, I make the following two assumptions: (1) in the passive, an open predicate that v_{RFL} requires as its first argument is created by DP movement, rather than by syntactic detransitivization of v_{APPL}P (e.g., 126): (2) It is normally assumed that an implied agent interpretation in passives is produced via existential closure over agent; the agent argument in passives is existentially closed. However, I argue that the agent argument of v_{RFL} in the passive is saturated by the moved DP in [Spec, T] rather than being existentially closed for the reasons discussed below.

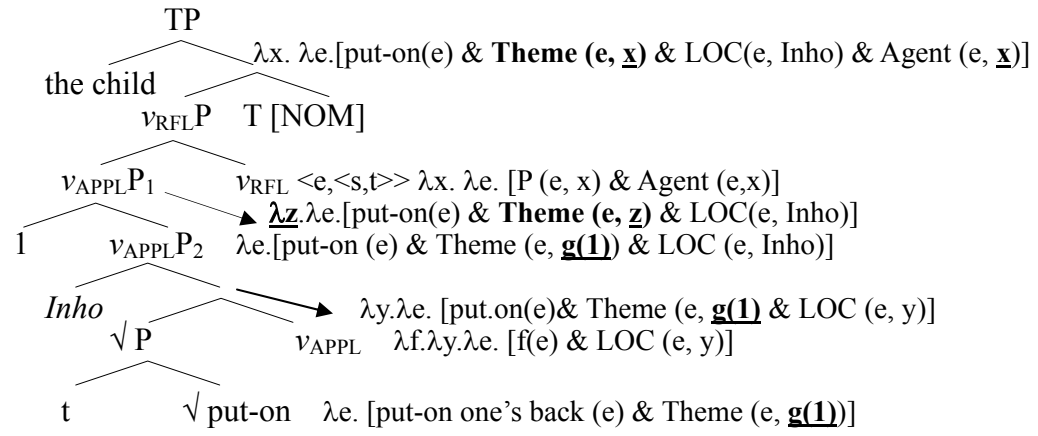
I argued that, in the active, an open argument that is identified with the agent introduced by v_{RFL} is created by syntactically detransitivizing v_{APPL}P. The syntactic detransitivization of v_{APPL}P gives rise to an unsaturated locative argument, which then is saturated by the DP introduced by v_{RFL} (e.g., (126)). This yields the agent-location interpretation of the subject, as in 'Inho put the shoes on (himself)'. In the passive counterpart of the active, however, it is the theme argument that has an agent interpretation, rather than the locative. The locative DP is syntactically realized separately from the agent, as seen in (128).

(128) Ai-ka Inho-eykey ep-***hi***-ess-ta.
Child-NOM Inho-DAT put.on.one's back-PAS-PST-DC
'The child ***got on*** Inho('s back).' (=The child put himself on Inho's back)

Syntactically detransitivizing v_{APPL}P would prevent the locative DP from being projected, which contradicts the fact in (128).[61] For this reason, I assume that in the passive an open predicate requirement of v_{RFL} is satisfied by DP movement, which is independently motivated by a case feature of the theme DP, as shown in (127). The fully specified semantic representation of (127) is given below.

[61] In fact, syntactic detransitivization of v_{APPL}P in the passive does not create an ill-formed derivation. We could argue that the subject in (128) is an underlying theme argument that lacks an agent interpretation, and the *-eykey*-marked DP is a demoted agent-goal argument, as in 'The child was put on Inho by Inho himself.' The *-eykey* marked DP then has to be treated as an adjunct phrase with an agentive *-eykey* (e.g., 114), since the locative *-eykey* is not available in this derivation; I assume the locative *-eykey* to be an overt form of the inherent case assigned by v_{APPL}. Although this reading seems possible for some speakers, a strongly preferred reading with (128) is the one in which the *-eykey*-marked DP is purely a location, and the subject has the agentive interpretation. One possible explanation for the non-preferred derivation in which an operation of syntactic detransitivization of v_{APPL}P applies can be provided by arguing that such a derivation creates enormous confusion regarding the function of the *-eykey* marker. The derivation with syntactic detransitivization forces the *-eykey* marker to be a postposition, equivalent to the agentive 'by' in English, which licenses the appearance of the demoted agent-location DP in the syntax. However, since the demoted agent also bears a locative interpretation, speakers may have difficulty in deciding the exact function of *-eykey*. Thus they may choose the reading indicated in (128), which is more salient than the other reading, since the derivation with detransitivization is strongly dispreferred.

(129) Semantic Representation of (127)



As seen in (129), the right semantic type to combine with v_{RFL}, which requires an argument of type <e,<s,t>>, is produced by applying λ-abstraction at v_{APPL}P. The λ-abstraction (or predicate abstraction) rule is one of the mechanisms to resolve a type mismatch, which is stated in (130).[62, 63]

(130) Predicate Abstraction Rule (PA)

Let α be a branching node with daughters β and γ, where β dominates only a numerical index *i*. Then, for any variable assignment a,

$[\![\alpha]\!]^{a} = \lambda x \in De. \; [\![\gamma]\!]^{a\, i \rightarrow x}$.

(Heim and Kratzer 1998, p186)

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[62] If λ-abstraction applies elsewhere (e.g., v_{RFL}P), this will result in a type mismatch between v_{RFL} and v_{APPL}P; v_{RFL} requires type <e<s,t>> as its first argument, but v_{APPL}P is type <s,t> if λ-abstraction does not apply.

[63] I assume that the intermediate trace in the specifier of v_{APPL} deletes at LF; intermediate traces of A-movement are invisible at LF (Chomsky 1995).

Based on (130), the semantic computation in (129) proceeds as (131), as also indicated in the structure in (129).

(131) $[\![t_1]\!]^{g} = g(1)$

$[\![\sqrt{P}]\!]^{g} = \lambda e.$ [put.on (e) & Theme (e, **g(1)**)] (FA)

$[\![v_{APPL}']\!]^{g} = \lambda y.\lambda e.$ [put.on(e)& Theme (e, **g(1)** & LOC (e, y)] (FA)

$[\![v_{APPL}\ P_1]\!]^{g} = \lambda e.$ [put.on(e)& Theme (e, **g(1)** & LOC (e, Inho)] (FA)

$[\![v_{APPL}\ P_2]\!]^{g} = \lambda e.$ [put.on(e)& Theme (e, **g(1)** & LOC (e, Inho)] $^{g1\rightarrow x}$ (PA)

$= \lambda x.\ \lambda e.$ [put.on(e)& Theme (e, **x)** & LOC (e, Inho)]

The movement of the DP provides a λ to v_{APPL}P2 and the λ binds the trace replaced by *x*. This operation allows v_{RFL} to combine with v_{APPL}P, providing the right semantic type. Therefore, v_{RFL} in the passive takes the open predicate v_{APPL}P with the unsaturated ***theme*** argument as a result of λ-abstraction that applies at v_{APPL}P. This results in merging two arguments, the agent and the theme, into a single DP. The two semantic arguments, the agent and the theme, then are saturated by the moved DP in [Spec, TP] (i.e., the child) at the end of the derivation. This yields the interpretation that the child is the agent who initiates the event and also the theme that undergoes a change of location. Therefore, the agentivity of the theme arguments in the HI passive (as shown in (116b) and (117b)) is explained; the agentive meaning is due to the semantics of v_{RFL}.

As mentioned earlier, another important assumption made in the semantic representation of (129) is that the semantic argument of v_{RFL}, the agent, is saturated by

the moved DP in [Spec, T]. If the agent argument is existentially closed before it merges with the moved DP, this operation yields existential closure over theme as well. As seen above, the theme argument shares the same variable z with the agent argument due to the semantics of v_{RFL}. Thus the operation of existential closure over agent leads to an unobserved interpretation; both the agent and the theme are interpreted as implied arguments of the event, which is not the case. Both are expressed by the syntactically realized subject, as in (128).

The structure proposed for the HI passive with verbs of the 'put-on' class also provides a straightforward explanation for the semantics of an *-eykey*-marked DP as a location in the (b) sentences of (109) and (116)–(117). Example (109b) is repeated as (132) below.

(132) Ai-ka Inho-eykey ep-***hi***-ess-ta.
Child-NOM Inho-DAT put.on.one's back-PAS-PST-DC
'The child got ***on Inho('s back)***.'

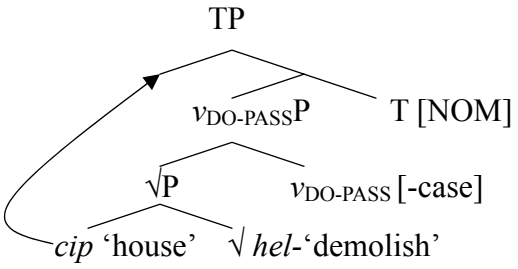
According to the underlying representation of verbs of the 'put-on' class, these verbs take two arguments, a theme selected by the root and a location projected by the abstract v_{APPL}. When v_{APPL}P merges with v_{RFL}, the locative argument is not syntactically projected due to the type mismatch between v_{RFL} and v_{APPL}P if it is projected. However, in the passive, the semantic requirement of v_{RFL} is satisfied by DP movement, and hence nothing blocks the locative argument from being syntactically projected. Therefore, the locative interpretation of the *-eykey*-marked DP in (132) is what we would predict from

the underlying structure of verbs of the 'put-on' class.[64]

4.2.3.2 Structure of HI Passives with Prototypical Argument Structure

For normal transitive verbs, I argued that √P combines with v_{DO} which does not have a specific semantic condition; the semantics of v_{DO} is equivalent to Kratzer's Voice. Passive counterparts of normal transitive verbs then are associated with a passive counterpart of v_{DO}, as illustrated in (133).

(133) Passives of Typical Transitive Verbs (e.g., (108b))



The passive counterpart of v_{DO} lacks a case feature, and thus the internal DP moves to [Spec, T] and is assigned nominative case by T by agreeing with it. The external argument introduced by v_{DO} is syntactically suppressed, but the agent argument of v_{DO} remains constant in the semantics. As has been discussed in Section 1.4.2, v_{DO} is

[64] The underlying representation of verbs of the 'put-on' class proposed here predicts that unless v_{APPL}P merges with an active v_{RFL}, which forces syntactic suppression of the argument in the specifier of v_{APPL}, the locative argument must be realized as a separate individual in the syntax. This prediction is borne out; when these verbs occur in syntactic environments that involve verbal heads other than the active v_{RFL} (e.g., morphological causatives, passives), the locative argument is always realized in the syntax as an individual separate from an agent.

interpreted as a relation between an agent and an event, following Kratzer (1996).

(134) v_{DO} [AG(ent)] = λx.λe.[Agent (e, x)]

Kratzer's discussion is centered on the case of actives, in which a DP is projected in the specifier of the head bearing [AG] and is taken by that head as an argument. In the prototypical passive, the agent argument, which is licensed by the feature [AG] on Voice, does not appear in the syntax. The agentive interpretation, when no DP is present in the syntax, is then, presumably, a derivative of a process akin to existential closure (also see Embick 1998); an implied agentive interpretation is produced by existential closure over agent. The agent interpretation can also be obtained by an optional 'by' phrase, as has been seen in Section 4.2.2 (e.g., (110b)-(112b)).

4.2.4 Acceptability of an Additional 'By' Phrase

The acceptability of an additional 'by' phrase associated with the HI-passive with an atypical argument structure (e.g., (118) and (119)) can also be explained in a quite straightforward manner under the key claims set forth in this work. In the previous chapter, I argued that verbs that participate in non-agentive MC formation can merge with variants of the event-determining *v* head. In particular, v_{APPL}P postulated for verbs of the 'put-on' class can merge with two variants of *v*, v_{CAUSE} and v_{RFL}. The possibility of v_{APPL}P to combine with these variants has been argued to be the source of argument structure alternations (e.g., from a transitive to a causative). Therefore, the acceptability of an additional 'by' phrase in (118) and (119) can be explained by assuming that their

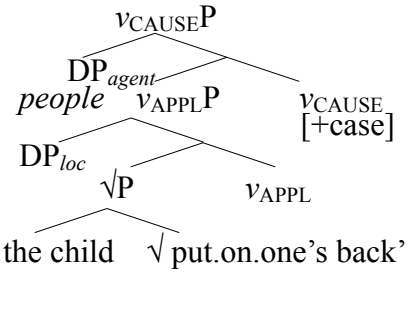
active counterparts are causative sentences, in which there exist external arguments introduced by v_{CAUSE}. Example (118) is repeated as (135) with its active counterpart in (136).

(135) Ai-ka ***salam-tul-ey uyhay*** Inho-eykey ep-***hi***-ess-ta.
Child-NOM person-PL-by Inho-DAT put.on.one's back-PAS-PST-DC
'The child was put on Inho's back by people.'

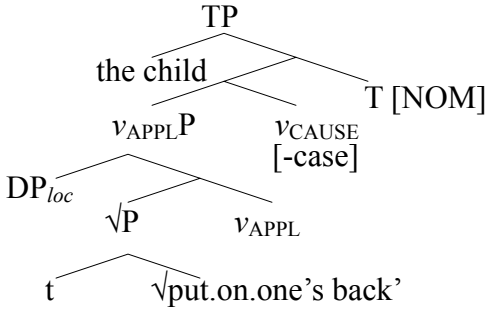
(136) Saram-tul-i Inho-eykey ai-lul ep-***i***-ess-ta.
person-PL-NOM Inho-DAT child-ACC put.on.one's back-CAU-PST-DC
'People put the child on Inho's back.'

As has been discussed in Section 2.6, I assume that the morpheme *-i-* in (136) is an overt instantiation of *v* that introduces an external argument with a causative meaning, i.e., v_{CAUSE}. Therefore, (136) has a structural representation, as in (137a) under the current assumption that verbs that enter into the causative alternations can combine with different *v* types.

(137) a. Active



b. Passive



(135) is the passive counterpart of (136) and has a syntactic representation as in (137b), in which v_{APPL}P merges with the passive counterpart of v_{CAUSE} that lacks a case feature.

v_{CAUSE} with the [-case] feature is realized as the morpheme *-hi-*, rather than the morpheme *-i-* which is a realization of v_{CAUSE} with a [+case] feature. The theme DP in (137b) moves to the next case-checking position, i.e., [Spec, TP], and is assigned nominative case by agreeing with T. The agent argument introduced by v_{CAUSE} can be realized as an optional 'by' phrase (as seen in (135)) or it can be existentially closed. Therefore, the agentivity and non-agentivity of the surface subject in the HI passive is attributable to the structural difference; when the surface subject is agentive in the passive, v_{APPL}P merges with v_{RFL} that lacks a case feature, as seen in (127). When the surface subject is non-agentive (i.e., when it is a theme), v_{APPL}P merges with v_{CAUSE} that lacks a case feature (i.e., a passive counterpart of v_{CAUSE}), as shown in (137b).

4.2.5 Ambiguity between Inchoative and Passive Meaning

One important aspect of the current analysis of the HI passives is that the suffix *-hi-* is not the source of the different argument structures, as lexicalists (e.g., Park 2001) claim. Rather, I argue that it is a morphological reflex of an eventive *v* that lacks a case feature (e.g., passive *v*s). This then explains the ambiguity of the morpheme *-hi-* as either an inchoative marker or a passive suffix. As mentioned in footnote 6, a number of verbs marked with the morpheme *-hi-* are often ambiguous between an inchoative and a passive meaning, as shown in (138).

(138) a. Mwun-i (Swunhi-ey uyhay) yel-li-ess-ta.
door-NOM (Swunhi-by) open-PAS-PST-DC
'The door was opened by Swunhi.' (PASSIVE)

b. Mwun-i cecello yel-li-ess-ta.
door-NOM by.itself open-INCHO-PST-DC
'The door opened by itself.' (INCHOATIVE)

The analysis of the ambiguity I propose here is structural, as illustrated in (139).

(139) a. Inchoative b. Passive

When a vocabulary item is inserted into a root node that merges with v_{INCHO}, the structure yields an inchoative meaning, as in (139a). When the same vocabulary item is inserted into a root node that merges with a passive counterpart of v_{CAUSE}, i.e., v_{CAUSE} with a [-case] feature, the structure yields a passive interpretation, as in (139b). The morpheme *-hi-*, then, is merely a morphological reflex of an eventive *v* that lacks a case feature. This explains the apparent homophony of the morpheme *-hi-*.

4.2.6 Summary

I have shown thus far that the underlying semantic and syntactic representation of verbs of the 'put-on' class under the syntactic decomposition approach provides a straightforward explanation for the peculiar argument structure realization of the HI-passive. The base verb of the HI passive associated with an atypical argument structure is categorized as one of the verbs of the 'put-on' class that have a lexical reflexive

specification in their verbal meaning. The lexical reflexive nature of the verbs of the 'put-on' class has been argued to be reflected in the semantics of v_{RFL} with which these verbs merge. The semantics of v_{RFL} also has a consequence for phrase structure when it merges with v_{APPL}; in the active, the semantics of v_{RFL} enforces syntactic detransitivization of v_{APPL}, while in the passive, it saturates the agent argument with the moved DP in [Spec, T]. Thus I have claimed that it is the semantics of v_{RFL} that gives rise to an agentive interpretation of the surface subject, regardless of whether the verb takes active or passive morphology; the semantics of v_{RFL} has been argued to be constant, irrespective of its case feature. The proposed underlying structure of verbs of the 'put-on' class has further provided an explanation for the locative interpretation of an *eykey*-marked DP in the passive; the underlying representation of these verbs contains an abstract v_{APPL} head that introduces a locative argument. In the active, the locative DP introduced by v_{APPL} is not syntactically realized. It merges with the agent argument projected by v_{RFL}. In the passive, in contrast, the locative argument is syntactically viable, and hence the presence of a DP denoting a location is predicted by the proposed underlying structure. The fact associated with the interpretation of the surface subject in the HI-passive, which appeared to contradict previous theoretical analyses, has also been accounted for; the agentive and non-agentive interpretation of the subject arises from different underlying structures that are available for active sentences, i.e., v_{APPL}P merging with v_{RFL} versus v_{APPL}P merging with v_{CAUSE}. The current analysis of verbs of the 'put-on' class, which decomposes the verbal meaning into separate subcomponents, therefore, makes it possible to provide a unified syntactic

account for HI passives in Korean without resorting to different modules of the grammar, i.e., lexicon versus syntax, in order to explain two different argument structure realizations. Furthermore, the treatment of the suffix *-hi-* as a morphological reflex of an eventive *v* that lacks a case feature accounts for the use of the same morpheme in inchoatives and passives.

In what follows, I shall provide additional empirical evidence that verbs of the 'put-on' class are distinguished from normal transitives in terms of their semantic and syntactic structure.

4.3 Ambiguity of *-ko iss-* and Event Decomposition in the Syntax

Another type of argument that can be employed in favor of the analysis propounded for verbs of the 'put-on' class can be found from the interpretation of the aspectual marker *-ko iss-*. The auxiliary verb *-ko iss-* is a combination of a non-finite connective morpheme *-ko* and the aspectual auxiliary verb *iss-*, which corresponds to 'be' in English. The auxiliary verb *-ko iss-* can attach to various verbal roots. When it combines with a typical activity (e.g., *talli-* 'run') or an accomplishment verb (e.g., *ilk-* 'read'), it is prototypically used as a periphrastic aspectual marker which expresses a continuing process. Therefore, it has generally been treated as a progressive marker, comparable to *be -ing* in English. However, it has often been noted (e.g., Kim 1993; Shirai 1998; Kim 2002) that *-ko iss-* can also be used as an aspectual marker expressing a continuation of a result state, unlike the English progressive marker *be -ing*. Furthermore, when it combines with a certain verb class, the *-ko iss-* construction is ambiguous between the

aforementioned two interpretations, a continuation of a progress and of a result state.

In this section, I show that verbs that give rise to the ambiguity of *-ko iss-* are identified as verbs of the 'put-on' class, and that the ambiguity can be explained in a straightforward way once we adopt the analysis of these verbs advanced in this dissertation.

4.3.1 Aspectual Marker *-ko iss-*

The use of *-ko iss-* as a progressive marker is illustrated in (140). Here, the combination of *-ko iss-* and activity and accomplishment verbs (using Vendler's (1957) terms discussed in Chapter 1) expresses an on-going process of the event denoted by the verb.

(140) a. Nongpwu-ka pat-ul kal-***ko*** ***i*****ss-**ta.
Farmer-NOM field-ACC plow-KO be-DC
'The farmer is plowing the field.'

b. Yeonghi-ka soselchayk-ul yelsimhi ilk-***ko*** ***iss***-ta.
Yeonghi-NOM novel.book-ACC earnestly read-KO be-DC
'Yeonghi is reading a novel earnestly.'

c. John-i ppali ket-***ko*** ***iss***-ta.
John-NOM quickly walk-KO be-DC
'John is walking fast.'

Like a progressive form in other languages (e.g., English), there is a restriction on combining verbs with the progressive marker *-ko iss-* in Korean. In general, pure stative predicates (e.g., *alumtap*-'beautiful'), cannot co-occur with *-ko iss-* , as shown in (141).

(141) a. *Mary-nun alumtap-***ko** ***iss***-ta.
Mary-TOP beautiful-KO be-DC
'Mary is being beautiful.'

b.*Kil-i acwu telep-***ko** ***iss***-ta.
Street-NOM very dirty-KO be-DC
'The street is being very dirty.'

On the basis of (140) and (141), *-ko iss-* appears to show a pattern similar to English progressive marker, *be -ing*. However, unlike the English progressive marker, *-ko iss-* can also express a continuation of a result state when it combines with cognitive verbs like *ic-* 'forget' and *al-* 'know', as also noted, for example, by Kim (2002). Sentences in (142), for example, illustrate the use of *-ko iss-* as an aspectual marker associated with a continuation of a result state, rather than a process.

(142) a. Na-nun ku namca(-uy) ilum-ul al-***ko*** ***iss***ta.
I-TOP the man(-POSS) name-ACC know-KO be-DC
'I know the man's name.'
*'I am in the process of coming to know the man's name.'

b. Yeonghi-ka yaksok-ul kkamahkey ic-***ko*** ***iss***ta.
Yeonghi-NOM promise-ACC completely forget-KO be-DC
'Yeonghi has forgotten the promise.'
*'Yeonghi is in the process of coming to forget the promise.'

While the sentences in (140) and (142) denote a continuation of either a process or a result-state, it has often been noted (e.g., Kim 1993; Kim 2002; Greuder & Choi 2004; Oh 2005) that the *-ko iss-* construction can be ambiguous between these two interpretations when it occurs with certain verbs. The verbs that give rise to the ambiguity of *-ko iss-* turn out to be members of the verbs of the 'put-on' class, which

have been shown to involve verbal behaviors that differ from normal transitive verbs. As shown in (143) through (145), when *-ko iss-* combines with verbs of the 'put-on' class, the sentences are ambiguous between a progressive and a (result)-state reading.

(143) Ai-ka say sinpal-ul sin-***ko*** ***iss***-ta.
Child-NOM new shoes-ACC put.on.one's foot-KO be-DC
a. 'The child is putting on the new shoes.' (Progressive)
b. 'The child is wearing the new shoes.' (Result State)

(144) Yeonghi-ka say kyopok-ul ip-***ko*** ***iss***-ta.
Yeonghi-NOM new uniform-ACC put.on-KO be-DC
a. 'Yeonghi is putting on the new (school)-uniform.' (Progressive)
b. 'Yeonghi is wearing the new (school)-uniform.' (Result State)

(145) Mary-ka mwukewun kapang-ul tul-***ko*** ***iss***-ta.
Mary-NOM heavy bag-ACC hold.in.one's hand-KO be-DC
a. 'Mary is lifting a heavy bag.' (Progressive)
b. 'Mary is holding a heavy bag.' (Result State)

As seen in the (a) sentences, when *-ko iss-* is used as a progressive marker, the sentence is interpreted as an on-going *process* which involves a dynamic and durative action of the agent. In contrast, when *-ko iss-* is used as an aspectual marker denoting a result state, as shown in the (b) sentences, the event denoted by the verb (e.g., 'putting on the new shoes' in (143)) is completed at a prior time, and the result state of 'wearing them' holds at the utterance time.

It should be noted that, with the result-state interpretation of *-ko iss-*, the state denoted by the root may or may not have an event implication that brings about the

state, contrary to what has been claimed (e.g., Kim 1993).[65] In other words, a state denoted by the verb root (e.g., 'having shoes on'), which continues at the reference time when *-ko iss-* is involved, need not have a prior event implicated in the sentence. For instance, (143b) may also express, in some imaginary world, that the child was born with the new shoes, and that the state of the child having the shoes on (his/her feet) holds at the time of the utterance. An implication of the prior event of putting the shoes on the child is not necessary, regardless of whether the event was brought about by the child himself/herself (i.e., a transitive event), or by someone else (i.e., a causative event). This non-result-state (or pure state) reading becomes clearer when the subject is an inanimate entity (e.g., a doll, a statue).[66] Let us consider examples in (146) and (147).

No Event Implication

(146) Kongwon-ey iss-nun tongsang-i chelkap moca-lul ssu-ko iss-ta.
Park-LOC be-REC statue-NOM iron-made hat-ACC put.on-KO be-DC
'The statue in the park is wearing an iron-made hat.' (Pure State)

Vague with Respect to Event Implication

(147) Inhyung hana-ka ppalkan cokki-lul ip-ko iss-ta.
Doll one-NOM red vest-ACC pu.on-KO be-DC
'One doll is wearing a red vest.' (Result State or Pure State)

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[65] Kim (1993) states that the result state interpretation of *-ko iss-* contributes to the existence of a state which ***results*** from the event picked out by the embedded verb. This does not always seem to be the case according to the examples provided here.

[66] The term 'a pure state' associated with the *-ko iss-* construction is intended to be contrasted with a result state that necessarily implies a prior event that brings about the state. However, this type of pure state should not be identified with a homogenous state that is normally described by adjectives expressing property concepts, such as speed, age, dimension, color, etc.

Example (146) describes the current state of the subject without entailing the existence of a past event that gave rise to the current state; the statue may have been built with the iron hat from the very start. Thus the sentence does not entail that there was a past time at which the statue itself or some person put on the iron-made hat. Example (147), on the other hand, is vague with respect to the event implication; the sentence may express that the doll was originally made with the red vest, and the state of the doll having the red vest on continues at the reference time. The sentence can also mean that someone else put the red vest on the doll, and the result state of this event continues at the reference time. The reading in which the doll itself puts the red vest on, however, is hardly conceivable according to our real-world knowledge; a doll is an inanimate entity that does not have an ability to perform an action.

I would like to suggest that the presence/absence of a prior event implicated in the state denoted by the verb in the *-ko iss-* construction depends on our real-world knowledge. In other words, whether the *-ko iss-* construction expresses a continuation of a result state or a simple state relies on extra-grammatical knowledge about, for instance, the meaning of the subject in terms of agentivity. If an entity denoting a location of the event, the subject, can be construed as a volitional agent (e.g., human beings), the *-ko iss-* construction can be interpreted as involving the existence of a prior event that brings about the state (e.g., eventive implication). If the entity denoting a location can never be understood as a volitional agent (e.g., a doll, a statue), however, the sentence may receive a pure-state interpretation, rather than a result state. Thus possible readings that arise from the *-ko iss-* construction when it is associated with a

(result)-state interpretation, are simply instances of vagueness, rather than ambiguity. I argue, however, that the progressive versus a (result)-state interpretation associated with *-ko iss-* is indeed an instance of ambiguity, which arises from structural differences.

One of the primary differences between the progressive and the result-state meaning is agentivity of the subject; with the progressive interpretation shown in the (a) examples of (143) through (145), the subject is interpreted as a volitional agent. In contrast, with the (result)-state interpretation, the subject is interpreted as a location, either as a result of the event denoted by the verb, or from the very start. Thus the subject is non-volitional.

Other members of the verbs of the 'put-on' class listed in (77) in Chapter 3 show the same kind of ambiguity with *-ko iss-* , as illustrated in (148).

(148) Verbs of the 'put-on' class

a.	*ip-ko iss-*	'is putting on a dress (PRO)/ is wearing a dress (RES)'
b.	*ssu-ko iss-*	'is putting on a hat (PRO)/ is wearing a hat (RES)'
c.	*an-ko iss-*	'is putting x in one's arms (PRO)/is holding x in one's arms (RES)'
d.	*ep-ko iss-*	'is putting x in one's back (PRO)/is holding x in one's back (RES)'
e.	*tul-ko iss-*	'is lifting x (PRO)/ is carrying x (RES)'
f.	*cha-ko iss-*	'is putting x on one's wrist (PRO)/is wearing on one's wrist (RES)'
g.	*mwul-ko iss-*	'is putting x on one's mouth (PRO)/is holding x on one's mouth'
h.	*ci-ko iss-*	'is putting x on one's back (PRO)/is carrying x on one's back'

The distributional facts of *-ko iss-* and its meaning observed so far are summarized in (149).

(149)	a. Activity/ Accomplish	b. Cognitive Achievement	c. Stative (Adjective)	d. Verbs of 'put-on'
Progressive	yes	no	no	yes
Result state	no	yes	no	yes

While the combination of *-ko iss-* and an activity or a (typical) accomplishment verb involves only a progressive meaning, the combination of *-ko iss-* and a cognitive achievement verb (e.g., 'forget') is associated only with a result state. *-ko iss-* is incompatible with pure stative verbs (like in English), but when it combines with verbs of the 'put-on' class, it results in the ambiguity between a progressive and a result-state interpretation. In this dissertation, I focus only on the activity and accomplishment verb type in (149a) and the verbs of the 'put-on' class in (149d), since the analyses advanced in the preceding chapters are concerned primarily with these two types in connection with morphological causatives.

The main questions to be addressed associated with the interpretation of *-ko iss-* are the following: (1) Why does ambiguity arise when *-ko iss-* combines with a 'put-on' class verb, but not with a normal activity/accomplishment verb like 'read', 'plow', or 'walk'?: (2) When combined with *-ko iss-*, why does volitionality of the subject of the 'put-on' verb correlate with a progressive interpretation while a result-state interpretation leads to a lack of volitionality?

In the following section, I will first attempt to provide a syntactic

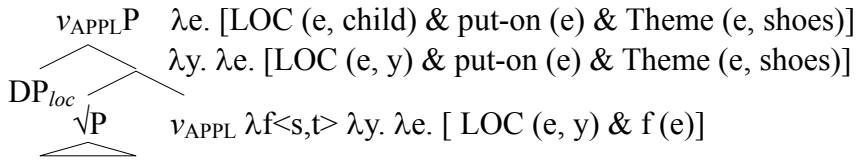
explanation for why ambiguity arises when *-ko iss-* combines with verbs of the 'put-on' class, but not with other verbs (e.g., an activity and an accomplishment verb) on the basis of the proposal made earlier regarding the underlying representation of the 'put-on' class verbs. I will then demonstrate that an explanation for the (non-)agentive property of the subject associated with each interpretation of *-ko iss-* follows naturally from the proposed structure of the *-ko iss-* construction. The agentivity of the subject will be shown to correlate directly with the presence versus absence of an external argument in the phrase structure with which *-ko iss-* is associated.

4.3.2 Structural Analysis of the Ambiguity of *-ko iss-*

The analysis of the interpretative difference of *-ko iss-* advanced below relies on differences in the semantic and syntactic structure of a base verb with which the aspectual marker combines. That is, whether verbs create ambiguity of *-ko iss-* hinges upon the possibility of a base verb having different syntactic structures. For those verbs that give rise to the ambiguity of *-ko iss-* (i.e., verbs of the 'put-on' class), the difference between a progressive and a (result-)state interpretation correlates directly with the presence versus absence of an external-argument-introducing *v* head (e.g., v_{RFL}), which is associated with dynamic eventiveness or agentivity. Therefore, the analysis of the ambiguity of *-ko iss-* that I propose is structural. The essence of this type of approach is that interpretative differences are to be accounted for in terms of a functional head, realized as *-ko*, attaching to different syntactic structures that already exist for a base verb.

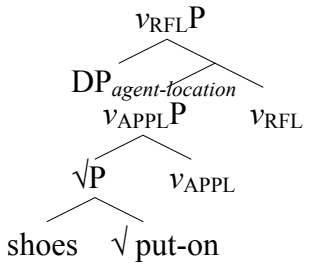
Crucial to this syntactic analysis is the claim that the meaning of verbs of the 'put-on' class is distributed through separate morphemes present in the syntax, and that v_{APPL}P postulated for the structure of these verbs is separable from an external-argument-introducing *v*, similar to unaccusative predicates. On the basis of 'again' modification, I argued that verbs of the 'put-on' class involve complex event structure that contains a result-state-denoting constituent, v_{APPL}P, analogous to √P of inchoative verbs, as repeated in (150).

(150) Underlying Syntactic Structure of Verbs of the 'put-on' Class

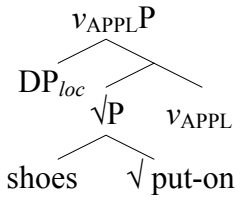


I further argued that v_{APPL}P can either merge with v_{RFL} or stand on its own without being embedded under additional event-determining verbal head; the former gives rise to an eventive interpretation and the latter, a stative interpretation, as repeated in (151).

(151) a.Eventive Transitives



b. Stative Transitive

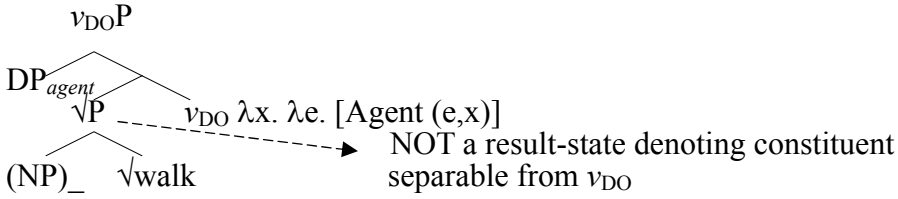


The structure in (151a) yields an eventive interpretation, *putting shoes on one's feet*, in

which the agent and the location are realized by a single DP, the subject. Structure (151b) yields a stative interpretation, *wearing shoes or having shoes on one's feet*, in which the subject is interpreted as a location of the event.[67]

Unlike verbs of the 'put-on' class, I argued in Section 3.3 that roots of typical activity and accomplishment verbs, which allow only a progressive meaning of *-ko iss-*, must merge with v_{DO} due to an animacy restriction on the external argument. I further argued that √P is not a result-state-denoting constituent separable from v_{DO} on the basis of morphological causative formation; verbs always combine with v_{DO} in their underlying representation, as shown in (152).

(152) Underlying Representation of Typical Activity/Accomplishment Verbs



Once the semantic-syntactic structures of 'put-on' verbs and typical activity/accomplishment verbs discussed above are adopted, explanations for the ambiguity and non-ambiguity of *-ko iss-* follow straightforwardly. I attribute the ambiguity of *-ko iss-* to structural differences available for verbs of the 'put-on' class, as shown in (151), and the non-ambiguity to the inseparability of √P of

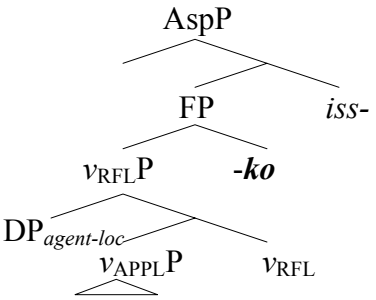
[67] As discussed earlier, the state expressed by (151b) may be interpreted as a simple state or a state that has a prior event implication (i.e., a result state), although the distinction between the two is not made explicit in the syntactic structure.

activity/accomplishment verbs from an agent-introducing *v* head and the √P failing to denote a result-state, as shown in (152). Let us first see how the ambiguity of *-ko iss-* with verbs of the 'put-on' class is structurally represented.

I assume that *-ko* and *-iss* each projects their own functional phrases. Let us call *-ko* some type of Functional Phrase. I will assume that the projection headed by the aspectual auxiliary verb *iss-* 'be' is an Aspectual Phrase (AspP) since *iss-* determines the aspectual property of the entire verbal complex. As seen in (153), the ambiguity of *-ko iss-* builds straightforwardly on the structural difference between a stative and an eventive interpretation of verbs of the 'put-on' class in a transitive context.

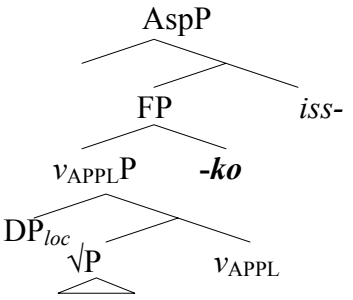
(153) Verbs with Ambiguity (verbs of the 'put-on' class)

a. *-ko iss-* (Progressive)



The child is putting on the shoes.

b. *-ko iss-* (Result State)



The child is wearing the shoes.

I assume that *-ko* is semantically vacuous and has only a syntactic function that picks out an eventuality-denoting constituent. The aspectual auxiliary *iss-* denotes a continuance of an eventuality picked out by *-ko*. Therefore, although the progressive and result-state interpretations denoted by *-ko iss-* may be thought to be very distinct,

they in fact have something in common; their commonality lies in the fact that they both focus on a durative situation, whether dynamic or static, that persists/holds at reference time. In order to derive a (result)-state interpretation, I assume that -*ko* merges with v_{APPL}P that was argued to denote a state, rather than an (dynamic/agentive) event. As mentioned earlier, the state can have a prior event implication, i.e., a result state, or it can be a simple state that presupposes no prior change. The distinction between the two is not reflected in the syntax but comes from extragrammatical knowledge speakers have about the meaning of the sentence. The -*ko iss*- construction represented in (153b) expresses a continuation of an eventuality denoted by the constituent picked out by -*ko*; the state of the child wearing the shoes or having the shoes on continues at the reference time. As seen in (153b), the subject is base-generated as a location introduced by v_{APPL} and moves to the subject position, e.g., [Spec, TP], to satisfy the EPP feature of T. The structure proposed in (153b) then accounts for the non-agentive property of the subject when -*ko iss*- is associated with a (result)-state. There is no agent-argument-introducing verbal head; the subject is a locative argument introduced by v_{APPL}.

As seen in (153a), when -*ko iss*- merges with v_{RFL}P that contains an external argument, the sentence denotes a continuance of a dynamic event, rather than a (result) state; the event of the child putting on the shoes continues at the time of the utterance, which yields a progressive meaning. The presence of v_{RFL} in the structure then explains the agentive nature of the subject associated with the progressive interpretation in the

(a) examples of (143) through (145).[68]

As discussed earlier, if we accept the idea that activity/accomplishment verbs like *walk* and *read* in Korean must contain an external-argument-introducing *v*, in particular, $v_{DO,}$ and that the √P and v_{DO}P are not separable (both conceptually and syntactically), the non-ambiguity of *-ko iss-* with these verbs can also be explained. Since there exists only one syntactic structure available for these verbs, unlike verbs of the 'put-on' class, *-ko* can only merge with the existing structure. This explains the non-ambiguity of the aspectual marker, as shown in (154b).

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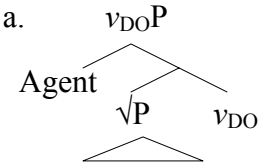
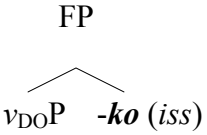
[68] The present analysis that attributes the ambiguity between a progressive and a result-state meaning to the presence versus absence of an external argument in the syntactic structure predicts that morphological causatives must be interpreted as a progressive due to the presence of an external argument introduced by v_{CAUASE}. This prediction is borne out, as seen below.

(xiii) Inho-ka ai-eykey sinpal-ul sin-ki-ko iss-ta.
Inho-NOM child-DAT shoes-ACC put.on-CAU-KO be-DC
'Inho is putting the shoes on the child.'
*'The child is wearing the shoes by Inho.'

I argued that transitive counterparts of verbs of the 'put-on' class are ambiguous between an eventive reading and a stative reading, and that the ambiguity is due to two different structures, which differ in terms of the presence of an external argument (i.e., an agent). The two available structures for transitive variants also give rise to two different structures for the *-ko iss-* construction, hence the ambiguity. In contrast, causative variants like the one shown above are never ambiguous but have only an eventive interpretation due to the presence of an external argument. Thus it is expected that no ambiguity arises when causative verbs are combined with *-ko iss-*.

(154) Verbs without Ambiguity (e.g., unergatives/some transitives)

a. 

b. 

Concerning the semantics of the auxiliary verb *iss*-, I adopt the semantics proposed by Ogihara (1998), which is an extension of Landman's (1992) theory of the progressive. This is illustrated in (155).

(155) Let P be a property of eventualities and let *e* be an eventuality.

$[\![ISS(P)(e)]\!]^{g,w} = 1$ iff $\exists e' \exists w' [<e',w'> \in CON(g(e), w) \ \& \ [\![P]\!]^{g,w'}(e')] = 1$

(155) requires that there be an eventuality e' and a world w' such that <e',w'> is an element of the 'continuation branch' of <g(e),w> which is symbolized as CON(g(e) w) (see Landman 1992 or Ogihara 1998 for the definition of 'continuation branch'). For the progressive use of *iss*-, we search into the future to find a relevant continuation stretch of g(e). For the (result) state use of *iss*-, we search into the past to find a desired eventuality. Based on the semantics of *iss*- given in (155), the semantics of (154b) and (153a) with the progressive meaning of -*ko iss*- are given in (156) and (157).[69]

(156) Denotation of (154b) (e.g., 'John is walking.')[70]
a. [v_{DO}P] = λe. [walking (e) & Agent (John, e)]
b. [ISS [v_{DO}P]](e)=λe [ISS ([λe'.[walking (e') & Agent (John, e')]](e)=1

[69] The semantics of the progressive and result state meaning of -*ko iss*- is simplified from Ogihara (1998) for the ease of computation.
[70] An existential rule applies to (156b) to produce the final translation.

c. ∃e [ISS ([λe'.[walking (e') & Agent (John, e')]](e)=1

(157) Denotation of (153a) - 'The child is putting on the new shoes.'
a. [v_{RFL}P] =λe. [Agent (e, child) & LOC (e, child) & put-on (e)
& Theme (e, shoes)]
b. [ISS] ([v_{RFL}P]))(e) = ∃e [ISS ([λe'. [Agent (e', child) & LOC (e', child)
& put-on (e') & Theme (e', shoes)]])(e)=1

The semantic denotation in (156c) can be read as 'there exists an eventuality *e* such that *e* can be extended to an eventuality of John's walking: there is an on going process of John's walking. (157b) can be read as 'there exists an eventuality *e* such that *e* can be extended to an eventuality of the child putting on the shoes; there is an on going process of the child's putting on the shoes.'

The semantics of (153b) with the (result)-state interpretation of *-ko iss-* is given in (158).

(158) Denotation of (153b) - 'The child is wearing the new shoes'
a.[v_{APPL}P] = λe. [LOC (e, child) & put-on (e) & Theme (e, shoes)]
b.[ISS] ([v_{APPL}P]))(e) = ∃e [ISS ([λe'. [LOC (e', child) & put-on (e') &
Theme (e', shoes)]])(e)=1

The semantic denotation of (158) at the end of the computation can be read as 'there exists an eventuality *e* such that *e* can be extended to an eventuality of the shoes being on the child; there is an on going state of the shoes being on the child.'

4.3.3 Summary

It has been shown so far that the interpretative differences associated with *-ko iss-* are attributed to different aspectual properties of the verbal roots that are directly reflected

in the syntactic structure. On the basis of 'again' modification discussed in Chapter 2, verbs of the 'put-on' class has been argued to involve more complex event structure than normal transitive verbs; they involve a result-state-denoting v_{APPL}P separable from an external-argument-introducing *v*, analogous to a result-state-denoting √P of inchoative verbs. The event decomposition of verbs of the 'put-on' class in the syntactic structure has been shown to have direct consequences for the interpretation of *-ko iss-*. Prototypically *-ko iss-* is a progressive marker denoting a continuance of a process. However, when it co-occurs with verbs of the 'put-on' class, the sentence is ambiguous between a progressive and a (result)-state interpretation. The analysis of such ambiguity I proposed is structural, which builds straightly on the underlying structure of verbs of the 'put-on' class proposed in this work; when *-ko (iss-)* merges with v_{APPL}P that does not contain an external argument, it expresses a continuance of the (result) state. When *-ko (iss-)* merges with v_{RFL}P that contains an agent argument in its specifier, *-ko (iss-)* expresses a continuance of a dynamic event, a process. Therefore, the absence versus presence of an agent argument in the constituent for which *-ko (iss-)* selects has been shown to correlate directly with the interpretative difference of the surface subject, a location versus an agent. In contrast to the verbs of the 'put-on' class, normal transitive and activity verbs do not create ambiguity since their verbal meaning does not encode complex event structure; these verbs do not involve a result-state-denoting constituent in their underlying semantic and syntactic configurations.

The interpretative properties of *-ko iss-* discussed in this section, therefore, provide further support for the semantic and syntactic analysis of the verbs discussed in

Chapter 2 and 3 in connection with morphological causatives. In particular, the semantic and syntactic analysis of verbs of the 'put-on' class which postulates a result-state-denoting v_{APPL}P in the underlying structure and v_{RFL} for a transitive interpretation has been shown to provide straightforward explanations for the ambiguity of the *-ko iss-* construction that is not found with other verb types.

4.4 Conclusion

In the previous literature, the atypical argument structure of morphological passives and the ambiguity of *-ko iss-,* have been discussed independently as separate phenomena that raise questions about the descriptive generalizations of each construction. This work, however, finds a connection between these two constructions by demonstrating that the atypical patterns found with these two constructions come from the same source, namely the semantic and syntactic properties of base verbs that are distinguished from normal transitive verbs; close examination of base verbs involved in these constructions reveals that the verbs that give rise to the peculiar linguistic patterns (e.g., the atypical argument structure of HI passives and the ambiguity of *-ko iss-*) turns out to be verbs of the 'put-on' class that has been categorized as a separate verb class based on their inherent verbal meaning. The semantic and syntactic analysis of these verbs based on the theory of syntactic decomposition of events discussed in Chapter 2 has provided straightforward explanations for the problems that emerge from the aforementioned two constructions.

CHAPTER 5

Syntactic Decomposition of Events and Causatives in Standard Indonesian[71]

5.1 Introduction

This chapter provides additional empirical support for the theory of event decomposition in the syntax by investigating causative constructions in Standard Indonesian. Standard Indonesian provides another source of morpho-syntactic evidence for the hypothesis that the meaning of eventive verbs (e.g., causative verbs) is decomposable into a causing event and a caused eventuality (e.g., a result state); causative verbs in Indonesian are derived by attaching the suffix *-kan* to various types of root components in a fashion similar to the formation of morphological causatives in Korean. One particularly intriguing aspect of morphological causative formation in Indonesian is the presence of a morphological makeup that suggests that the two features associated with the causative head in Korean, i.e., an external theta role feature (θ_{EXT}) and CAUSE, are distributed through separate morphemes instead of being

[71] The material discussed in this chapter grew out of a collaborative work with Dr. Peter Cole on verbal morphology in Standard Indonesian. I am deeply indebted to him for his suggestions and ideas, which have been incorporated in this work. Certain aspects of our collaborative work were presented at the Workshops on Complex Predicates at the Linguistic Society of Korea International Summer Conference 2002 held at Kyunghee University, Seoul, Korea: the 34th Annual Meeting of North East Linguistic Society held at SUNY in Stony Brook, New York; the Georgetown University Round Table (GURT) 2004 at Georgetown University, Washington, DC: the Workshop on Event Structures in Linguistic Forms and Interpretation, University of Leipzig, Leipzig, Germany: and a research seminar at the University of British Columbia.

merged into one syntactic node, i.e., a single morpheme. When intransitive verbs are causativized, for instance, another affixal element, the prefix *meN*-, must be attached to verb roots, in addition to the suffix -*kan*. I shall argue that the prefix *meN*- is the morphological reflex of a functional head associated with the introduction of an external argument, whereas the suffix -*kan* is a morphological reflex of a functional element associated with a causative meaning. Functional heads that denote the meaning of causation (e.g., CAUSE) are normally assumed to be located high in the syntactic structure, for example, above the VP domain (e.g., Pylkkänen 2002). However, I shall argue that -*kan* is not an overt instantiation of a causative head. Rather, I analyze it as a morphological reflex of a result head that projects a result phrase embedded low in the syntactic structure. Thus, despite superficial similarities between morphological causatives in Korean and those in Indonesian, the two languages have slightly different syntactic representations of causatives. The distinction in the syntactic representation of causatives between the two languages, then, will shed some light on the issue that was raised in the introductory chapter with respect to cross-linguistic variation in representing event structure in the syntax. On the basis of Korean and Indonesian, I draw the conclusion that although semantic components encoded in the verbal meaning of causative predicates may be similar, the way they are represented in the (morpho-) syntactic structure may differ from language to language.

The peculiar distributional properties of -*kan* in Indonesian constitute another factor differentiating between the syntax of causatives in Indonesian and Korean; -*kan* occurs in various constructions other than apparent causatives, giving the impression

that it is multiply ambiguous. As has been mentioned earlier, -*kan* is used primarily to derive causatives whose base forms include various grammatical categories (e.g., adjectives and unaccusative verbs) and applicatives, mostly those associated with a benefactive interpretation. The distribution of -*kan*, however, is not clear-cut. It is also found in a number of transitive sentences that are combined with a directional PP (hereafter, goal-PP constructions). In these constructions, the presence of -*kan* is optional and does not affect the interpretation or argument structure of the base sentences. The distribution of the suffix is further complicated by its occurrence in inherently ditransitive sentences, which require two internal arguments (e.g., *give* in English).[72] In inherent ditransitives, unlike goal-PP constructions, the presence of -*kan* is obligatory.[73]

The diversity of uses associated with -*kan* might suggest that we are dealing with accidental homophony; the suffix has more than one independent function. I shall argue, however, that it is not coincidental that the same morpheme occurs in these four

[72] I make a distinction between two types of ditransitives, ditransitives derived from monotransitive stems by means of suffixation (e.g., benefactives) and inherent ditransitives, in which the verb stem thematically requires two arguments, the presence of which must be marked on the verb by the suffix -*kan* or -*i*. Inherent ditransitives also manifest a systematic alternation of these two suffixes to show different argument structures, DP DP and DP PP structures. In contrast, ditransitives derived from existing monotransitive verbs do not show such an alternation.

[73] In inherently ditransitive sentences, -*kan* alternates with the suffix –*i* in different argument structures: when –*kan* is present, the unmarked argument is the theme and the goal must be an oblique argument. When –*i* is present, however, the goal becomes the unmarked argument and occurs adjacent to the verb, which yields a double object construction (or DP DP structure). These facts are described in detail in such works as Dardjowidjojo (1967), MacDonald and Dardjowidjojo (1967), Dardjowidjojo (1983), Arka (1992), Kaswanti Purwo (1995), Kaswanti Purwo (1997), Sneddon (1996) and many others.

constructions. I suggest that the occurrence of the same morpheme in these constructions is due to the semantic-aspectual properties that they have in common; they are all interpreted as causatives, the aspectual meaning of which involves complex event structures composed of a causing event and a caused eventuality (e.g., a result state). I shall argue that *-kan* is a morphological reflex of an aspectual component pertinent to the result state, unlike the suffix *-i-* in Korean, which is treated as a spell-out of v_{CAUSE}. The event-based analysis of *-kan* proposed in this work will be shown to explain the distributional properties of the morpheme in a fairly straightforward way.

This chapter will start with an illustration of the seemingly varied uses of *-kan* in the following section. In Section 3, I will spell out the main problems presented by *-kan* that the current analysis is intended to account for. In Section 4, I briefly review the issue of the position of external arguments and show that Indonesian exhibits an overt instantiation of an external-argument-introducing *v* head, comparable to the v_{CAUSE} postulated in Korean, but only in terms of its external-theta role feature. In Section 5, I examine how the phrase structure of Indonesian reflects event structure and what gives rise to the seeming diversity of uses affiliated with *-kan*. The discussion will be based on the position adopted in this dissertation that complex event structures encoded in the verbal meaning are explicitly represented in the syntactic structure. In Section 6, I provide a detailed articulation of how the analysis advanced in this work unifies the functions of *–kan* both semantically and syntactically. In subsequent subsections, I demonstrate that the proposed syntax and semantics of *-kan* can be implemented in each *–kan* construction in a quite straightforward way.

5.2 Distribution of *-kan*

In this section, I discuss four different *-kan* constructions: causatives in which *-kan* is used most productively with various grammatical categories (e.g., adjectives and inchoative verbs), benefactives, goal-PP constructions, and inherent ditransitives. I will show that in the first two constructions, causatives and benefactives (§5.2.1), the presence of *-kan* is responsible for (in)directly introducing an additional argument to the argument structure of a base verb. In contrast, in the latter two constructions, goal-PP constructions and inherent ditransitives (§5.2.2), *-kan* is neutral with respect to the argument structure of the base verb.

5.2.1 *-kan* Has an Effect on Argument Structure

Let us first consider examples in which the suffixation of *-kan* to existing verbs increases the number of the verb's syntactic arguments.

5.2.1.1 Causative Constructions

The first such case is that of causatives, as shown in (159) through (161).

(159) a. Cangkirnya pecah.
cup-3 break
'The cup broke'

b. Janet memecah-kan cangkirnya.
Janet meN-break-KAN cup-3
'Janet broke her cup.'

(160) a. Banyak orang tewas.
Many people dead
'Many people died.'

b. Kecelakaan itu menewas-**kan** banyak orang.
accident that meN-dead-KAN many people
'The accident killed many people.'

(161) a. Wajahnya putih.
Face.3 white
'His face is white.'

b. Ia memutih-**kan** wajahnya.
3Sg meN-white-KAN face.3
'He whitened his face (caused his face to become white).'

As seen above, the causative verbs in the (b) sentences are formed by attaching the suffix *-kan* to unaccusative predicates like *pecah* 'break' and *tewas* 'die/dead' or adjectives like *putih* 'white', in a fashion similar to the formation of morphological causatives in Korean (see §2.2). The causativized sentences in (b) involve the addition of an argument to the argument structure, one that is interpreted as a causer of the event described by the base predicate (e.g., *Janet* in (159b)).[74]

A variety of grammatical categories form their causative counterparts by means of *-kan* suffixation. These categories include unaccusative verbs, shown in (159) and (160), stative predicates (e.g., adjectives), shown in (161), and psychological predicates (e.g., *bosan* 'be bored'). More examples of each category are provided in (162).[75]

[74] This is described in the literature as an instance of morphological causativization (e.g., Arka 1992; Kaswanti Purwo 1995). Indonesian exhibits both periphrastic and morphological causatives. Periphrastic causatives employ the separate lexical verb *membuat* 'make', while morphological causatives are formed by affixing the suffix *–kan* to a verb stem. The semantic differences between morphological causatives and periphrastic causatives are described in detail in Arka (1992).

[75] Arka (1992) and Kaswanti Purwo (1995) provide many examples of *-kan* causatives, the base forms of which range from nouns to prepositional phrases.

(162) Types of Base Predicates with Causative *–kan* (Sneddon 1996)

a. Adjectives

Non-Causatives		**Causatives**	
bersih	'clean'	*membersih**kan***	'clean x'
lebar	'wide'	*melebar**kan***	'widen x'
kering	'dry'	*mengering**kan***	'dry x'
bebas	'free'	*membebas**kan***	'set x free'

b. Unaccusative Verbs

Non-Causatives		**Causatives**	
jatuh	'fall'	*menjatuh**kan***	'drop x'
kembali	'return'	*mengembali**kan***	'return x'
naik	'go up'	*menaik**kan***	'raise x'

c. Psychological Predicates

Non-Causatives		**Causatives**	
bosan	'be bored'	*membosan**kan***	'bore x'
puas	'be satisfied'	*memuas**kan***	'satisfy x'
kejut	'be startled'	*mengejut**kan***	'startle x'
senang	'be pleased/happy'	*menyenang**kan***	'please x'

5.2.1.2 Benefactive (Applicative) Constructions

While the examples in (159) through (162) illustrate the use of *-kan* as a causative morpheme, the following examples are sentences in which *-kan* introduces an additional benefactive argument to the argument structure of a base verb. Hence, they are often described in the literature as benefactive (applicative) constructions (e.g., Arka 1992). When *-kan* is attached to transitive verb bases, the beneficiary, which is expressed as an optional adjunct phrase in the (a) sentences, occurs as a bare DP adjacent to the derived verb (hereafter, DP+DP frame).

(163) a. Tika memanggang roti itu (**untuk** Eric).
Tika meN-bake bread the for Eric
'Tika baked the bread for Eric.'

b. Tika memanggang-**kan** Eric roti itu
Tika meN-bake-KAN Eric bread the
'Tika baked Eric the bread.'

(164) a. Eric membuat rumah-rumahan (**untuk** anak-nya).
Eric meN-make RED-house for child-3
'Eric made a toy house for his child.'

b. Eric membuat-**kan** anak-nya rumah-rumahan.
Eric meN-make-KAN child-3 RED-house-AN
'Eric made his child a toy house.'

In the (a) sentences, the benefactive PP is an optional adjunct phrase that is not a part of the argument structure of the base verb. In contrast, the benefactive argument in the (b) sentences occurs as a bare DP adjacent to the derived verb and is a subcategorized argument of the verb plus *-kan* combination. For this reason, it has often been claimed (e.g., Postman 2002) that *-kan* introduces a new syntactic argument into the argument structure of the base verbs. The status of the benefactive argument as a subcategorized constituent in (b) may be obscured by the fact that Indonesian allows phonologically null constituents, making the occurrence of the benefactive DP appear to be optional. However, when the benefactive DP is omitted in (b), the only interpretation possible is that the action was carried out for the benefit of some implicit individual, an interpretation not available with the sentences without *-kan* if the 'for' phrase is omitted. This interpretational contrast between sentences with *-kan* and those without *-kan* is shown in (165) and (166).

(165) a. Tika memanggang-**kan** roti itu.
Tika meN-bake-KAN bread the
'Tika baked the bread for ***someone***.'

b. Eric membuat-**kan** rumah-rumahan.
3SG meN-make-KAN RED-house-AN
'Eric made a toy house for ***someone***.'

(166) a. Tika memanggang roti itu.
Tika meN-bake bread the
'Tika baked the bread.'

b. Eric membuat rumah-rumahan.
3SG meN-make RED-house-AN
'Eric made a toy house.'

Furthermore, when the benefactive argument occurs as a bare DP adjacent to the derived verb, it behaves like a primary object of the derived verb. This is shown by the fact that it is the benefactive DP that can be passivized, not the theme argument, as shown in (167).[76]

(167) a. Eric dipanggang-**kan** roti itu (oleh Tika).
Eric DI-bake-KAN bread the (by Tika)
'Eric was baked the bread (by Tika).'

b. *Roti itu dipanggang-**kan** Eric (oleh Tika).
bread that DI-bake-KAN Eric (oleh Tika)
'The bread was baked for Eric (by Tika).'

On the basis of the examples we have seen thus far, *-kan* might appear to be an applicative suffix with a distribution similar to that of prototypical applicatives in such language groups as Bantu (see Baker 1988; Marantz 1993, *inter alia*). However, the

[76] By 'primary' (or direct) object I mean the internal DP object, the DP that receives structural case from an agent-introucing functional head, *v*, and that can be passivized.

consideration of a fuller range of data suggests that Indonesian benefactives with *-kan* differ from prototypical applicatives with respect to the effect of the affix on argument structure. In prototypical applicatives, the DP corresponding to the object of the preposition in the base sentence must occur as the primary object and must be adjacent to the derived verb. In Indonesian, however, the applied benefactive DP may also occur in a prepositional phrase (hereafter, DP+PP frame). This is despite the presence of *-kan* on the verb, as shown in (168).[77]

(168) a. Tika memanggang-**kan** roti itu ***untuk*** ***Eric***.
Tika meN-bake-KAN bread the for Eric
'Tika baked the bread for Eric.'

b. Eric membuat-**kan** rumah-rumahan itu ***untuk*** ***anak-nya***.
Eric meN-make-KAN RED-house-AN the for child-3
'Eric made the toy house for his child.'

Furthermore, on the assumption that it is the primary object that undergoes movement to the subject position by passivization, the theme, not the beneficiary, is the primary object in the DP+PP frame. This is exemplified in (169).

(169) a. Roti itu dipanggang-**kan** untuk Eric.
bread the DI-bake-KAN for Eric
'That bread was baked for Eric.'

b. Rumah-rumahan itu dibuat-**kan** untuk anak-nya.
RED-house-an the DI-make-KAN for child-3
'The toy house was made for his child.'

[77] Voskuil (1990) presents similar distributional facts about *-kan* benefactive constructions (from Malay).

It should be noted that the DP+PP variant of *-kan* benefactives in (168) must be distinguished from the DP+PP structure without *-kan* (e.g., (163a)–(164a)) in terms of its syntactic and semantic properties. First, when *-kan* is absent, the *untuk* phrase is an optional adjunct phrase, as indicated by the parentheses in (163a) and (164a). In contrast, when *-kan* is present, the PP is an obligatory oblique complement; it is a subcategorized constituent that is internal to the argument structure of the derived verb. This is shown by the fact that when the PP in (169) is omitted, as shown in (170), the sentence has a null benefactive interpretation, as in the active shown in (165).

(170) a. Roti itu dipanggang-**kan**.
bread the DI-bake-KAN
'The bread was baked ***for someone***.'

b. Rumah-rumahan itu dibuat-**kan**.
RED-house-an the DI-make-KAN
'The toy house was made ***for someone***.'

When *-kan* is absent, the interpretation with an implicit beneficiary is not available in the passive if the *untuk* phrase is omitted, as shown in (171).

(171) a. Roti itu dipanggang.
bread the DI-bake
'That bread was baked.'

b. Rumah-rumahan itu dibuat.
RED-house-an the DI-make
'The toy house was made.'

The facts shown in (170) and (171) thus suggest that the presence of *-kan* in the DP+PP frame of benefactive constructions affects the argument structure of the base sentence;

-kan makes the PP in the base sentence a subcategorized constituent.

Another distinction between the sentences with *-kan* in (169) and those without *-kan* is differences in their interpretation. The DP+PP frame of the *-kan* benefactive has the same truth condition as the DP+DP frame in spite of their different surface structure; the DP+PP frame with *-kan* is synonymous with the DP+DP frame shown in the (b) sentences of (163)–(164). When *-kan* is present on the verb, the benefactive argument is construed as a prospective possessor of the theme argument in both the DP+DP and the DP+PP frame. For instance, sentence (163b), repeated as (172a), carries a strong implication that Eric possesses the bread that Tika baked, and only this interpretation is possible. The corresponding DP+PP frame, given in (172b), has the same interpretation; Eric is expected to possess the bread as a result of Tika's baking event.

(172) a. Tika memanggang-**kan** Eric roti itu.
Tika meN-bake-KAN Eric bread the
'Tika baked Eric the bread.'

b. Tika memanggang-**kan** roti itu **untuk** **Eric**.
Tika meN-bake-KAN bread the for Eric
'Tika baked the bread for Eric (to have it).'

An implication of possession is not required in the corresponding transitive sentence without *-kan* in (163a), repeated as (173); the sentence is ambiguous with respect to two readings, a possessive reading, as shown in (173a), and a purely benefactive reading, as shown in (173b).

(173) Tika memanggang roti itu **untuk** **Eric**.
Tika meN-bake bread the for Eric
a. 'Tika baked the bread for Eric to have/to give it to Eric.'
b. 'Tika baked the bread in place of (or for the benefit of) Eric.'

The beneficiary in (173) has a significantly wider range of roles than does the beneficiary in (172). It is possible to understand (173) to describe a situation in which Tika baked the bread in place of Eric, since Eric does not know how to bake but is supposed to bring some to a party. But this reading is absent in (172), which can only mean that Tika baked the bread for Eric to have.

The truth-conditional difference between sentences with *-kan* and those without *-kan* is parallel to the semantic contrast between double object and oblique complement constructions in English that has been noted by a number of researchers (e.g., Green 1974; Kayne 1975; Oerhle 1976; Gropen, Pinker et al. 1989; Pesetsky 1995; Harley 1995, 2002; Beck and Johnson 2004). Consider (174), for example.

(174) a. Sally knitted Paul a sweater. (Only possession reading)
(i) Sally knitted a sweater for Paul to have.

b. Sally knitted a sweater for Paul. (Ambiguous)
(i) Sally knitted a sweater for Paul to have.
(ii) Sally knitted a sweater in place of (or for the benefit of) Paul (since he doesn't know how to knit.)

It has often been noted (e.g., Green 1974; Oerhle 1976; Pesetsky 1995; Beck and Johnson 2004) that the double object construction in English shown in (174a) has a meaning component that is not necessarily found in the oblique complement construction shown in (174b), namely a possession, or HAVE, component. Sentence

(174a) thus can be expressed roughly as (174a-i) in which the benefactive DP, *Paul*, is expected to possess the sweater as a result of Sally's knitting event, hence the possessor account (see Pesetsky 1995; Harley 2002; Beck and Johnson 2004). In contrast, the oblique complement construction in (174b) is ambiguous with respect to whether Paul is expected to have the sweater that Sally knitted. (174b) can be true under either the possessive (174b-i) or the purely benefactive (174b-ii) reading.

I argue that the 'possessor' account proposed for the English double object construction applies to both variants of the *-kan* benefactives as well, since there is an animacy restriction on the applied argument, which has been a justification for the possessor account for English. This is shown by the examples in (175) and (176).

(175) a. *Saya men-(p)anggang-***_kan_** ***perayaan ulangtahun Eric*** biskuit itu.
1SG meN-bake-KAN celebration birthday Eric biscuit the
'I baked a biscuit for Eric's birthday.'

b. *Dia mem-buat-***_kan_** ***perayaan Halloween*** rumah-rumahan itu.
3SG meN-build-KAN celebration Halloween RED-house-AN the
'He built a toy house for Halloween.'

(176) a. Saya men-(p)anggang-***kan*** biscuit itu untuk perayaan ulangtahun Eric.
1SG meN-bake-KAN biscuit the for celebration birthday Eric
'I baked ***someone*** the biscuit for Eric's birthday.'

b. Dia mem-buat-***kan*** rumah-rumahan itu untuk perayaan Halloween.
3SG meN-build-KAN RED-house-AN the for celebration Halloween
'He built ***someone*** the toy house for Halloween.'

As shown in (175), an inanimate object cannot appear as an applied argument in the DP+DP frame of *–kan* benefactives. The animacy restriction on the benefactive argument also applies to the DP+PP frame, as shown in (176); although it may appear

that the DP+PP frame with *-kan* allows a wider range of benefactive arguments, including inanimate referents in (176), e.g., Eric's birthday, the sentences are understood as involving an implied animate entity as a prospective possessor of the theme argument. Additional evidence along these lines can be found in the following examples.[78]

(177) Saya menyulam baju hangat ini untuk bayi kita.
1SG meN-knit shirt warm this for baby 1PL
'I knitted this sweater for our baby.' (The baby need not exist in the real world.)

(178) a. Saya menyulam-***kan*** bayi kita baju hangat ini.
1SG meN-knit-KAN baby 1PL shirt warm this
'I knitted our baby this sweater.'

b. Saya menyulam-***kan*** baju hangat ini untuk bayi kita.
1SG meN-knit-KAN shirt warm this for baby 1PL
'I knitted this sweater for our baby.' (The baby must exist in the real world to be a prospective possessor of the theme.)

In (178), both frames of the *-kan* benefactive have the implication that the baby exists. If the baby must bear a possessor role in (178) by virtue of appearing in the *-kan* construction, it must be animate (i.e., alive), and hence has already been born. In (177), in contrast, when *-kan* is absent, the baby may or may not exist in the real world; the female speaker may simply be pregnant, or plan to be.

On the basis of the causative and benefactive constructions described above, it has often been claimed that the primary function of *-kan* is to increase the valence of a VP by introducing an extra argument in the argument structure; *-kan* is a 'valence

[78] The examples with 'knit' are inspired by the corresponding English examples provided by Harley (2002).

increasing' morpheme (e.g., Kaswanti Purwo 1997) or a transitivizer (e.g., Arka 1992; Sie 1998; Postman 2002).[79]

It must be noted, however, that these accounts of *-kan* as a transitivizer take only some of its uses into consideration. For instance, there are instances where the presence of *-kan* is optional without affecting argument structure (i.e., transitivity), namely goal-PP constructions. Furthermore, the obligatory presence of *-kan* on inherently ditransitive verbs like 'give' is generally not mentioned in this regard. These two constructions, which demonstrate that the suffix *-kan* does not always change argument structure, are described in the following section.

5.2.2 *-kan* has No Effect on Argument Structure

5.2.2.1 Goal-PP Constructions

Let us first consider sentences in which *-kan* is optional, and its presence on a verb does not change argument structure. The following set of examples, which I call goal-PP constructions, following the terminology of Beck and Snyder (2001), shows that in this construction, unlike causative and benefactive constructions, the suffix *-kan* does not affect the argument structure of base verbs.

(179) a. Dia mengikat tali itu.
3SG meN-tie rope the
'He tied the rope.'

[79] It should be noted that previous accounts of *-kan* that treat it as a transitivizer deal with only the DP+DP frame of *-kan* benefactives. The facts regarding the DP+PP frame have not been mentioned in the previous studies.

b. Dia mengikat-(***kan***) tali itu ke anjing.
3SG meN-tie-KAN rope the to dog
'He tied the rope to the dog.' (Sneddon 1996)

(180) a. Dia menempel gambar itu.
3SG meN-patch picture the
'He glued the picture.'

b. Dia menempel-(**kan**) gambar itu **ke tembok**.
3SG meN-patch-KAN picture the to wall
'He stuck pictures on(to) the wall.' (Sneddon 1996)

As shown in the (b) examples, when a PP expressing a direction or a location (e.g., *ke tembok* 'to the wall') is added to a sentence, *-kan* can appear on the verb. The suffix is optional and does not affect the argument structure or the meaning of the sentence.[80]

In the previous literature (e.g., Arka 1992; Sneddon 1996; Postman 2002), constructions like (b) in (179) and (180) are often incorrectly labeled as instrumental *-kan* constructions. The instrumental *-kan* analysis makes the tacit assumption that the base form of (179b), for example, repeated as (181b), is (181a) with an optional prepositional phrase.

(Sneddon 1996)
(181) a. Dia mengikat anjing itu (dengan rope)
3SG meN-tie dog the (with rope)
'He tied the dog with a rope.'

[80] My informant reports that in the (a) sentences, verbs with *-kan* are also grammatical. However, when these verbs occur with *-kan*, they are interpreted as having a phonologically null benefactive argument. That is, when *-kan* is allowed, it is used as a suffix associated with a benefactive interpretation. With our intended meaning in (b), however, the verb form of 'V+ *-kan*' is not well-formed in the (a) sentences.

b. Dia mengikat-(***kan***) tali itu ke anjing.
3SG meN-tie-KAN rope the to dog
'He tied the rope to the dog.'

The DP 'the rope' expressed in a prepositional phrase in (181a) is understood to be an instrument of the action performed by the subject (e.g., Sneddon 1996). When *-kan* is attached to the verb, the argument of the preposition in (181a) is realized as an unmarked argument adjacent to the verb plus *-kan* combination (as in (181b)). Due to this argument structure alternation, in which the "instrumental" PP in (181a) becomes the primary object of the derived verb in (181b), it has been claimed (e.g., Sneddon 1996) that *-kan* in (179) and (180) marks the object as the instrument with which the action is performed. However, this claim is simply not true; the conclusions drawn by other researchers appear to have been made without considering a broader range of examples. As seen in (182) and (183) below, not all sentences with an instrumental PP allow *-kan*, which clearly suggests that the generalization made previously is an overstatement.

(182) a. Dia menulis dengan pensil tumpul.
3SG meN-write with pencil dull
'He wrote with a blunt pencil.'

b. *Dia menulis-kan pensil tumpul.
3SG meN-write-KAN pencil dull
'He wrote with a blunt pencil.' (Sneddon 1996)

(183) a. John membuka pintu dengan kunci.
John meN-open door with key
'John opened the door with a key.'

b. *John membuka-kan kunci ke pintu.
John meN-open-KAN key to door
'John opened the door with a key.' (Intended)

As shown in the (b) sentences above, instruments that are not displaced or moved by the action of the verb are unacceptable in the *-kan* construction. This suggests that what is essential for the type of *-kan* constructions shown in (179) and (180) is that the theme object of the verb must undergo physical movement, as also noticed by Sneddon (1996) and Kroeger (2002).[81] Additional evidence for this claim is provided in (184), taken from Kroeger (2002).

(184) Non-displaced instruments

a. *menghitungkan sempoa
meN-add.up-KAN abacus
'add up with an abacus

b. *menimbangkan dacing/neraca
meN-weight-KAN scale
'weight with a scale'

c. *menuangkan corong
meN-pour-KAN funnel
'pour/fill with a funnel'

d. *meminumkan sedotan
meN-drink-KAN straw
'drink with a straw'

As shown above, the stationary instrumental objects (e.g., *sempoa* 'an abacus') cannot appear with the verb plus *-kan* combination.

Further evidence against the claim that *-kan* is an instrumental suffix is found from the following sentences in which non-instrumental DPs can also occur as

[81] Sneddon (1996) notes, in passing, that sentences with instrumental DPs that are not physically moved (or manipulated) do not allow *-kan* on their verbs. However, he continues to label sentences like (179) and (180) as instrumental *-kan* constructions without explicit discussion of why only instrumental DPs that undergo movement are allowed in those constructions.

primary objects of the -*kan* construction.

(185) a. Tika me lempar-(***kan***) **bola itu** ke dalam keranjang sampah.
Tika me N-throw-KAN all that to in can trash
'Tika threw the ball into the trash can.'

b. Wim menuang-(***kan***) **air** ke dalam ember.
Wim meN-pour-KAN water to in bucket
'Wim poured the water into the bucket.'

The DPs adjacent to the verbs derived by -*kan* suffixation, 'the ball' in (185a) and 'the water' in (185b), are understood to be theme objects that undergo a change of location, rather than instrumental objects. Nonetheless, the sentences in (185) have the same argument structure as (179) and (180); when a directional PP is present, -*kan* is allowed on the verbs and is optional.[82] The examples shown from (179) through (185) therefore,

[82] Kaswanti Purwo (1997, 2002) divides -*kan* occurring in the examples shown in section 5.2.2.1 into two different types: the instrumental -*kan* and the locative -*kan*. The division is based on the optionality of the suffix and the possibility of an alternation with the suffix -*i*. For example, -*kan* in (180b) and (185) is categorized as the locative -*kan* in the sense that the verb combined with -*kan* takes a locational PP (e.g., 'into the bucket' in (185b)). When -*kan* is used as a locative suffix, it is optional and alternates with -*i*, which indicates different argument structure (see Kaswanti Purwo (1997, 2002) for examples with -*i* suffixation). In contrast, when -*kan* is used as an instrumental suffix, he claims that the presence of -*kan* on the verb is obligatory and does not alternate with -*i*. However, the optionality of the suffix and the possibility of an alternation with -*i* do not seem to provide correct diagnostics for classifying the suffix as one type or the other for various reasons. First, even when it does not alternate with the suffix -*i*, -*kan* can be optional, as seen in (179b); the verb combined with -*i*, *mengikat-i* 'meN-tie-I', does not form a legitimate verbal complex in Indonesian. This would predict, according to Kaswanti Purwo's classification, that -*kan* is categorized as an instrumental suffix, and hence is obligatory. Contrary to the prediction, however, the suffix is optional. Secondly, sentences with -*kan* in section 5.2.2.1 have too much in common to be regarded as two independent constructions; they all contain an DP object that undergoes physical movement and a prepositional phrase that expresses a locational endpoint. Thus, sentences that are argued to involve an instrumental -*kan* may also be

provide sufficient evidence in favor of the argument that characterizing *-kan* as simply an instrumental morpheme misses the correct generalization.

Based on the observations made thus far, I characterize the *-kan* constructions shown above as a type of goal-PP construction in the sense of Beck and Snyder (2001), rather than as an instrumental construction. As noted earlier, the commonality of the theme arguments allowed in constructions like (179) and (180) is that they all undergo movement from one location to another. This means that there must be a final location of the theme that is moved, i.e., the goal, and it is expressed by a prepositional phrase. By 'goal-PP constructions', therefore, I mean the combination of a simple transitive verb with a prepositional phrase indicating the final location of the theme that undergoes movement (cf. Beck and Snyder 2001).

5.2.2.2 Inherent Ditransitives

The following are examples of inherently ditransitive sentences, sentences which obligatorily take two internal objects. Unlike goal-PP constructions, the presence of *-kan* is obligatory in these sentences, as shown in the (a) sentences of (186) and (187).

(186) a. Johnmem beri-***(kan)** surat itu kepada Peter.
Johnme N-give-KAN letter the to Peter
'John gave a letter to Peter.'

---

considered to be a locative type if the meaning of a PP is a criterion for characterizing *-kan* as a locative suffix. Although the obligatory presence of *-kan* on some verbs seems puzzling (but not problematic for the current analysis), I uniformly characterize sentences with *-kan* in this section as a type of goal-PP construction due to the various problems that arise otherwise.

b. Surat itu diberi-**kan** kepada Peter (oleh John).
letter the DI-give-KAN to Peter (by John)
'The letter was given to Peter.'

c. *Peter diberi-**kan** surat itu (oleh John).
Peter DI-give-KAN letter the (by John).'
'Peter was given the letter by John.'

(187) a. Dia menyerah-***(kan)** perkerjaan itu kepada saya.
3SG meN-entrust-KAN job the to 1SG
'He entrusted the job to me.'

(Dardjowidjojo 1967)

b. Perkerjaan itu diserah-**kan** kepada saya (oleh dia).
Job the DI-entrust-KAN to 1SG (by 3SG)
'The job was entrusted to me (by him).'

c. *Saya diserah-**kan** perkerjaan itu (oleh dia).
1SG DI-entrust-KAN job the by 3SG
'I was entrusted the job (by him).'

With inherently ditransitive verbs, no corresponding (simple) transitive verb exists. In addition, only a DP+PP frame is compatible with *-kan*, unlike the pattern found with benefactives, which are compatible with both a DP+DP and a DP+PP frame. When *-kan* is present, the unmarked argument is the theme, and only this DP can be passivized, as in the (b) examples. The goal is expressed as an obligatory oblique complement in a prepositional phrase.

As described so far, goal-PP constructions and inherently ditransitive sentences militate against the idea that the suffix *-kan* invariably increases the number of the verb's arguments. In both constructions, the presence of *-kan* does not require the introduction of an additional syntactic argument.

5.3 Problems

We have seen that the suffix *-kan* appears to be multiply ambiguous because it occurs in four seemingly different constructions: causatives, benefactives, goal-PP constructions, and inherent ditransitives. In the first two constructions, *-kan* appears to function as a transitivizer and adds an extra argument regardless of whether the added argument is a DP or a PP (in the case of benefactives). In the latter two constructions, goal-PP constructions and inherent ditransitives, *-kan* has been shown to be neutral with respect to the valency of a verb.

Based on the facts associated with *-kan* described so far, the issues that must be addressed are the following: (1) What characterization of *-kan* gives rise to the observed occurrence of the suffix in four seemingly unrelated constructions? (2) In the benefactive construction, unlike prototypical applicatives in many languages, *-kan* has the effect of making either a DP or a PP benefactive into an internal argument; it allows two different argument structures, a DP+DP or a DP+PP structure. How do we account for the compatibility of both structures with *-kan* and for the fact that *-kan* has the effect of allowing either type of argument to be a subcategorized constituent? (3) In the goal-PP construction, there seems to be a dependency between the addition of a goal prepositional phrase and the acceptability of *-kan* on the verb. Why is it the case that *-kan* is allowed only when the goal-PP is present in these constructions?

In order to correctly identify the function of *-kan* and account for the diversity of its uses in the constructions under investigation, I make use of an event-based approach. I argue that the presence of *-kan* in the aforementioned constructions is

not an instance of accidental homophony. Rather, I attribute it to the common event structures of these constructions; the suffix *-kan* is a morphological reflex of the aspectual component, i.e., a result-state, that is shared by those constructions. All the distributional facts noted above are claimed to fall out naturally from the event-based approach irrespective of the specific implementation needed to derive each construction.

Before discussing the main proposal, let us briefly turn in Section 5.4 to the question of the position of external arguments in Indonesian. I will then provide an outline of the current proposal in section 5.5. The subsequent subsections then demonstrate how the proposal is explicitly executed with each *-kan* construction.

5.4 External Arguments and Overt Realization of *v*

The position adopted in this dissertation regarding an external argument is that it is not a part of the verb's argument but is introduced by a separate verbal head *v*, comparable to Kratzer's (1996) Voice. Kratzer's external-argument-introducing Voice head can be applied naturally to Indonesian, since the relationship between external arguments and Voice, notated as *v* in the present analysis, is represented explicitly in the language. Indonesian manifests a clear morphological distinction between active sentences, in which the agent is the subject, and passive sentences, in which the patient or the theme is the surface subject, as shown in (186), repeated as (188).

(188) Active

a. John	***mem***beri-**kan**	surat	itu	kepada	Peter
John	meN-give-KAN	letter	the	to	Peter

'John gave a letter to Peter.'

Passive

b. Surat itu ***di***beri-**kan** kepada Peter (oleh John).
letter the DI-give-KAN to Peter (by John)
'The letter was given to Peter by John.'

As in (188), transitive active verbs are formed with the prefix *meN-* in (188a), whereas the passive verb is prefixed with *di-* in (188b). Therefore, I assume that *meN-* and *di-* are overt instantiations of a *v* head associated with an external argument (cf. Cole and Hermon 1998, 2000). Like in Korean, I assume that an external-argument introducing *v* in Indonesian licenses an internal argument of the root, as also assumed in Guilfoyle, Hung, and Travis (1992), Adisasmito-Smith (1998), and Aldridge (1999); the external-argument-introducing *v*, realized as *meN-*, checks its uninterpretable features by agreeing with a DP in a local domain and checks accusative case of the DP that agrees with *v*.

Following Ramchand (2003), among others, I will assume that the external argument introduced by *v* is interpreted as a participant involved in the initiating or causing event, rather than as an agent. Ramchand (2003), drawing on Rappaport and Levin (2002), among others, notes that external arguments can be volitional agents (189a-b), instrumentals (189c), or abstract causes/sources (189d-e), showing the generality and abstractness of the external argument relation.

(189) a. John broke the window.
b. John built that house.
c. The hammer broke the house.
d. The videotape from the secret camera demonstrated the truth of the matter.
e. The wind broke the window.

In Indonesian sentences with *-kan*, various thematic relations are also possible with respect to external arguments, as illustrated in (190).

(190) a. Kebakaran itu (Badai Tsunami) menewas-**kan** banyak orang.
Fire that (hurricane Tsunami) meN-die-KAN many people
'The fire/hurricane killed many people.'

b. Janet memecah-**kan** cangkirnya.
Janet meN-break-KAN cup-3
'Janet broke her cup (by accident).' – non-volitional

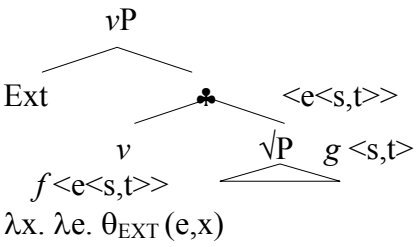
c. Wawancara itu memberi-**kan** ide untuk sebuah buku pada Taufik.
Interview that meN-give-KAN idea for one book to Taufik
'That interview gave the idea for a book to Taufik.'

d. Operasi yang sukses itu memberi-**kan** harapan pada Taufik.
surgery YANG successful the meN-give-KAN hope to Taufik.
'The successful surgery gave Taufik hope.'

As shown above, the agent is not the only possible interpretation between an external argument and an event in causative and ditransitive sentences. Therefore, I assume that agency does not directly determine the locus of causation or initiation even though an agentive interpretation of the external argument might be relevant for an appropriate interpretation in certain contexts; it may be possible that the semantic relationship between *v* and the external argument is simply a matter of construal. The interpretation of the external argument in Indonesian will thus not be restricted to an agent interpretation. Rather, it receives a broader range of thematic roles (e.g., agent, source, natural force), although the inventory is quite limited. For this reason, following the notation introduced by Pylkkänen (2002), the external argument in the semantic representation is indicated as $\theta_{\mathbf{EXT}}$, as was adopted for v_{CAUSE} in Korean. $\theta_{\mathbf{EXT}}$ is

understood as a variable ranging over different thematic relations such as an agent, a source, etc., as depicted in (191).

(191)



v in active sentences, the head of which is overtly realized as *meN-* in Indonesian, is interpreted as introducing an external argument, notated as θ_{EXT}.[83] The interpretation of the active *v* then combines with the denotation of √P by event identification (see section 1.4.2). I will assume that the syntax and semantics of *v* represented in (191) apply to all sentences with *meN-* throughout the chapter.

In terms of its external theta role feature, the verbal head *v* postulated for Indonesian phrase structure is comparable to the v_{CAUSE} assumed for causatives in Korean. They both contain the θ_{EXT} feature, which does not restrict the interpretation of the external argument to an agent. However, *v* is distinguished from v_{CAUSE} in terms of the presence of a CAUSE feature; I argued that the v_{CAUSE} postulated in Korean bears

[83] When *v* is realized as *di-* (i.e., a passive *v*), I assume that no external argument is projected in the specifier of *v*P. However, unlike unaccusative sentences, passive sentences still involve an agent interpretation which is optionally expressed by an agentive 'by' phrase. When the 'by' phrase is omitted, I assume that the agent interpretation is obtained by an operation of existential closure, i.e., existential closure over an external argument, as also assumed for HI passives with a prototypical argument structure in Korean (§ 4.2.4.2). The passive *v* lacks a case feature. Thus, internal arguments move to the next case checking position (e.g., [Spec, TP]) and receive nominative case by agreeing with T.

two features, θ_{EXT} and CAUSE, which yield a complex semantic interpretation (see 2.6.1.1). *v* postulated in Indonesian, however, bears only an external theta role feature, θ_{EXT}, but does not contain the CAUSE feature that is responsible for the meaning of causation for reasons discussed in the following section.

5.5 An Event-Based Account of *-kan*

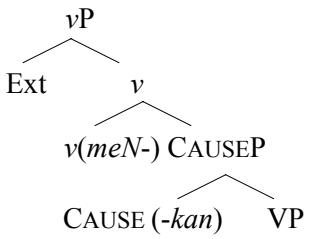
5.5.1 *-kan* is Not an Instantiation of CAUSE

We have seen in Chapter 1 that a CAUSE component is not only available as an ontological event type (or a semantic primitive) encoded in verbal meaning, but is also present as an abstract morpheme in the syntax. Empirical support for the postulation of CAUSE in the syntax (e.g., Hale and Keyser 1993) has been provided by the fact that CAUSE associated with an external argument is overtly realized in the morphology in languages such as Malagasy, Tagalog, and Japanese, just to name a few (Harley 1996; Travis, 2000; Davis and Demirdache 2000, among others). Korean, as discussed in the preceding chapters, is another source of evidence for the hypothesis that causative verbs, either lexical or morphological, are not atomic units but are decomposed into v_{CAUSE} and a root. Empirical support for this claim was drawn from adverbial modification with 'again' and the spell-out of v_{CAUSE} using morphology.

On the basis of the cross-linguistic similarity in causative constructions in which causation is marked by overt morphology, it would be natural to hypothesize that the suffix *-kan* is a morphological reflex of v_{CAUSE}, comparable to the suffix *-i-* in Korean. However, I reject this hypothesis for the following two reasons:

First, let us suppose that *-kan* is a morphological reflex of v_{CAUSE} that introduces an external argument, as would normally be assumed for causative constructions derived by an overt causative morpheme associated with an external argument. We noticed, however, that in Indonesian there exists a separate functional element that licenses an external argument, which is overtly realized as the prefix *meN-* (see §5.5.4). This would suggest that the verbal head that is responsible for the meaning of causation must occur as its own syntactic head independent of an external-argument introducing *v*, roughly represented as (192).

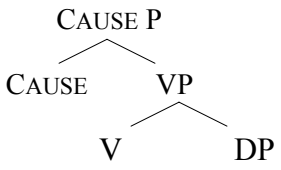
(192)



The idea of separating CAUSE from an external-argument-introducing *v* is not a novel one. It has already been proposed by Pylkkänen (2002), as briefly discussed in Chapter 2. Advocating a bi-eventive analysis of causative constructions, Pylkkänen (2002) argues that what universally distinguishes causative verbs from their non-causative counterparts is a syntactically implicit *event argument* ranging over causing events. That is, a universal property of CAUSE is to introduce an implicit event argument (i.e., a causing event) to the event of a base sentence (hence the bi-eventive approach), rather than an external argument. She claims that separation of CAUSE from Voice, an external-argument-introducing *v* in the current analysis, follows crucially from the

existence of unaccusative causatives in some languages (e.g., Finnish desiderative causatives). In unaccusative causatives, CAUSE introduces only a new event argument into the semantics of a non-causative counterpart expressed by VP; there is no individual (e.g., no agent) involved in the causing event. A syntactic structure for unaccusative causatives shown in (53) is repeated in (193).

(193) Unaccusative Causatives



Pylkkänen (2002) further argues that languages that do not exhibit unaccusative causatives (e.g., English) would not allow the structure in (193), in which CAUSE is separate from Voice. Korean has been shown to be similar to English, given that the two features, θ_{EXT} and CAUSE, are packaged into a single syntactic node (i.e., a single morpheme), analogous to Pylkkänen's Voice-bundling CAUSE.

In Indonesian, we do not observe any empirical evidence for the existence of unaccusative causatives either; all apparent causative constructions discussed in §5.2.1.1. involve new external arguments (e.g., agents) that are not present in their non-causative counterparts.[84] This may suggest that Indonesian behaves like Korean and

[84] The external argument need not be syntactically expressed; we can have a passive structure, as seen in (188b), where *v* is overtly marked by the passive morpheme *di-*. Even then, an implicit external argument (e.g., an agent) should be identifiable in the

English: I argued that causatives in Korean, for example, have a structure that has only one functional head (i.e., v_{CAUSE}) that bears both an external-argument (i.e., $\theta_{\mathbf{EXT}}$) and a CAUSE feature, analogous to Voice-bundling CAUSE in Pylkkänen (2002). However, we have already seen from the morphological make-up of Indonesian that the putative CAUSE morpheme, which contributes the meaning of causation to causative constructions, must be separate from an external-argument-introducing *v*; I argued that the prefix *meN-* is a morphological reflex of *v* that introduces an external argument, and that *-kan* is associated with a causative meaning. We could perhaps maintain the structure in (193) in which CAUSE is separate from an external-argument-introducing *v* and make a stipulation about why Indonesian does not allow unaccusative causatives.

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usual way, for example, by the possibility of a 'by-phrase' (although the 'by-phrase' can often be dropped). The existence of an implicit external argument in the passive is evidenced by the ungrammaticality of the following sentence with *sendiri* 'by itself', the expression of which is often used as a diagnostic for inchoativity (i.e., spontaneous eventiveness).

(xiv) *Cangkirnya dipecahkan sendiri.
Cup-3SG DI-break-KAN by itself
'The cup was broken by itself.'

In contrast, the bare verb, i.e., the non-causative counterpart, is natural with *sendiri*, as seen in (xv).

(xv) Cangkirnya pecah sendiri.
Cup-3SG break by itself
'The cup broke by itself.'

The contrast between (xiv) and (xv) thus indicates that when *-kan* is present on the verb a sentence always expresses an event that is brought about by some external individual, rather than an event that happens spontaneously. This is regardless of whether the sentence takes active or passive morphology.

However, as I will discuss below, an additional problem arises upon closer inspection of this hypothesis.

Another line of argumentation that could be employed against the treatment of *-kan* as a CAUSE predicate located above VP comes from the type of syntactic argument added by *-kan* suffixation. In spite of the necessity of postulating an external-argument introducing *v* separate from CAUSE, *-kan* may also appear to be responsible for the introduction of an external argument. This is due to the fact that the presence of *meN-* in apparent causatives is contingent upon the suffixation of *-kan* to base verbs: the prefix *meN-* can be attached to certain base verbs only when *-kan* is present. Affixation of *meN-* alone to verbal roots leads to ungrammaticality, as seen in (194).[85]

(194) a. *Janet memecah cangkirnya.
Janet meN-break cup-3
'Janet broke her cup.'

b. *Kecelakaan itu menewas banyak orang
accident that meN-dead many people
'The accident killed many people.'

c. *Ia memutih wajahnya.
3Sg meN-white face.3
'He whitened his face (caused his face to become white).'

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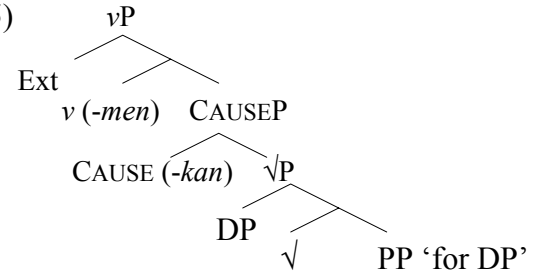
[85] The verb form *memecah* in (194a) is legitimate with a different meaning, i.e., 'split', as illustrated in (xvi).

(xvi) Janet memecah papan itu menjadi dua.
Janet meN-pecah board that becoming two
'Janet split the board into two pieces.'

However, the verb *memecah* without *-kan* for our intended meaning 'break (trans.)' leads to ungrammaticality.

However, when considering other *-kan* constructions, the suffix is not always associated with the introduction of an external argument. In *-kan* benefactives, for instance, the presence of an external argument is independent of the presence of *-kan*; in the transitive bases of the benefactive constructions discussed in §5.2.1.2. (e.g., (173a) and (174a)), the external arguments are already present in the base sentences, and thus the presence of *meN-* on the base verbs is independent of *-kan* suffixation. Furthermore, unlike the situation in apparent causatives in which an external argument is introduced, in benefactive constructions *-kan* adds an "internal" argument of the derived verb, regardless of whether it is a DP or a PP. If *-kan* is assumed to be a CAUSE head generated above VP, it is hard to explain the dependency between the suffix and the applied benefactive argument, particularly when the added argument is a PP, as shown in (195) (see § 5.2.1.2 for examples).[86]

(195)



[86] Postman (2002), who treats *-kan* as a transitivizer whose syntactic position is situated above VP, attempts to account for the close relation between *-kan* and benefactive arguments by DP movement. However, her analysis is restricted to the DP+DP frame and fails to account for the licensing of PP benefactives by *-kan* because they would violate the movement condition that she employs. See Postman (2002) for details of her syntactic account and Son and Cole (2005) for an argument against it.

The structure in (195) has the root selecting the benefactive PP as its complement. However, we have seen that it is the suffix *-kan* that licenses the presence of the PP in benefactive constructions; *-kan* makes the benefactive PP a subcategorized constituent (e.g., (168)). The structure given in (195) fails to capture the dependency between the suffix and the benefactive PP. Thus I discard the possibility of generating *-kan* as a CAUSE predicate external to √P.

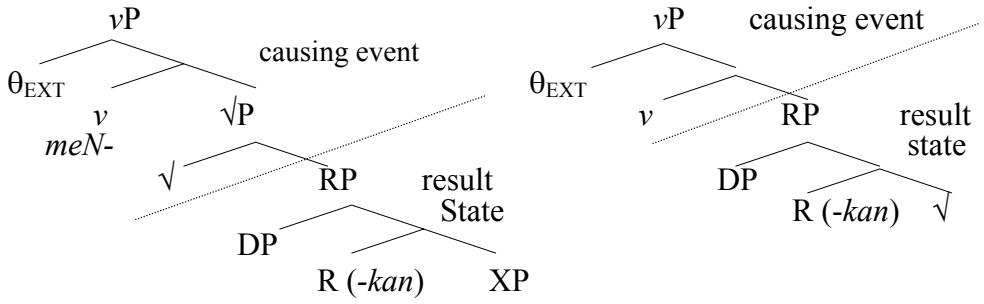
As discussed thus far, despite the superficial similarity between the causative morpheme *-i-* in Korean and *-kan* in Indonesian, they cannot be treated in the same way; the causative morpheme *-i-* in Korean has been analyzed as a morphological reflex of v_{CAUSE} which bears two features, θ_{EXT} and CAUSE; v_{CAUSE} introduces an external argument coupled with a causative meaning. However, in Indonesian, the functional element associated with the introduction of an external argument must be teased apart from the element associated with the meaning of causation. We could perhaps argue that *-kan* is a morphological reflex of an event-argument-introducing CAUSE in the sense of Pylkkänen (2002), and that it is located between VP (or √P) and an external-argument-introducing *v* (e.g., (192)). The structure for causatives in Indonesian would then be comparable to the structure proposed for languages like Finnish and Japanese (proposed by Pylkkänen 2002), which manifest unaccusative causatives. However, the treatment of *-kan* as a CAUSE predicate generated high in the syntactic structure would make it hard to correctly identify the function of *-kan* in the four seemingly unrelated constructions under consideration.

In order to resolve the problems identified above, I take a radically different approach to the function of *-kan* in an attempt to offer a unified semantic and syntactic account, which captures the distributional properties of *-kan* observed in Section 5.2. The current proposal is outlined in the following section and is implemented explicitly for each *-kan* construction in the subsequent subsections.

5.5.2 The Proposal: *-kan* as an Instantiation of RESULT

In order to explain successfully the properties of *-kan* observed earlier, I assume that the result state of a causative construction in Indonesian is explicitly represented in the syntax by a Result Phrase (RP), analogous to the Resultative Phrase proposed by Ramchand & Svenonius (2002). The basic structure that I propose for sentences associated with *–kan* is schematized roughly as (196).

(196) a. Transitive bases (e.g., *make*) b. Intransitive bases (e.g., *break*)



Instead of treating *-kan* as a CAUSE predicate (e.g., as proposed by Voskuil 1990), or as a transitivizer (e.g., Sie 1988), which is usually assumed to have a position somewhere above VP (=√P), in the syntactic structure (e.g., Postman 2002), I claim that

-kan is a morphological reflex of the head of a Result Phrase, a projection embedded low in the syntactic structure, as shown in (196). I further argue that, despite their seeming differences, the four aforementioned constructions, causatives, benefactives, goal-PP constructions, and inherent ditransitives, share certain event properties; they all involve the same aspectual components of a causing event and a result state, which correspond to separate verbal projections in the syntax. Notice, however, that the position of the root morpheme in the structure varies depending on the transitivity of a base verb with which *-kan* combines. This is due to the fact that the meaning contribution of a root with respect to the entire verb meaning differs between an intransitive base and a transitive base; when a base verb is intransitive, as in the case of apparent causatives (e.g., *break*), the root component denotes the result state of an event, i.e., *broken*. In contrast, when a base verb is transitive, as in the case of the other *-kan* constructions, the root component denotes a part of the causing event, rather than the result state (e.g., *make*). The difference in the meaning contribution of the root component to the complete verb meaning, therefore, corresponds to the different syntactic positions of the root, as illustrated above; a transitive root is a part of the verbal projection denoting a causing event, while an intransitive root is a part of the result-state-denoting constituent. Given that all *-kan* constructions under investigation have an identical syntactic structure, the occurrence of *-kan* in these constructions receives a natural explanation. I claim that *-kan* is a morphological reflex of the result head that projects RP, and this head is present in all *-kan* constructions. Therefore, the occurrence of *-kan* in these constructions is not coincidental.

Another important aspect of the analysis of *-kan* proposed in this work is that the semantics of the Result head gives rise to a causative interpretation, analogous to CAUSE in Pylkkänen (2002); RESULT is interpreted as building a causal chain between two eventualities, a result state and a causing event, so as to derive a causative meaning. In other words, in order to derive the correct interpretation of a causative sentence (e.g., *Janet broke the cup*), the semantics of RESULT ensures that eventuality A (e.g., *the cup is broken*) is a result state that is caused by eventuality B (e.g., *Janet does something to the cup*). The causal relation between two eventualities that RESULT establishes can be translated more technically as: the semantics of RESULT takes two functional arguments that describe a causing event *e* and a caused eventuality *e'* and states that the two eventualities are connected in a causal relation, i.e., *e'* is a result state of *e*, but not some other event *e"*. The semantics of RESULT is formalized in (197).

(197) Semantics of R^0 (*-kan*)
- Causatives: λf <e,<s,t>> λx. **λg <s,t>** λe. ∃e' [Result (e',e) & f (e',x) & **g (e)**]
- Other *–kan* constructions: λf <e<s,t>> λx. **λg <e<s,t>** λe. ∃e' [Result (e',e) & f (e',x) & g (e,x)]

RESULT in the formula is defined as 'for all eventualities *e* and *e'*, Result (e', e) is true if and only if *e'* is a result state of *e.* RESULT, therefore, establishes a causal chain between two eventualities, a causing event and a result state, expressed by functional arguments *g* and *f*, respectively. Notice that the semantic type of *-kan* can vary depending on the type of the functional argument *g*. Contingent upon the base predicate with which *-kan* combines, the semantic type of function *g* is either <s,t>, a proposition

type, or <e<s,t>>, a function from individuals to proposition. If the base verb is intransitive, as in the case of causatives, *g* is of type <s,t>, which only has an event argument. If the base verb is transitive, *g* is of type <e <s,t>>, which has an individual argument and an event argument, as in the case of other *-kan* constructions (e.g., benefactives). Given that *-kan* has a different type depending on whether a base verb is intransitive or transitive, the semantic function of *-kan* may appear to be only semi-uniform. However, the core meaning of *-kan* is unified in the sense that in all *-kan* constructions it is interpreted as establishing a causal relation between two eventualities.

RESULT (e', e) is more or less the same as CAUSE (e, e') in other people's semantics (e.g., Pylkkänen 2002). However, I choose RESULT over CAUSE since the caused eventuality is always a state for the *-kan* constructions under investigation. With the proposed semantics of R, which covers the function of CAUSE in other people's semantics, the postulation of an abstract CAUSE predicate in the semantic-syntactic representation of causatives is not necessary.

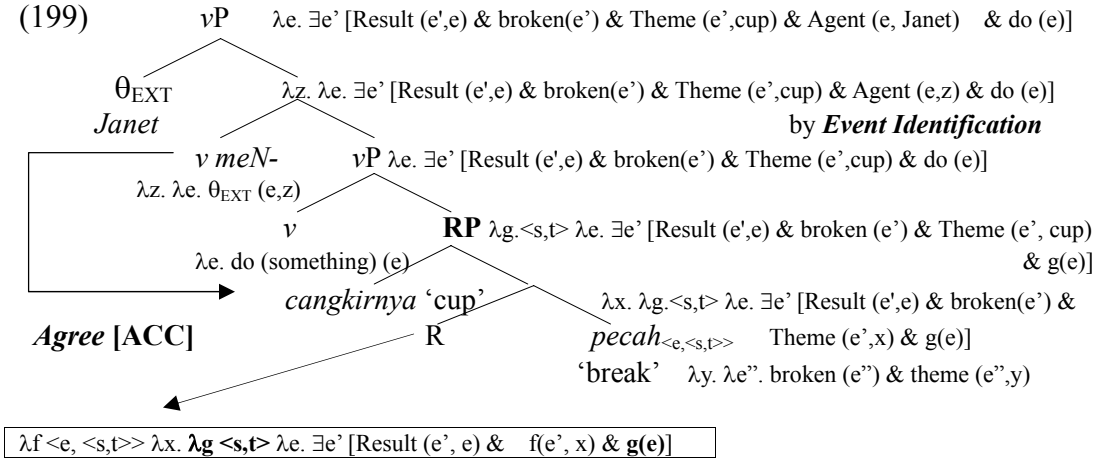
5.5.2.1 Representation of Causatives

Let us consider first how the idea of treating *-kan* as an overt instantiation of the Result head can be implemented for causative constructions. Example (159) is repeated as (198).

(198) a.	Cangkirnya	pecah.	b.	Janet	memecah-kan	cangkirnya.
	cup-3	break		Janet	meN-break-KAN	cup-3
	'The cup broke'			'Janet broke her cup.'		

Adopting the theory of predicate decomposition in the syntax, I assume that a verb itself does not directly encode a complete, well-formed lexical-semantic and syntactic structure. Rather, a verb's meaning is distributed through separate morphemes present in the syntax. Indonesian provides empirical support for this hypothesis since separate meaning components are reflected in the morphology in a transparent manner; *men-* is the morphological reflex of an external-argument-introducing *v* which constitutes part of a causing event. *-kan* is a morphological reflex of a result-state-denoting constituent, RP, in the current analysis. *Pecah* 'broken' is the spell-out of a root morpheme denoting the core part of the complex verbal meaning. Based on the proposal that *-kan* is a morphological reflex of an RP, the causative sentence (198b) can be syntactically represented as (199).[87]

[87] As mentioned in footnote 84, *-kan* can be inserted in a syntactic structure only when it contains a verbal projection that denotes a causing event; i.e., when a result state is brought about by some external individual/force. The dependency between the presence of *-kan* in the syntactic structure and the existence of a verbal projection denoting a causing event follows from the semantics postulated for the Result head; the semantics of RESULT gives rises to a causative interpretation and takes a functional argument denoting a causing event as its argument. Due to the semantics of R, *-kan* cannot appear in the syntactic structure of unaccusative verbs, which do not entail a causing event. Presumably, unaccusative predicates (e.g., *pecah*) merge with v_{INCHO}, which licenses an inchoative meaning, or v_{BE}, which gives rise to a stative meaning, given that *pecah* is ambiguous between an inchoative (i.e., *break*) and a stative (i.e., *be broken*) interpretation.



In (199), the result state, 'the cup is broken', is expressed inside the RP, the head of which is overtly realized as *-kan*. Based on the proposed semantics of R in (197), the RESULT takes the function *f* as its first argument which corresponds to the result state (e.g., *the cup being broken*). The result state is expressed by the root component *pecah* 'broken'. The R further takes the function *g* which denotes a causing event as a solution for deriving the correct semantic composition.[88] The causing event denoted by the functional argument *g* is represented by verbal projections above RP in the syntax. The semantics of R then states that the two eventualities are linked together in a causal relation.

Notice that I postulate an intermediate *v* component in (199), which has the meaning roughly as 'do something'. The postulation of the lower *v* is due to the fact that the causation expressed in (198b) need not involve a direct (physical) action imposed on the theme that undergoes a change of state; (198b) can be interpreted as either 'Janet

[88] This approach, in which *-kan* takes a *v*P as its argument, is inspired by the interpretation of low applicative heads proposed by Pylkkänen (2002).

deliberately broke the cup (by throwing it away or dropping it on the floor)' or 'Janet broke the cup by shaking the table on which the cup was placed.' I assume that such an unspecified action is represented in the logical form of *v*, which tells us that Janet did something, and the cup broke, but it does not specify exactly what Janet did to break the cup. The compositional interpretation of (199) proceeds as indicated in the proposed structure. The interpretation based on the semantic composition in (199) can be expressed as 'a set of eventualities *e* such that Janet is the agent of doing something in *e* and there is *e'* such that the cup is broken in *e'*, and *e'* is the result of *e*.'

Another key assumption adopted here is that all arguments receive case in their base position, as also assumed for case assignment in Korean (in this dissertation) and Tagalog by Rackowski (2002). Case is assigned either by the licensing head (i.e., inherent case) or through a structural case mechanism via Agree, stated in (10). (10) is repeated in (200).

(200) **Agree**: establishes a relation (agreement, Case checking) between an LI (lexical item) α and a feature F in some restricted search space (its domain).

As discussed in Section 5.4., I assume that the external-argument-introducing *v* in Indonesian licenses an internal argument, like in Korean. Thus the external-argument-introducing *v* head, realized as *meN*-, in (199) probes for the uninterpretable feature (i.e., [+ accusative case]) in its c-command domain. When it finds this feature it establishes an Agree relation with the DP bearing the feature, i.e., *cangkirnya* 'the cup' in (199). The direct object is thus assigned accusative case by agreeing with the external-

argument-introducing *v*. T assigns nominative case to the subject via Agree; T is also a Probe looking for a [+ nominative case] goal. T^0 is in an Agree relation with the subject DP, which is in T's c-command domain and which is closer to T than is the object DP. The subject raises to [Spec, TP] to satisfy the EPP feature of T^0. (The projection of TP is presupposed in all sentential representations, although for presentational simplicity it is omitted throughout the paper.)

5.5.2.2 Representation of Benefactives

The idea that *-kan* is a realization of the Result head, which is deeply embedded in the syntactic structure, can be extended fairly straightforwardly to benefactive constructions.

A growing body of literature (e.g., Harley 2002; Beck and Johnson 2004) has argued that benefactive double-object verbs like 'make' are parallel in lexical meaning and underlying structure to explicit causatives. In particular, Harley (2002), building on Pesetsky (1995), has claimed that double-object verbs like 'make' and 'cook' (e.g., (164)) are decomposable into two heads: an external argument-selecting CAUSE predicate and a prepositional element P_{HAVE} which encodes a result state. If we adopt the idea of treating (benefactive) double-object verbs as parallel to explicit causatives in Indonesian, the structural configuration and semantics proposed for apparent causatives can extend naturally to the *-kan* benefactives.

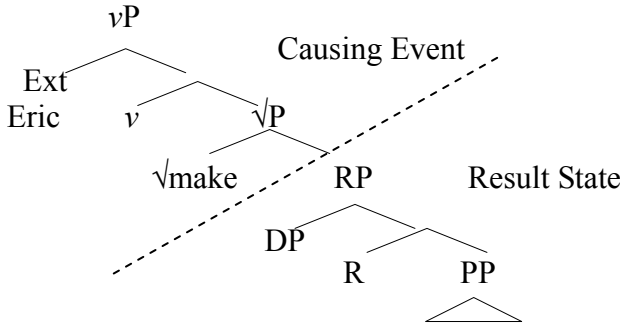
The benefactive sentences with *-kan* in (164a) and (168b) are repeated as (201).

(201) a. Eric membuat-**kan** anak-nya rumah-rumahan itu.
Eric meN-make-KAN child-3 RED-house-AN the
'Eric made his child a toy house.'

b. Eric membuat-**kan** rumah-rumahan itu **untuk** anak-nya.
Eric meN-make-KAN RED-house-AN the for child-3
'Eric made a toy house for his child.'

In the earlier section (§5.2.1.2), we observed that the two variants of the *-kan* benefactive, a DP+DP (e.g., (201a)) and a DP+PP (e.g., (201b)) frame, involve a necessary possession relation. I assume, therefore, that the verbal meaning of the benefactive 'make', i.e., the verb root combined with *-kan*, in (201) implies, as part of its meaning, that there is a causation of change of possession. The structure I propose for (201) is represented roughly as (202), which expresses complex event structures composed of a causing event and a result state.

(202)

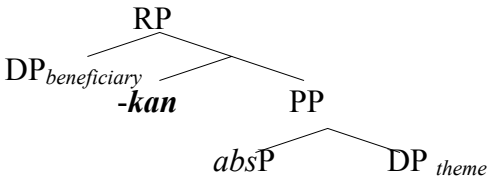


The semantic output that the structure in (202) will produce is roughly as follows: 'the event of Eric's making (the toy house) brings about a result state in which the child is the possessor of the toy house.' The result state denoting the possession relation between two individuals is encoded in the meaning of PP, which is taken as a

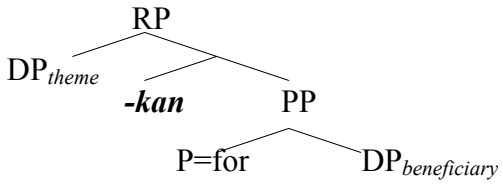
complement of RESULT.

Given that the two variants of the *-kan* benefactive show a different syntactic pattern in terms of passivization (see §5.2.1.2), I take a base-generation approach to the two different structures compatible with *-kan* (cf. Harley 2002; Ramchand 2003; Beck and Johnson 2004). I assume that the benefactive argument can be realized either in [Spec, RP] as a subject of the result state, as shown in (203a), or as a complement of PP selected by the R head, as shown in (203b).

(203) a. DP+DP Frame



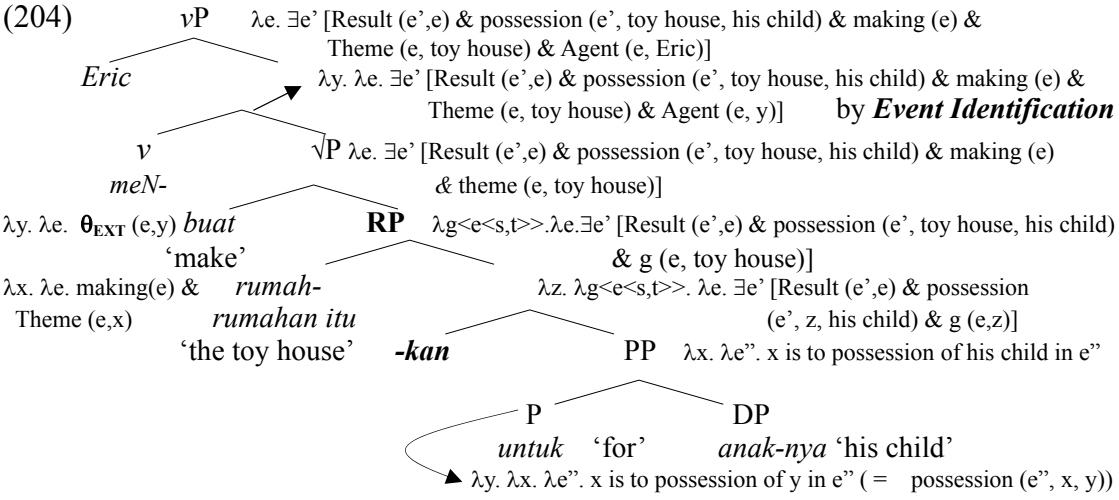
b. DP+PP Frame



In Section 5.2.1.2, it was shown that in the DP+DP frame *-kan* adds a benefactive DP to the argument structure of the derived verb. In the DP+PP frame, *-kan* makes the benefactive PP a subcategorized constituent. In the former, I assume that the benefactive DP is introduced by *-kan* in [Spec, RP] in a fashion similar to the introduction of an applied argument in low applicatives in Pylkkänen (2002). In the latter, I assume that the benefactive PP is selected by *-kan* as its complement. This explains the status of the benefactive PP (or *for*-benefactive) as internal to the argument structure of the derived

verb when *-kan* is present.[89] Thus, under the proposed structures in (203), a close relation between *-kan* and the benefactive argument in both frames is ensured; *-kan* is the locus for projecting the benefactive argument regardless of whether it is realized as a DP or a PP. Let us first consider a fully specified semantic and syntactic representation of (203b), which is illustrated below.

(204)



In the benefactive, the result state is expressed by PP, which involves a necessary possession relation between the goal and the theme. This denotation is reflected in the semantics of P, as shown above.[90]

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[89] The *for*-benefactive in the corresponding transitive sentence without *-kan* is external to √P, and presumably is adjoined to some higher functional projection as a modifier (cf. Beck & Johnson 2004).

[90] The semantics of the benefactive *-kan* construction indicates that the causing event –'Eric making a toy house'- must entail the result state of a possession relation between the goal (e.g., the child) and the theme (e.g., the toy house). However, careful consideration of the meaning of the benefactive *-kan* construction leads to some complexity with respect to its semantic representation; a causing event of the benefactive *-kan* construction does not seem to necessitate a result state of a possession relation between two objects. Although Eric's *intention* of making the toy house might

I assume that the semantic representation of the DP+DP frame is identical to that of (204), except for the reversed order of the theme and the benefactive argument that is first interpreted. As shown in (203a), I further postulate a phonologically null P for the DP+DP frame, which corresponds to an overt 'with' (cf. Pesetsky 1995). I assume that the phonologically null category P is not semantically vacuous but has a semantic denotation identical to that of the overtly realized P in (204).[91] The structure

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have been to give it to his child, things could have turned out in a way different from Eric's intention after the making event; there is a possibility that the child may have never received the toy house – perhaps, he was sent to another country to visit his relatives without Eric's knowledge. Therefore, assuming the syntax and semantics of the benefactive *-kan* construction as exactly parallel to those of the apparent causatives (§6.1) makes an incorrect prediction about obtaining the result state of the benefactive *-kan* construction. One way to resolve this interpretive problem is to intentionalize the semantics of the benefactive *-kan* construction; we posit an intentional operator PROG, as illustrated in (xviii). The semantic representation given in (xvii) no longer entails that the child has or had the toyhouse.

(xvii) [$_{VoiceP}$ Eric VOICE [$_{VP}$ making [***PROG*** [$_{RP}$ RESULT the child has the toy house.]]]]

PROG is defined as:

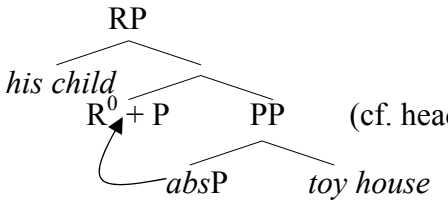
(xviii) ⟦PROG⟧ (P)(e)=1 iff *e* could plausibly have continued and become a larger event *f* such that P(f)=1

Here we adopt the intentional operator PROG of Beck and Johnson (2004) which was proposed for English (benefactive) double object constructions. They notice a similar interpretational complication for English (benefactive) double object constructions and show that the double object constructions involve intuitions similar to the imperfective paradox that is normally exhibited by progressives. Thus, they conjecture that PROG is the same meaning component as Landman's (1992) intentional operator posited for progressives. See Beck and Johnson (2004) for detailed discussion.

[91] Positing a phonologically null category P in the DP+DP frame is conceptually plausible, since it allows the core part of the logical form of *-kan* to be uniform in apparent causatives and other *-kan* constructions (e.g., benefactives and goal-PP

in (203a), however, makes it hard to derive our intended semantics. I therefore propose that the null P head is incorporated into R, as depicted in (205), in order to derive the correct semantic composition.

(205) Syntactic and Semantic Incorporation of P to R^0 [92, 93]

a. 

(cf. head movement: Pesetsky 1995; Ramchand 2003)

b. **R^0 + P** : λx. λz. λg <e<s,t>. λe. ∃e' [Result (e', e) & possession (e', z, x) & g (e, x)]]

Applied to RP, (205) then yields our intended semantics for the DP+DP frame as follows:

(206) a. ⟦R'⟧ = λz. λg <e<s,t>. λe. ∃e' [Result (e',e) & possession (e', z, toy house) & g (e, **toy house**)]]

b. ⟦RP⟧ = λg <e<s,t>. λe. ∃e' [Result (e',e) & possession (e', his child, toy house) & g (e, **toy house**)]]

c. ⟦√P⟧ = λe. ∃e' [Result (e',e) & possession (e', his child, toy house) & making (e) & Theme (e, toy house)]

d. ⟦*v*'⟧ = λy. λe. ∃e' [Result (e',e) & possession (e', his child, toy house) & making (e) & Theme (e, toy house) & Agent (e,y)]

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constructions): *-kan* takes a function of type <e<s,t>> denoting a result state as its first argument.

[92] The incorporation of P into R applies only when P is phonologically null.

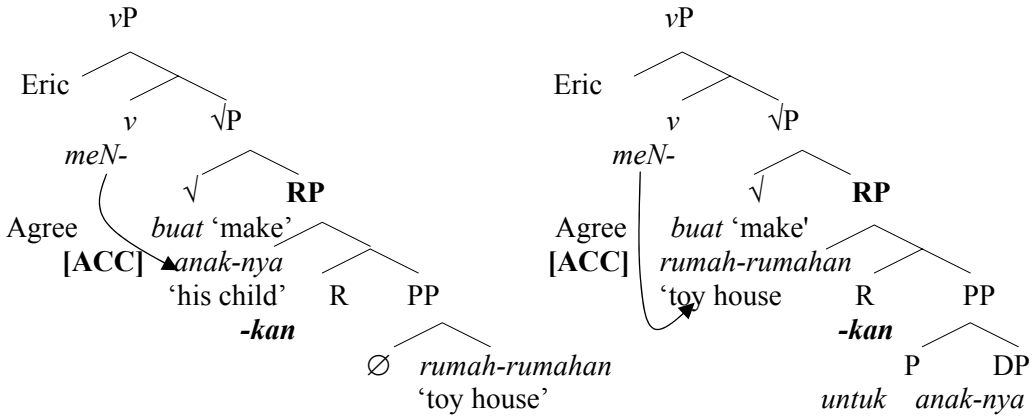
[93] For the sake of interpretation, I assume that when a head is phonologically null an incorporation process does not leave a trace.

e. ⟦*v*P⟧ = λe. ∃e' [Result (e',e) & possession (e', his child, toy house)
& making (e) & Theme (e, toy house) & Agent (e, Eric)]

The interpretation based on the semantic computation given in (206e) where incorporation has applied can be expressed as 'a set of eventualities *e* such that *e* is making the toy house and Eric is the agent of *e* and there is an *e'* such that his child is in possession of the toy house in *e'* and *e'* is the result state of *e*.'

When the applied object is realized in [Spec, RP], as in (207a), it is licensed structurally by the external-argument-introducing *v* head via Agree; the benefactive DP is assigned accusative case by agreeing with *v*. When the benefactive PP is realized as a complement of *-kan*, it is the theme argument in [Spec, RP] that is licensed structurally by *v* via Agree, as illustrated in (207b).

(207) a. DP+DP Frame b. DP+PP Frame



v probes for the uninterpretable feature, [+acc], in its c-command domain. When it finds the first overt DP bearing this feature, i.e., the beneficiary in (207a) and the theme

in (207b), it establishes an Agree relation with it. In (207a), the $DP_{beneficiary}$, which is the closest DP to *v*, checks its uninterpretable case feature against the functional head by Agreeing with it. In (207b), the closest DP to *v* is the DP_{theme}, and thus the DP_{theme} checks the uninterpretable features of *v* and is assigned accusative case by agreeing with *v*. I further assume that the theme argument in (207a) is assigned inherent case by the licensing head P. The benefactive argument in (207b) is assigned inherent case by overtly realized P, *untuk* 'for'.

5.5.2.3 Representation of Goal-PP Constructions

Let us now consider how the proposed analysis of *-kan* accounts for the (optional) presence of *-kan* in goal-PP constructions. Example (185b) is repeated as (208b) with its base sentence in (208a).

(208) a. Wim menuang air itu.
Wim meN-pour water the
'Wim poured the water.'

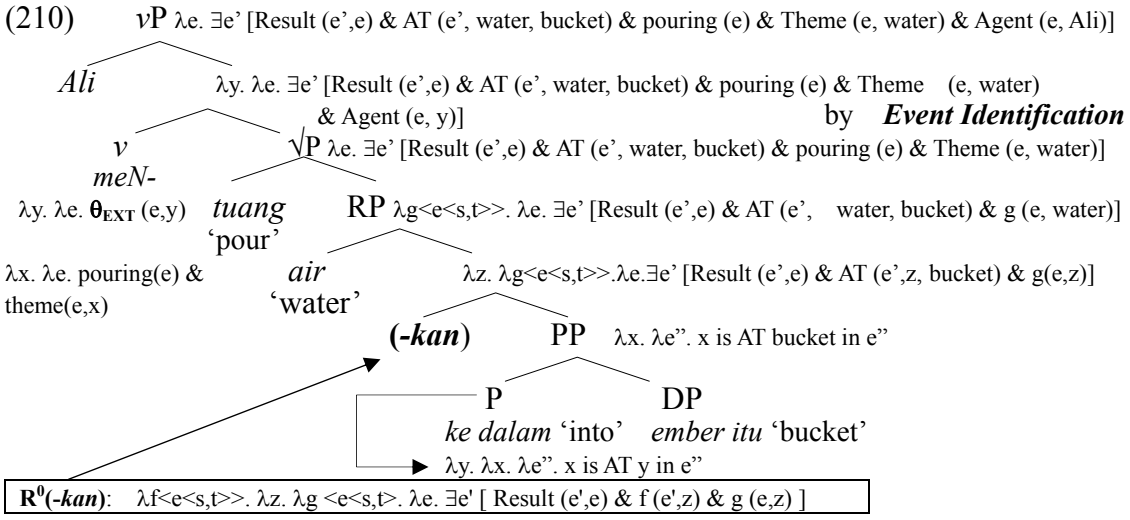
b. Wim menuang-(**kan**) air itu **ke** **dalam** **ember** **itu**.
Wim meN-pour-KAN water the to in bucket the
'Wim poured water into the bucket.'

The pair of examples in (208) looks very much like the English goal-PP construction discussed, for example, by Beck and Snyder (2001): As shown in (209), when an activity verb like 'run' combines with a directional PP like 'to the summit', the additional PP turns the activity verb into an accomplishment verb, which by definition has an endpoint (or a culmination point) of the action.

(209) a. John ran to the summit in 5 min./ *for 5 min. (Beck and Snyder 2001)
b. Mary pushed the cart to the mall.

Analogous to Beck and Snyder's account for this kind of constructions in English, I treat goal-PP constructions in (208) as a type of resultative. I further argue that the directional PP has the effect of creating an additional aspectual constituent, i.e., RP, and the result state of the theme that undergoes a change of location is expressed inside the RP. Therefore, the semantic and syntactic structure of (208b) can be represented along the lines of (210), similar to the structure of benefactives with a DP+PP frame (e.g., 204).

(210)



I interpret prepositions that take locational DP objects in goal-PP constructions as uniformly meaning 'AT' in logical structure. The predicate AT expresses an abstract notion of a final location of the theme that undergoes movement. AT may surface in various forms depending on the dimension of the final location (e.g., at, in(to), on, etc.);

while the P in benefactives encodes a possession relation between the goal and the theme, AT expresses a rather abstract notion of a locational end point. On the assumption that the addition of a goal-PP has the effect of adding an RP to the syntactic structure of the base predicate, the explanation for the presence of *-kan* in this construction follows naturally; *-kan* is an overt realization of the R head, and thereby explains the acceptability of the sentence with *-kan* when a goal-PP is added.

5.5.2.4 Representation of Inherent Ditransitives

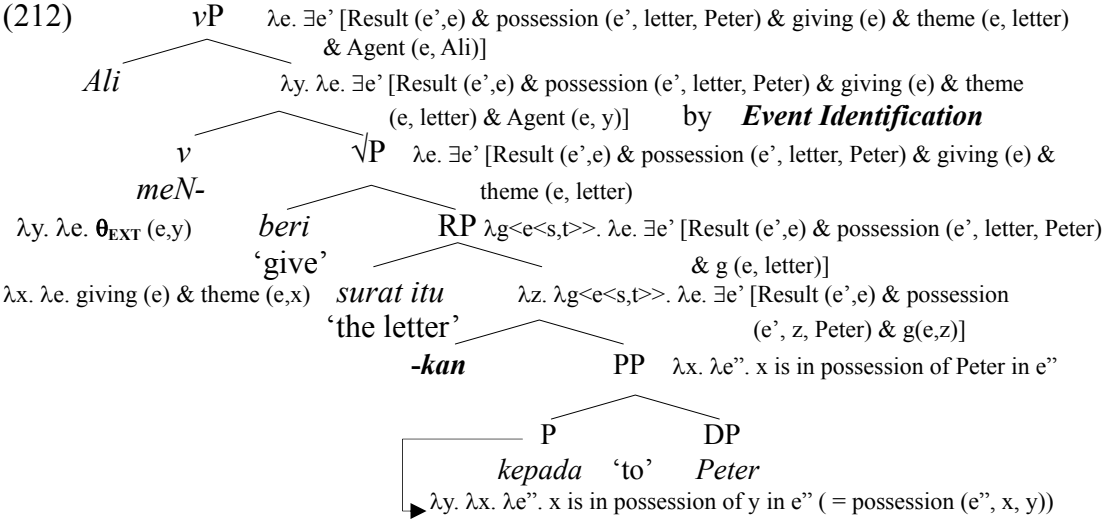
The proposed syntax and semantics for benefactives extends fairly straightforwardly to inherent ditransitives, given that a possession relation between two individuals (i.e., the theme and the recipient) is necessary in the inherent ditransitives as well. Example (186a) is repeated as (211).

(211) Ali memberi-**kan** surat itu kepada Peter.
Ali meN-give-KAN letter the to Peter
'Ali gave a letter to Peter.'

The possessive implicature in the two variants of the *-kan* benefactive has been argued to be derived only when *-kan* is present on the verb. In inherent ditransitives, however, the implication of possession between two individuals (i.e., the theme and the recipient) is independently motivated by the particular semantics of the verbs like *give* and *entrust,* as noted by Krifka (1999), among many others. That is, when the object is given or entrusted, the object is understood to be in the possession of the recipient at the end of the event. Therefore, I argue that inherently ditransitive sentences have a

structure that is equivalent to the structure of the DP+PP variant of the *-kan* benefactive shown in (204). The presence of *-kan* in (211) then follows from the inherent verbal meaning that involves complex event structures; inherently ditransitive verbs are also decomposed into a verbal projection that denotes a causing event and a result state that expresses a possession relation between two individuals. The occurrence of *-kan* in inherent ditransitives then is precisely what we would predict; there exists a Result head in the syntax of inherent ditransitives. *-kan* is a morphological reflex of this head that projects an RP, the semantics of which involves a transfer of possession relation as a result of a causing event. This possession interpretation again is encoded in the semantics of P, which is overtly realized as 'to' in inherent ditransitives. The underlying semantic and structural representation for inherent ditransitives thus can be represented along the lines of (212), similar to (204).

(212)

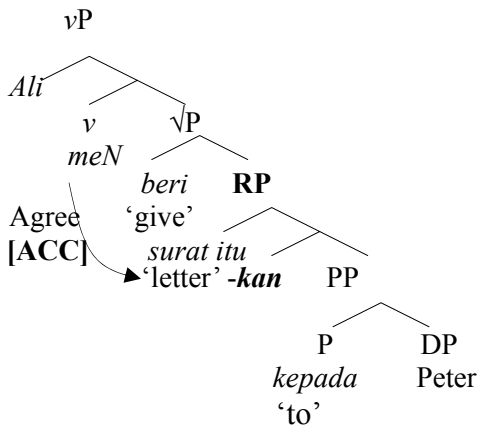


The logical form of *-kan* and the semantic representation of the inherently ditransitive

sentence given in (212) are virtually identical to the DP+PP frame of the benefactives shown in (204). The interpretation based on the semantic computation given in (212), therefore, can be expressed as 'a set of eventualities *e* such that *e* is giving the letter and Ali is the agent of *e.* There is an *e'* such that Peter is in possession of the letter in *e'*, and *e'* is the result state of *e*.'

In (212), the theme DP, *surat itu* 'the letter', is higher than the recipient DP, *Peter*. Thus, as shown in (213), it is the theme DP that is in an Agree relation with the external-argument-introducing *v* and receives accusative case. The recipient DP, *Peter*, is assigned inherent case by its licensing head *kepada* 'to'.

(213)



In many languages, the caused eventuality that involves the implication of possession associated with inherently ditransitive verbs is lexically encoded in a single verb (e.g., *give* in English). In Indonesian, however, the subpart of verbal meaning that encodes a caused eventuality with the possessive interpretation is explicitly realized by *-kan* in the morpho-syntax, thereby supporting the theory of predicate decomposition in the syntax.

5.6 Another Instance of *-kan* and Some Speculation

The analysis of *-kan* advanced in the preceding sections attempts to cover most of the productive uses of the morpheme. Nevertheless, there are instances in which the appearance of *-kan* does not seem to follow from the current proposal. In the examples shown in (214) and (215), for instance, the occurrence of *-kan* does not appear to indicate the existence of a result state implicated in the sentences. Rather, the sentences give an impression that *-kan* marks the occurrence of the patient/theme as the primary object of the verb, as noted, for example, by Sneddon (1996) and Cole and Son (2004).[94]

(214) a. Dia merunding-**kan** rencana baru.
3SG meN-discuss-KAN plan new
'He discussed a new plan.'

b. *Dia merunding rencana baru.
3SG meN-discuss plan new
'He discussed a new plan.'

(215) a. Dia tidak memikir-**kan** saya.
3SG not meN-think-KAN 1SG
'She does not think about me.'

b. *Dia tidak memikir saya.
3SG not meN-think 1SG
'She does not think about me.'

[94] Cole and Son (2004) is an earlier version of this work which is quite different from the analysis presented in this chapter. The analysis advanced here provides a unified semantic account of the various uses of *–kan*. On the other hand, Cole and Son (2004) provided a syntactic account of the facts, and assumed that a unified semantics was not possible.

c. Yassir pikir [saya di Jakarta].
Yassir think 1SG in Jakarta
'Yassir thinks that I am in Jakarta.'

d. *Yassir pikir-**kan** [saya di Jakarta].
Yassir think-KAN 1SG in Jakarta
'Yassir thinks that I am in Jakarta.'

Cole and Son (2004) describe the suffix *-kan* in the sentences above as an object marker, given that the role of *-kan* appears to be that of licensing the appearance of a nominal object. This is shown by the ungrammaticality of (214b), in which *-kan* is absent. Similarly, in (215) *-kan* is obligatory if the root *pikir* is to have a nominal object—though the suffix cannot be used if the verb root takes a clausal complement, as in (215c) and (215d).[95] The occurrence of the nominal argument as a direct object is ungrammatical with these verbs unless the suffix *-kan* is present. It should be noted that these cases are neither causative nor benefactive in interpretation. Furthermore, there is no conceivable result state implicated in the meaning of the sentences.

It is unclear at this point how to explain the occurrence of the same morpheme in the sentences above. One thing that seems to be clear is that these sentences do not entail a complex event structure, unlike the aforementioned *-kan* constructions. The verbs appearing in (214) and (215), √*pikir* 'think' and √*runding* 'discuss', are non-eventive predicates (e.g., proposition verbs). Thus these sentences

[95] Sneddon (1995) states that in sentences like (214) and (215) *-kan* has no other function than identifying the object as the patient of the action. *-kan* is simply required to produce a well-formed verb. See Seneddon (1996, p.69) and Dardjowidjojo (1983: 7), *inter alia*, who present lists of verbs with which *-kan* appears to mark the object as a patient.

cannot receive the same treatment as the *-kan* constructions discussed in the preceding sections, which involve complex event structures . Because it is difficult to relate the occurrence of *-kan* in sentences like (214) and (215) to the current analysis due to semantic properties of the predicates, I leave this other occurrence of *-kan* as accidental homophony.

5.7 Conclusion

It has been argued so far that the occurrence of *-kan* in four seemingly unrelated constructions in Indonesian can be explained in a quite straightforward way, provided that events are analyzed as grammatical entities made available in the semantic and syntactic representations of predicates. I argued that the four constructions associated with *–kan* have the same semantic and syntactic representations that reflect complex event structure; they are composed of a causing event and a result state. Adopting the theoretical position that event decomposition of predicates is directly reflected in the syntax, I provided a unified syntactic and semantic account of *-kan* by arguing that *-kan* is a morphological reflex of the head of a Result Phrase embedded low in the syntactic structure. I demonstrated, therefore, that the presence of *-kan* in these four constructions is not merely an instance of accidental homophony, but reflects the internal event structure that these constructions share.

The postulation of an abstract CAUSE head in verbal meaning has been argued to be (morpho-)syntactically substantial since in many languages the component that expresses the meaning of a causing event is overtly realized (e.g., a causative

morpheme associated with an external causer). However, in many languages the result state is not expressed by special morphology, but rather is incorporated in the meaning of specific verbs in apparent causative and double-object constructions or goal-PP constructions. In contrast, in Indonesian, I argued that it is the Result head that is overtly realized in the morpho-syntax of such constructions, rather than the CAUSE head, due to the complications that arise otherwise. Furthermore, I proposed that the meaning of causation (i.e., a causal relation between two eventualities) is encoded in the Result head by interpreting it as building a causal relation between two eventualities, just like the typical CAUSE head proposed in other people's semantics. The analysis of *–kan* advanced in this work thus avoids the postulation of an abstract CAUSE predicate in the semantic and syntactic representations of *-kan* constructions.

By analyzing *-kan* as an overt instantiation of the Result head, the current analysis not only provides a unified account of *–kan* but it also brings new empirical support for the existence of a result-state-denoting constituent in the syntax of double-object verbs (e.g., Harley 2002; Beck and Johnson 2004) and goal-PP constructions (e.g., Beck and Snyder 2001).

CHAPTER 6

Concluding Remarks

I have shown so far that the theory of syntactic decomposition of predicates can provide simplified and straightforward explanations for a number of linguistic phenomena in Korean and Indonesian. I showed that the scope ambiguity of the eventive adverb *tasi* 'again' associated with lexical and morphological causatives in Korean can be easily accounted for if we adopt the syntactic decompositional model of predicate formation. It was also shown that an abstract CAUSE present in the underlying representation of causatives is overtly realized by the suffix *-i-*, which shows a close correlation between the semantic decomposition of events and the morpho-syntax. Indonesian has also been argued to provide empirical support for the syntactic decomposition of events. I argued that Indonesian manifests an overt instantiation of a RESULT predicate that I postulated in order to accommodate the facts peculiar to Indonesian; the verbal suffix *-kan* is lexically ambiguous occurring in seemingly unrelated constructions, causative, benefactive, goal-PP and inherently ditransitive sentences. In order to provide a correct characterization of the function of *-kan*, I argued that *-kan* is a morphological reflex of the result head situated low in the syntactic structure, rather than CAUSE. Due to the semantics of the RESULT that gives rise to a causative interpretation, the postulation of an abstract CAUSE morpheme in the underlying representation of causatives and

benefactives was not necessary.

The analysis propounded in this work is of both empirical and theoretical interest because it raises questions concerning whether languages differ in the way semantic components of events are mapped into the syntax, i.e., whether or not different languages grammaticalize the same semantic components of events. Although it is rather premature to make a broader typological claim, close investigation of causative constructions in Korean and Indonesian indicates that although both languages form causative verbs by means of an overt morpheme, they nevertheless differ in terms of which semantic component of causation is reflected in the syntax. In Korean, it is the CAUSE predicate associated with an external argument that is overtly realized in the (morpho-)syntax. In Indonesian, however, it is the RESULT predicate that receives an overt realization, and the RESULT is irrelevant to introducing an external argument, unlike CAUSE in Korean.

Bibliography

Adisasmito-Smith, N. 1998. Sentence structure and adverbs in Indonesian. *Cornell Working Papers in Linguistics* 16: 1-33.

Aldridge, E. 1999. Word order and case checking in Austronesian Languages. Unpublished Ms., Cornell University, Ithaca, NY.

Anagnostopoulou, Elena. 2000. Two Classes of Double Object Verbs: The Role of Zero Morphology. Paper presented at the 23rd GLOW workshop.

Arad, Maya. 1998. VP-Structure and the Syntax-Lexicon Interface, Ph.D. Dissertation, University of College London.

Arka, I. W. 1992. The *-kan* causative in Indonesian. M.Phil. Thesis, University of Sydney, Sydney.

Bach, E. 1981. On Time, Tense, and Aspect: An Essay in English Metaphysics. In Peter Cole (ed.), Radical Pragmatic, Academic Press, New York.

Baker, Mark. 1988. Theta theory and the syntax of applicatives in Chichewa, *Natural Language and Linguistic Theory* 6:353-389.

Beck, Sigrid and Snyder, William. 2001. Complex predicates and goal PP's: evidence for a semantic parameter. *Proceedings of the 25th Annual Poston University Conference on Language Development*, Vo.1, 114-122. In Anna H.-J. Do, Laura Dominguez, and Aimee Johansen (eds.) Somerville, MA: Cascadilla Press.

Beck, Sigrid and Johnson, Kyle. 2004. Double object again. *Linguistic Inquiry*, Vol. 35. Issue 1, 97-123. MIT Press.

Borer, Hagit. 1994. The projection of arguments. In E. Benedicto and J. Runner (eds.), *Functional Projections*. University of Massachusetts Occasional Papers 17. Amherst MA: GLSA, Dept. of Linguistics, University of Massachusetts.

Bowers, Johnson. 1993. The syntax of predication. *Linguistic Inquiry* 24, 591-656. MIT Press.

Bresnan, Joan and Lioba, Moshi. 1990. Object asymmetries in comparative Bantu syntax. *Linguistic Inquiry* 21, 147-185.

Bruening, Benjamin. 2004. Verbal Reciprocals. Ms. University of Delaware.

Burzio, Luigi. 1981. Intransitive verbs and Italian auxiliaries, MIT: PhD Dissertation.

Burzio, Luigi. 1986. *Italian Syntax*: Studies in Natural Language and Linguistic Theory. Dordrecht: Reidel.

Carter, R. J. 1976. Some Linking regularities. In *On linking: Papers by Richard Carter,* ed. B. Levin and C. Tenny, 1–92. Cambridge, MA: Lexicon Project, MIT Center for Cognitive Science

Chierchia, Genaro. 1989. A Semantics for Unaccusatives and Its Syntactic Consequences. Ms. Cornell University.

Chomsky, Noam. 1981. Lectures on Government and Binding, Dordecht: Foris.

Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In *Principles and Parameters in Comparative Grammar*, ed. R. Freidin. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 1998. Minimalist Inquiries: the Framework. MIT Occasional Papers in Linguistics Number 15, Cambridge, Mass.: MIT Press. Reprinted in: Roger Martin, David Michaels and Juan Uriagereka (eds.), *Step by step*. Cambridge, Mass.: MIT Press. 89-155.

Chomsky, Noam. 1999. Derivation by phase. *Number 18 in MIT Occasional Papers in Linguistics*, Cambridge, Mass: MIT WPL

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective.* New York: Oxford University Press.

Cole, Peter and Hermon, Gabriella. 1998. Subject and non-subject relativization in Indonesian. Paper presented *at The Second Symposium on Malay/Indonesian Linguistics*, Ujung Pandang.

Cole, Peter and Hermon, Gabriella. 2000. Reflexives and c-command in Toba Batak. Unpublished Paper.

Dardjowidjojo, S. 1967. Indonesian Syntax. Unpublished Ph.D. Dissertation. Georgetown University.

Dardjowidjojo, S. 1983. *Some aspects of Indonesian linguistics*. Jakarta: Penerbit Djambatan.

Davidson, D. 1967. The logical form of action sentences, in N. Reschler (ed.), The Logic of Decision and Action, University of Pittsburgh Press, Pittsburgh, pp. 81-95.

Davis, H. and Demirdache, H. 2000. On lexical verb meaning: evidence from Salish. In C. Tenny & J. Pustejovsky, (eds.), *Events as grammatical objects*, 97–141. Stanford: CSLI.

DéChaine, Rose Marie. 1993. Predicates Across Categories. Ph.D. Dissertation. UMass.

Den Dikken, Marcel. 1995. *Particles*. Oxford University Press, Inc.

Dowty, D. R. 1979. *Word meaning and Montague grammar*. Dordrecht, Reidel.

Du, J.2000. Imperfective Aspect and Event Participants in English, Chinese, Korean and Japanese, paper presented at Berkeley Linguistics Society annual meeting.

Embick, David. 1998. Voice systems and the syntax-morphology interface. MIT Working Papers in Linguistics, 32: 41-72.

Embick, David. 2004. Unaccusative syntax and verbal alternations. In Alexiadou A., Anagnostopoulou E., and Everaert M. (eds.), *The Unaccusativity Puzzle*, Oxford University

Folli, Raffaella. 2001. *Constructing Telicity in English and Italian*, Ph.D. Dissertation, University of Oxford.

Folli, Raffaella and Harley, Heidi. 2002. Consuming results in Italian and English: Flavors of *v*. A paper presented at the NSF Workshop on Aspect at the University of Iowa, May 24, 2002. To appear in a Kluwer volume edited by Paula Kempchinsky and Roumyana Slabakova.

Green, G. M. 1974. *Semantics and syntactic regularity.* Bloomington: Indiana University Press.

Grimshaw, Jane. 1990. Argument Structure. MIT Press. Cambridge, MA.

Gropen, J., Pinker, S., et al. 1989. The learnability and acquisition of the dative alternation in English. *Language 65* (2), pp. 203-257.

Geuder, Willam and Choi, Seong Sook. 2004. Deriving States in Korean, paper presented at the Workshop on Event Structures in Linguistic Form and Interpretation, University of Leipzig, Germany.

Guilfoyle, E., Hung, H., and Travis, L. 1992. Spec of IP and Spec of VP - 2 subjects in Austronesian Languages. *Natural Language & Linguistic Theory* 10 (3): 375-414.

Hale, Ken and Keyser, Jay. 1993. On argument structure and the lexical expression of syntactic relations. In Ken Hale and Jay Keyser (eds.) *The View from Building 20: A Festschrift for Sylvain Bromberger*. pp. 53-108. MIT.

Hale, Ken and Keyser, Jay.1998. The basic elements of argument structure. MIT Working Papers in Linguistics, 32: 73-118.

Hale, Ken, and Keyser, Jay. 2000. On the time of Merge. Ms., *MIT*. Cambridge, Ma.

Hale, Ken and Keyser, Jay. 2002. Prolegomena to a Theory of Argument Structure. Cambridge, Mass.: The MIT Press.

Halle, Morris and Marantz, Alec. 1993. Distributed Morphology and the pieces of inflection. In Ken Hale and Jay Keyser (eds.) *The View from Building 20*: A Festschrift for Sylvain Bromberger. MIT. 111-176.

Halle, Morris and Marantz, Alec. 1994. Some key features of Distributed Morphology. In A. Carnie, H. Harley and T. Bures (eds.) *Papers on Phonology and Morphology*. Cambridge, MA: MIT Working Papers in Linguistics. 275-288.

Halle, Morris. 1997. Distributed Morphology: Impoverishment and fission. In *MIT Working Papers in Linguistics* 30, 425–449.

Harley, Heidi, and Noyer, Rolf. 1999. State-of-the-article: Distributed morphology. *Glot International* 4, 3–9.

Harley, Heidi and Noyer, Rolf. 2000. Formal vs. encyclopedic properties of vocabulary: Evidence from nominalizations. In B. Peeters (eds.), *The Lexicon-Encyclopedia Interface* (pp. 349-374). Amsterdam, Elsevier.

Harley, Heidi. 1995. Subjects, Events, and Licensing, Ph.D. Thesis, MIT.

Harley, Heidi. 2002. Possession and the double object construction. To appear in the second volume of the Yearbook of Linguistic Variation, edited by Pierre Pica and Johan Rooryck.

Heim, Irene and Kratzer, Angelika. 1998, *Semantics in Generative Grammar,* Blackwell.

Higginbotham, James. 1985. On semantics. *Linguistic Inquiry* 16(4), 547-593.

Hong, Ki-sun. 1991a. *Argument Selection and Case Marking in Korean* , Doctoral dissertation. Stanford University.

Hong, Ki-Sun. 1991b. The passive constructions in Korean. In *Harvard Studies in Korean Linguistics* IV. 491-502.

Jackendoff, Ray. 1987. The status of thematic relations in linguistic theory . *Linguistic Inquiry* 18 (3): 369-411.

Jackendoff, Ray. 1990. *Semantic structures.* Cambridge, MA: MIT Press.

Kenny, A. 1963. Action, Emotion, and Will. London: Routledge and Kegan Paul.

Johnson, Kyle. 1991. Object positions. *Natural Language and Linguistic Theory* 9:577-636

Kaswanti Purwo, B. 1995. The two prototypes of ditransitive verbs: The Indonesian Evidence. Werner Abraham, T. Givon and Sandra A. Thompson (eds.). *Discourse Grammar and Typology*, John Benjamins Publishing Company.

Kaswanti Purwo, B. 1997. The direct object in bi-transitive clauses in Indonesian. In Shibatani M. (ed.), *Grammatical Relations*. John Benjamins Publishing Company.

Kaswanti Purwo, B. 2002. The benefactive and instrumental *–kan*: their syntactic ambiguity in the bi-transitive and causative constructions, a handout presented at the 6th International Symposium on Malay/Indonesian Linguistics, Nirwana Resort Hotel, Bintan Island, Riau, Indonesia.

Kayne, Richard. 1975. *French Syntax*. Cambridge: MIT Press.

Kayne, Richard. 1994. *The Antisymmetry of Syntax*. MIT Press, Cambridge, MA.

Kim, Y. K. 1993. The Resultative Progressive in Korean. *Proceedings of the 29th Regional Meeting*, Chicago Linguistics Society 29. pp. 251-265

Kim, A. R. 1998. VP complement of HI-Causative. In *Japanese/Korean Linguistics 8*. 445-458.

Kim, Yeong-Joo. 1990. The syntax and semantics of Korean Case: the Interaction betweenlexical and syntactic level of Representation. Ph.D. dissertation. Harvard University.

Kim, Yoon-Shin. 2002. The ambiguity of '-ko issta' construction and the event structure of Korean verbs. In the Proceedings of the 2002 LSK International Summer Conference, Vol. 1

Koontz-Garboden, Andrew. 2005. On the typology of state/change of state alternations. In press in Yearbook of Morphology 2005.

Koontz-Garboden, Andrew and Levin, Beth. 2004. The morphological typology of change of state event encoding. To appear in the *Proceedings of the 4th Mediterranean Morphology Meeting*. Catania, Italy.

Kratzer, Angelika.1996. Severing the external argument from its verb. In Johan Rooryck and Laurie Zaring, (eds.). *Phrase Structure and lexicon*, 109-137. Dordrecht: Kluwer.

Krifka, Manfred. 1992. Thematic Relations as Links between Nominal Reference and Temporal Constitution. In I. Sag and A. Szabolsci (eds.), *Lexical Matters*. Standford: Center for the Study of Language and Information.

Krifka, Manfred. 1999. Manner in dative alternation. *Proceedings of WCCFL 18*. Cascadilla Press.

Kroeger, Paul. 2002. Applicative vs. derivational uses of *–kan* in Bahasa Indonesia, a handout presented at the 6th International Symposium on Malay/Indonesian Linguistics, Nirwana Resort Hotel, Bintan Island, Riau, Indonesia.

Landman, Fred. 1992. The progressive. *Natural Language Semantics* 1:1-32.

Larson, Richard. 1988. On the double object construction, Linguistic Inquiry 19, p.335-392.

Lee, Hyosang. 1985. Causatives in Korean and the binding hierarchy, In the *Proceedings of the Chicago Linguistics Society* 21, p. 138-153.

Levin, Beth and Rappaport, T. 1988. Lexical Subordination. *Proceedings of the Chicago Linguistics Society*.

Levin, Beth and Rappaport Hovav, M. 1995. *Unaccusativity*. Cambridge, MA: MIT Press.

Levin, Beth and Rappoport Hovav, M. 1998. Building Verb Meanings. In Miriam Butt and Wilhelm Geuder (eds.) *The Projection of Arguments Lexical and Compositional Factors*. Stanford: SCLI publications. 97–134.

Levin, Beth. and Rappaport Hovav, M. 2002. Change of state verbs: implications for theories of argument projection, *Proceedings of the 28th Annual Meeting of the Berkeley Linguistics Society,* 269-280.

MacDonald, R. and Dardjowidjojo, S. 1967. *A Student's Reference Grammar of Modern, Formal Indonesian*. Washington: Georgetown University Press.

McGinnis, Martha. 2001. Variation in the phase structure of applicatives. *Linguistic Variation Yearbook* 1: 105-146.

McGinnis, Martha. 2004. Idiomatic evidence for the syntax of English 'lexical' causatives. Handout from a talk at the University of Toronto, August 10

Marantz, Alec. 1984. *On the Nature of Grammatical Relation*s, MIT Press, Cambridge MA.

Marantz, Alec. 1993. Implications of asymmetries in double object constructions. In Sam A. Mchombo, ed., *Theoretical Aspects of Bantu Grammar 1.* CSLI

Publications, Stanford, CA, 113-151.

Marantz, Alec. 1995. 'A Late Note on Late Insertion.' In Explorations in Generative Grammar, ed. Young-Sun Kim, et. al. Hankuk Publishing Co., Seoul, 396-413.

Marantz, Alec. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. In *Proceedings of the 21st Penn Linguistics Colloquium*.

McCawley, J.D. 1968. Lexical insertion in a transformational grammar without deep structure. *Papers from the Fourth Regional Meeting of the Chicago Linguistic Society*, Chicago: Chicago Linguistic Society, pp. 71-80.

Miyagawa, Shigeru. 1994. *Sase* as an elsewhere causative. In the program of *Linguistic Theory and Japanese Language Teaching*, 7th Symposium on Japanese, Tsuda Japanese Language Center.

Moens, M. and M. Steedman. 1988. Temporal Ontology and Temporal Reference. In Computational Linguistics, 14-2, MIT Press, Cambridge, MA, 15-28.

Nam, Seung-Ho. 2004 (winter). Semantic typology of Korean predicates: their event structure and argument structure. The Linguistic Society of Korea (LSK).

Ogihara, Toshiyuki. 1998. The Ambiguity of the *–te iru* Form in Japanese. Journal of East Asian Linguistics 7. pp. 87-120. Kluwer Academic Publishers.

Oerhle, R. 1976. *The grammatical status of the English dative alternation*. Ph.D. Dissertation, MIT.

Oh, Y. J. 2005. Resultatives versus Eventives. Hyundaymwunpep Yeonkwu 40. 185-207.

Park, Kabyoung. 1986. The Lexical Representations of Korean Causatives and Passives. Master's thesis, University of North Carolina at Chapel Hill.

Park, Kiseong. 1993. Korean Causatives in Role and Reference Grammar. Master's thesis, State University of New York, Buffalo.

Park, Jeongwoo. 1994. Morphological Causatives in Korean: Problems in grammatical polysemy and constructional relations. Ph.D Dissertation. University of California, Berkeley.

Park, Sangdoh. 2001. Passive constructions in Korean. In *Harvard Studies in Korean Linguistics* IX. Seoul: Hanshin. 640-649.

Park, Yeonmee. 1991. Head Movement: Inflectional Morphology and Complex Predicates in Korean. Ph.D. Dissertation in the University of Wisconsin-Madison.

Parsons, Terence. 1989. The progressive in English: Events, states and processes. *Linguistics and Philosophy* 12, 213-241.

Parsons, Terence. 1990. Events in the semantics of English. A Study in Subatomic Semantics. Cambridge, Mass. MIT press.

Patterson, B. 1974. A Study on Korean Causatives, Working papers in Linguistics. University of Hawaii.

Perlmutter, David. 1978. Impersonal passives and the unaccusative hypothesis. In *BLS 4: Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society*, 157-189. Berkeley, CA: Berkeley Linguistics Society.

Perlmutter, David. 1983. Personal vs. impersonal constructions. *Natural Langauge and Linguistic Theory* 1:141-200.

Pesetsky, David. 1995. *Zero Syntax*. MIT Press, Cambridge.

Postman, Whitman. A. 2002. Thematic role assignment in Indonesian: a case study of agrammatic aphasia. Doctoral dissertation, Cornell University, Ithaca, NY.

Pustejovsky, James. 1988. The geometry of events. In C. Tenny (ed.), Studies in Generative Approaches to Aspect, Lexicon Project Working Papers 24, Center for Cognitive Science at MIT, Cambridge, MA.

Pustejovsky, James. 1991. The syntax of event structure. Cognition 41:47-81.

Pustejovsky, James. 1995. The generative lexicon. Cambridge: Mass.: MIT. Press.

Pylkkänen, Liina. 2000. On stativity and causation, In C. Tenny & J. Pustejovsky (eds.), *Events as grammatical objects* (pp.417-444). Stanford: CSLI.

Pylkkänen, Liina. 2002. *Introducing arguments.* Doctoral dissertation. MIT.

Rackowski, Andrea. 2002. Voice and configurational case in Tagalog. *Proceedings of AFLA* 9. Cornell University, Ithaca, NY.

Ramchand, Gillian and Svenonius, Peter. 2002. The lexical syntax and lexical semantics of the verb-particle construction. *Proceedings of the 21st West Cost Conference on Formal Linguistics*, Santa Cruz, CA.

Ramchand, Gillian. 2003. First phase syntax. Unpublished Ms. Oxford University.

Irene, Rapp. and von Stechow, Arnim. 1990. Fast "Almost" and the Visibility Parameter for Functional Adverbs

Ritter, E. Rosen, S.T. 1994. The independence of external arguments. In Erin Duncan, Dokna Farcas, Phillip Spaelti, eds. *The Proceedings of WCCFL XII*. CSLI. Standford. pp. 591-805.

Ritter, E. & Rosen, S.T. 1998. Delimiting events in syntax. In M. Butt & W. Geuder (eds.), *The projection of arguments* (pp. 135-164). Stanford: CSLI.

Ryle, G. 1949. The Concept of Mind. Hutchinson's University of Library, London.

Shibatani, Masayoshi. 1973. Lexical versus Periphrastic Causatives in Korean. *Journal of Linguistics* 9, p281-297.

Shibatani, Masayoshi. 1975. On the Nature of Synonymy in Causative Expressions. *Language Research* 11, p. 274-297.

Shirai, Yasuhiro.1998. Where the Progressive and the Resultative Meet: Imperfective Aspect in Japanese, Chinese, Korean and English. *Studies in Language* 22:3, 661-692.

Sie, I.D. 1988. *The syntactic passive in Bahasa Indonesia: a study in government-binding theory*. Doctoral Dissertation, Universiteit van Amsterdam.

Sim, Changyong. 2005. To make a case for all: syntactic structure, semantic interpretation and case morphology. Ph.D Dissertation. University of Delaware.

Sneddon, J.N. 1996. *Indonesian: a comprehensive grammar*. London and New York: Routledge.

Smith, Carlota. 1991. The Parameter of Aspect. Dordrecht: Kluwer.

Sohn, Homin. 1999. *The Korean language*. Cambridge University Press.

Tenny, Carol. 1987. Grammaticalizing Aspect and Affectedness. Doctoral dissertation. Massachusetts Institute of Technology.

Tenny, Carol. 1992. The aspectual interface hypothesis. In I.A. Sag and A. Szabolcsi (eds.), *Lexical Matters* (pp. 1-27) Palo Alto: Stanford University.

Tenny, Carol. 1994. *Aspectual Roles and Syntax-semantic Interface*. Dordrecht: Kluwer Academic Publishers.

Tenny, Carol. 2000. Core events and adverbial modification. In C. Tenny & J. Pustejovsky (eds.), *Events as grammatical objects*. Stanford: CSLI. 145-185

Tomioka, Satoshi and Sim, Changyong. 2005. Event semantic root of inalienable possession, Ms.University of Delaware.

Travis, Lisa. 1994. Event phrase and a theory of functional categories, paper presented at the Canadian Linguistics Association meeting. University of Calgary.

Travis, Lisa. 2000. Event structure in syntax. In C. Tenny & J. Pustejovsky (eds.), *Events as grammatical objects* (pp. 145-185). Stanford: CSLI.

Um, Hye-Young. 1995. Argument Structure of Korean Causatives. In *Harvard Studies of Korean Linguistics* 6. Seoul: Hanshin. 413-428.

Washio, Ryuichi. 1999. Homonymic Clash and Short Causatives in Korean. *Language Information* 3, pp. 220-265. The Korean Society of Language and Information.

Van Hout, A. 2000. Event semantics in the lexicon-syntax interface. In C. Tenny & J. Pustejovsky (eds.), *Events as grammatical objects* (pp. 239-282). Stanford: CSLI.

Verkuyl, H.J. 1972. On the Compositional Nature of the Aspects, Reidel, Dordrecht.

Vendler, Z. 1957. Verbs and times, *The Philosophical Review 66*, pp.143-160.

Von Stechow, A. 1995. Lexical decomposition in syntax. In *The lexicon in the organization of language,* ed. by Urs Egli, Peter E. Pause, Christopher Schwarze, Arnim von Stechow, and Götz Wienold, 81.118. Amsterdam: John Benjamins.

Von Stechow, A. 1996. The Different readings of *wieder* "again": A structural Account.

Journal of Semantics, Vol. 13, p. 87-138.

Voskuil, J. 1990. *Some transitivization processes in Malay*. MA thesis, University of Leiden.

Yeon, Jaehoon. 1994. Grammatical relation changing constructions in Korean: A functional-typological study. Ph.D dissertation. University of London.