

Grammaticality of Morpheme-I: Passives and Causatives*

Seung Jae Lee
(Kyung Hee University)

Lee, Seung Jae. 2010. Grammaticality of Morpheme-I: Passives and Causatives. *The Linguistic Association of Korea Journal*. 18(1). 21-44. The purpose of this paper is to present the relationships between the passive and the causative represented in verbal morphology, based on the concept that morphology reflects syntax. The distribution of morpheme-I in the passive verbs and the causative verbs will be firstly reviewed in order to show the relationship between them. Secondly, the structural relationship captured by the distributional characteristics of the morpheme-I affixation in the causative verbs and the passive verbs will be reinterpreted as a syntactic relation in terms of [+Demotion]. This feature consequently explains the shared property of both the demoted subject of the passive and the causee of the causative, and gives evidence that morphology mirrors the syntactic representation, working on the morpho-lexical as well as morpho-syntactic operations.

Key Words: passives, causatives, morpheme-I, [+demotion], morpho-lexical, morpho-syntactic operation

1. Introduction

Since 1970, scholars (Lee, 1970, 1972, 1999; Park, 1978; Yang, 1979; Kim, 1980; Kim, 1982, 1983; Yeon, 1991a, 2001; Kang, 1997; Baek 1997; Song, 1998, 2004)

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have dealt with the passive constructions and the causative constructions, and comprehensive analyses on the relationship between two constructions have been made. The fact that the causative verbs are derived from the same stem as that of the passive verbs, by the same manner, that is, adding the morpheme-I¹⁾, implies more than simple coincidence: there must be some relationship between these two constructions.²⁾ The purpose of this paper is to analyze the mechanisms of the morpheme-I affixation both for found in the passive and the causative in the verb formation.

In order to capture the correlation between passive and causative, first, verbs will be examined with respect to the distribution of the morpheme-I. On the basis of the morpheme-I's distributional behavior, the relationship between two constructions of passive verbs and causative verbs is secured, and the grammatical function of the morpheme-I affixation is ensured. Then, the relationship captured by the morpheme-I behavior of verbal morphology will be further analyzed by the detransitivizing process indicated by Marantz(1985), and by the syntactic notions of promotion and demotion, borrowed from Comrie (1979), to find the shared property [+Demotion]. This shared property is eventually represented in the morphology in terms of the homophones. Therefore, the morphological identification shown in the morpheme-I affixation of the passive verbs and the causative verbs is not an accident, but it verifies the fact that the morphology reflects the syntactic property. Finally assuming the argument structure (Alsina 1992, 1996a, 1996b), the grammatical property of [+Demotion] derives the grammatical function change of the basic argument structure, resulting in an argument insertion or an argument promotion.

2. Passives and Causatives

The Korean language, belonging to the agglutinative language family, has distinctive characteristics, that is, morphology is strong enough to show the

1) The morpheme-I used in this paper is for the proto-form of -i suffix variants to form lexical passives and lexical causatives, e.g. -i -hi -li and -ki.

2) For the integrative analysis on the passives and causatives, see Lee 1970,1972; Park, 1978; Kang, 1997; Baek 1997; Kim, 1982, 1983; Yeon, 1991a, 2001.

grammatical functions; the grammatical functions are realized in the morphology by adding the particles or the affixes.³⁾ The morphology thus conveys the grammatical properties.

The passive construction is one typical example of this, where the passive verbs are derived by adding the morpheme-I to the verb stem. The phonetic realizations of affixation are various, determined by the environments, such as -i, -hi, -li, and -ki. The causative verb formation is another example of this, and the causative verbs are also derived in the same manner of the passive verb formation, affixation of the morpheme-I. With respect to meaning and function, the passive constructions are apparently different from the causatives. What is it, then, that makes these apparently distinctive constructions, passives and causatives, share the morpheme-I?

3. Distribution of Morpheme-I in Passives/Causatives

The affixation is a productive way to form causative or passive verbs in Korean.⁴⁾ Various analyses on the passives and causatives are possible, but this paper is mainly concentrated on the behavior of the morpheme-I affixation, and its grammaticality. First consider the distribution of passives and causatives with respect to the morpheme-I.

3) The most prominent characteristics of the Korean language are the scrambling, free deletion of the subject, post-positional particles, etc which prove the grammatical information shown on the morphology.

4) In the Middle Korean, the causative formation was highly productive way to derive the transitive verbs from the intransitive verbs or adjective roots.

samhan-eul nat-o-si-ko kip-i-si-ni
 samhan-Acc shallow-Cau-Hon-Con deep-Cau-Hon-Con
 '(God) makes the river shallow and deep.' (MK: Yongpiechenka)

The contemporary Korean has relative small amount of morphological passives and causatives. Of 65,608 predicate verbs according to Yang (1992), (recited from Song, 2004), approximately 586 passive and causative verbs are currently used (287 causatives, 265 passives, and 34 homonyms) Lee (1999:283).

3.1 Mutually Exclusive Distribution

The mechanism of morpheme-I affixation in the causative verbs is similar to that of passives, but the distribution of the morpheme-I shows the restriction on the passive and the causative verb formation. From the perspective of the morpheme-I, a passive verb (1a) seems to share the morpheme-I '-hi' with a causative verb (1b), but the stem verb allowing the affixation is not overlapped. Let's consider the examples employing the same morpheme-I.

- (1) a. *bemin-i kyengchal-eyke cap-hi-ess-ta*
 suspect:NOM police:DAT catch:PASS:PST:CON:IND
 'The suspect was caught by the police.'
- b. *emeni-ka aka-eyke os-ul ip-hi-ess-ta*
 mother:NOM baby:DAT dress:ACC wear:CAU:PST:IND
 'The mother made the child wear the dress.'

The same morpheme-I is used in both (1a) and (1b). However, the verb *cap-ta* in (1a) meaning 'catch' makes the affixation -hi passive, and *ip-ta* in (1b) meaning 'wear,' makes the affixation -hi causative.

Moreover, once the verb *cap-ta* employs the morpheme-I affixation to make the passive *cap-hi-ta*, meaning 'be caught,' further affixation is not occurred to make the causative form. Similarly, the verb *ip-ta* meaning 'wear' takes affixation and makes causative as *ip-hi-ta* meaning 'make wear,' but further affixation does not occur to make the passive form. Empirically, 84 percent of the passive and causative verbs that I examine,⁵⁾ show similar distribution. For the discussion, verbs that show this kind of distribution are to be called *Mutually Exclusive Distribution*.

5) This paper considers 188 causative verbs and 99 passive verbs.

Table 1. Mutually Exclusive Distribution

verb \	causative	passive	morpheme	definition
puth-ta	o		-i	post
pey-ta		o		cut
ip-ta	o		-hi	put on/were
cap-ta		o		catch
phul-ta	o		-li	solve/untie
cciru-ta		o		prick
swum-ta	o		-ki	hide
ccoch-ta		o		chase

As the table 1 illustrates, even when two verbs take the same morpheme-I, the resulting verb is either passive or causative. Therefore, although the causative and the passive employ the same morpheme-I, a certain interacting rule of making passives or causatives controls the affix employment and the distribution of verbs.⁶⁾

Then which mechanism controls this phenomenon? As for the word formation, it works on the economy principle. Fundamentally, one morpheme-I is allowed for one verb stem, to avoid confusion between the passive verbs and the causative verbs. To put it differently, one morpheme-I is selected and applied to the verb stem, finding the way either a passive or a causative; this verb is not allowed to take another morpheme. Regarding the morpheme-I behavior, this type of verb is called the mutually exclusive distribution in that one suffix repels the other. The passive verbs and the causative verbs are mutually exclusive at least to the extent that the same morpheme-I is applied.

If the passive verbs and the causative verbs distribute in the mutually exclusive environment for the purpose of distinction, what makes the verb take the same morpheme, resulting in a homophone of the passive and the causative? With this question in mind, let us consider more on the causative and the passive.

6) Similar but more inclusive typological distribution chart was provided by Lee(1999:209).

3.2 Homophones

The affixation working on the same root making the passive on one hand and the causative on the other hand is called the homophone. The number of homophones is limited compared with the verbs in 3.1.

- (2) a. emeni-ka aka-eyke cec-ul mul-li-n-ta
 mother:Nom baby:DAT breast: ACC feed:CAU:CON:IND
 'The mother makes the baby breast-feed.'
- b. sanyangkkwun-i pem-eyke pal-ul mul-li-n-ta
 hunter:Nom tiger:DAT arm: ACC bit:PASS:CON:IND
 'The hunter's arm is bitten by the tiger.'

In spite of morphological indistinctness of the passive (2b) from the causative (2a), the readers can understand the verb 'mul-li-ta' in (2a) as a causative and the verb 'mul-li-ta' in (2b) as a passive. Semantically, the action in (2a) has the meaning of breast-feeding the baby, not being bitten by the baby, while the action in (2b) has the meaning of being bitten by the tiger. For the interpretation of homophones as in (2), the relationship between the subject and the object surrounding the action should be considered. If the action brings the agent benefit, it would be regarded as the causative, otherwise the passive. Shibatani (1976) also suggested the benefactive to the agent be interpreted as causative and the malefactive as passive.

Semantically considering, the passive and the causative can make a natural class using the feature [+/- benefactive]⁷⁾ for notational convenience. There are some examples of homophones:

7) Many scholars (Shibatani, 1976; Marantz, 1985; Bresnan & Moshi, 1990, etc) assume the semantic feature [benefactive] using the term adversity, benefactive, beneficiary, etc. Semantically, the passive verbs make a natural class [+malefactive] whereas the causative verbs make a natural class [+benefactive]. Considering that the [+malefactive] is [-benefactive], this features can make the passive and the causative distinct: Passive [-benefactive] Causative [+benefactive]

Table 2. Homophones

morpheme verb	-i	-hi	-li	-ki	definition
po-ta	pas/cau				see
palp-ta		pas/cau			step on
wul-ta			pas/cau		cry
mul-ta			pas/cau		bite
kkak-ta				pas/cau	cut
kam-ta				pas/cau	spool

In spite of the limited number of homophones used in Contemporary Korean,⁸⁾ the linguistic significance cannot be neglected, and it will be further explained in the later section. Verbs employing the identical morpheme-I for the passives and the causatives as in the table 2 are called homophones in this paper.

3.3 Complementary Distribution

This is an interesting case of the passive/causative verb distribution. The affixation is employed to the same verb stem but the result is pronounced differently. An example of this is the verb 'mek', meaning eat; phonetically -i is represented for the causative representation of 'mek-i-ta' and -hi for the passive of 'mek-hi-ta.' The morpheme shown in the verb stem 'mek' is to be called the complementary distribution as in table 3:

Table 3. Complementary Distribution

morpheme verb	-i	-hi	-li	definition	
mek-ta	causative	passive		eat	MK/CK
po-ta	causative	passive		see	MK
mul-ta		passive	causative	bite	MK

Among the verbs shown in the table 3, the verb 'mek-ta' is the only example of this kind in use today; the rest have disappeared. The verbs that belong to this category are very rare in the Contemporary Korean.

8) More information on the homophomemes, see Lee (1999:211)

3.4 Implications of the Morpheme-I Affixation

We have examined the distributional typology of the morpheme-I affixation of causatives and passives; mutually exclusive distribution, homophones, and the complementary distribution. The distributions of the morpheme-I in the passives and the causatives we have examined entail two things: diachronic aspects of passives and causatives,⁹⁾ and grammatical aspects of them. This paper will only be concerned with the grammatical aspects.

3.4.1 Grammatical Aspect

The fact that the passive and the causative share the morpheme-I, but appear in mutually exclusive environments implies something more than a simple word formation: this phenomenon shows that the morpheme-I affixation carries some grammatical function. Especially the property of mutual exclusiveness of the passives and the causatives implies two things – the unique property of passive and causative, and the shared property of the morpheme-I.

Let me clarify the first proposition of the uniqueness; the mutual exclusiveness presupposes that affixation is applied to one verb at one time. The restriction on the affixation is due to a desire to avoid confusion between two constructions; and more importantly, it implies that affixation carries a certain grammatical function, which co-relates the passive and the causative at a certain level.

If we assume this proposition, the affixation is not a simple mechanism working on a morphological level to make a word, but it should be considered as a grammatical property working in a deeper level than the morphology.

9) The distributional behavior indirectly implies that the early Korean did not make a clear distinction between passive and causative. More homophones were used and it depended more upon contexts. In the process of passing from Middle Korean toward Modern Korean, the situation becoming more complicate, an effort to distinguish one from the other had to be made consciously. Contemporary Korean has a clearer distinction between the passives and the causatives. The following summarizes the chronological process of the Korean language:

Middle Korean	Modern Korean	Contemporary Korean
Indistinction	Conscious effort for distinction	Distinction

This assumption may cause some problems for homophones, because the same morphology incorrectly leads you to expect the common grammatical property of passive/causative, but the truth is that the passives and the causatives are totally different in meanings and functions, even though the affixation is identical.

Then what makes the homophones differentiate in meanings and functions? The simplest answer is provided by the context: they are naturally interpreted in the context without causing confusion. That is, the context provides the meaning, and the voice whether passive or causative is determined by the context in terms of [+/-benefactive]. This indicates that the resulting verbs made by affixation are not simply concerned with morphology, but with a certain level deeper than the morphology. In this sense, homophones serve as a clue to catch the grammatical co-relationship between the passive and the causative.

The third group as an exceptional case of complementary realization of the morpheme-I ensures the distinctive property of the passives and the causatives, even though these two constructions are co-related at a certain level. Distinctive property of the passive and the causative generally being accepted, let us consider how the morpheme-I co-relates the two distinct voices, the passive and the causative.

4. Analysis on Passive/Causative Co-relations

We have examined the morphology-based co-relation between the passive and the causative through the morpheme-I distributions. Considering language idiosyncratic properties of Korean, and Broady (2000)'s Mirror theory,¹⁰⁾ the appearance of the same morpheme-I signifies more than the morphological identity: it reflects the grammatical property that the passive shares with the causative at some deeper level.

In previous research, various analyses captured the morphological co-relationship between the passive and the causative from the syntactic

10) The morphological structure of words is expressed syntactically as complementation structure.

frameworks. Kim (1982) assumes the single underlying structure and analyzes them in terms of semantic element of CAUSE and special condition¹¹); Marantz (1985) explains homophones as an alternation of the causative to the passive, similar to the transitive-intransitive alternation; Kang (1997) proposes a syntactic account of the passive and causative, assuming VP-shell structure; Yeon (1991a, 2001) assumes neutral verbs and analyzes passives and causatives as the transitivity alternation. Of those, this paper will take Marantz' (1984, 1985) concept of Merge and Detransitivization, and explain the co-relationship between the passives and the causatives.

4.1 Marantz' (1985)s Account

Marantz's alternation account on the passive-causative for the homophones provides the base for a further account on the passive-causative correlation in this paper. Marantz recognizes the syntactic relationship shown in homophones as an alternation of the causative and the passive.

- (3) a. na-nun ipalsa-eyke meli-lul kkak-ki-ess-ta : causative
 'I had the barber cut my hair.'
 b. nay meli-ka ipalsa-eyke kkak-ki-ess-ta : passive
 'My hair was cut by the barber.' (Marantz, 1985)

Marantz (1985)'s one lexical approach to the passive-causative alternation is the same as that of the transitive with the intransitive. Therefore the relation

11) Kim (1982) analyzes the causatives and the passives in (1) in terms of the single-i for the causative constructions, and double-i for the passive constructions as in (2).

- (i) a. yen-i palam-e nal-li-ess-ta : passive
 'The kite is flown in the wind./ The kite flew in the wind.'
 b. palam-i yen-ul nal-li-ess-ta : causative
 'The wind flew the kite.'
- (ii) a. yen-i [palam-i [yen-i nal] i]i-ess-ta
 X-NOM Y-NOM Z-NOM fly C C PST IND
 b. palam-i [yen-i nal] i-ess-ta
 Y-NOM Z-NOM fly-CAU-PST-IND (Kim, 1982:190-191)

between the passive and causative in Korean needs the language-particular d-structure merger for the causative verb as in (3a), and subsequent process of making the passive, that is, the agentless verb with the meaning of 'happen' as in (3b).¹²

For these structural relationships, Marantz (1985) supposes the d-structure merger for the causative and the detransitivization for the passive as in (4);

(4) morphemes

a. transitive, CAUSE (X, HAPPEN (Y....)

b. intransitive, HAPPEN (Y) (Marantz 1985:164)¹³

If Marantz (1985) sees the structural relation between the passive and the causative as an alternation, what makes this possible and how is the structural relation represented with respect to the morphology? Assuming Marantz's detransitivizing process of the passive and causative constructions, let us consider the mechanism of the passive formation. Comrie (1977) introduces a relational hierarchy (5) supplemented by the Relational Grammar.

(5) Subject > Direct Object > Indirect Object > Other Oblique Constituents

If we apply the relational hierarchy to the passive formation, the passive motivated by the case and theta-role is translated into the relational terms. That is, the passive in English involves promotion up the hierarchy of an object and demotion down the hierarchy of the subject. (Comrie, 1977:48) As a preliminary step toward the syntactic analysis on the passive/causative co-relation, the concept of demotion and promotion of an argument in the relational hierarchy will be recapitulated as [+/- Demotion] or [+/- Promotion].

12) Marantz's explication of the passive as the intransitive version of the causative presupposes structural relations between these two constructions; the passive (3b) should be derived from the causative (3a).

13) If the passive (b) is the intransitive version of the causative (a), the causative (a) precedes the passive (b)

4.2 Decomposition of Passive/Causative Construction

4.2.1 Type I: Subject Demotion and Object Promotion

The passive motivated by case and theta-role requirement is translated into the terms working on the relational hierarchy. That is, the passive in English involves promotion of an object up the hierarchy and demotion of the subject down the hierarchy (Comrie, 1977: 48). For example, the English passive 'The rat was caught by the cat' involves the object promotion and the subject demotion from 'The cat caught the rat' in relational terms. Similarly, the counterpart of Korean is illustrated as in (6):

- (6) a. Koyangi-ka cwui-lul cap-ess-ta
 cat:NOM rat:ACC catch:PST:IND
 'The cat caught the rat.'
- b. Koynagi-eyke cwui-ka cap-hi-ess-ta ¹⁴⁾
 cat:DAT rat:NOM catch:PASS:PST:IND
 'The rat was caught by the cat.'

The passive (6b) in Korean is derived from the active (6a) by the promotion of the object 'rat' and the demotion of the subject 'cat,' like the formation of the English passive. The passive in (6b) requires the subject demotion as the result of the object promotion on the relational hierarchy. The passive with subject demotion and object promotion is to be called the type I.

4.2.2 Type II: Spontaneous Demotion

Comrie (1977) notes the difference between the type I passives and passives with a spontaneous demotion of subject. In the latter case, the demoted subject tends to be deleted without overt expression. Let us consider the passive without overt expression of a demoted subject in Korean:

14) An anonymous reviewer notes that *cap-ta* (catch) could be regarded as a homophoneme. e.g. *Mary-ka John-eyke son-ul cap-hi-ess-ta* (Mary's hand was caught by John.) This sentence could be understood either by the passive or by the causative. I personally appreciate the acute comment. This will remain for the later work.

- (7) kwulttwuk-i mak-hi-ess-ta
 chimney:NOM clog:PASS:PST:IND
 'The chimney was clogged.'

The passive verb *mak-hi-ta* is derived from the verb *mak-ta* meaning 'clog' or 'block.' Since the root verb is transitive, the underlying subject should be present, but it is not overtly expressed in (7). Common sense provides the underlying subject for (7):

- (8) yenki-euyhay kwulttwuk-i mak-hi-ess-ta
 soot:OBL chimney:NOM clog:PASS:PST:IND
 'The chimney was clogged by the soot.'

The difference is that (8) has a demoted subject but (7) does not. Sentences with or without the overt expression of the demoted subject are also different with respect to the adverbial behavior, as shown in (9):

- (9) a. kwulttwuk-i cecello/susulo¹⁵ mak-hi-ess-ta
 the chimney:NOM spontaneously clog:PASS:PST:IND
 'The chimney was spontaneously clogged.'
- b. *yenki-euyhay kwulttwuk-i cecello/susulo mak-hi-ess-ta
 the soot:OBL the chimney:NOM spontaneously clog:PASS:PST:IND
 'The chimney was spontaneously clogged by the soot.'

Inserting the adverb 'spontaneously,' in a passive without an overt expression of the demoted subject as in (9a) is grammatical, whereas insertion in a passive with a demoted subject as in (9b) is not possible. The difference in the grammaticality shows that the presence or absence of the demoted subject has an effect on the adverbial behavior in the passive; the overt expression of the demoted subject in (9b) cannot comply with the adverb 'spontaneously,' but the agentless passive in (9a) can do because it involves the spontaneously demoted

15) The adverb 'cecello /susulo' is a bit extended from its original meaning 'spontaneous.' Here the word 'spontaneous' means volitional retreat. For discussion, and grammaticality test of the spontaneous demotion, the adverb 'cecello /susulo' is used.

subject. The passives with this spontaneous demotion of the subject will be called type II.

4.2.3 Type III: Demotion

Let us consider the example (10), where homophoneme, *kam-ki-ta* whose stem '*kam-*' means 'spool,' or 'coil around something':

- (10) a. *os-i kam-ki-n-ta*
 dress:NOM spool:PASS:CON:IND
 'The dress is spooled.'
- b. *Mary-ka Sue-eyke sil-ul kam-ki-n-ta*
 Mary:NOM Sue:DAT tread:ACC spool:CAU:CON:IND
 'Mary makes Sue spool the thread.'

The verb in (10a) is used for an agentless passive, but (10b) is a causative. This verb is similar to (7), the type II passive, but a little different in that it is also used in the causative. Before explaining the usage of homophones in (10a) and (10b), let us concentrate on the causative (10b). According to the relational hierarchy in (5), the position of the causee argument in the causative on the relational hierarchy starts from the subject position of the root verb. The causee in the causative becomes either a direct object, or an indirect object of the derived verb depending on the predicate's transitivity. The base predicate in (10b) is transitive, so the causee bears an indirect relation to the derived verb. The causee begins as a subject of a root verb, and undergoes d-structure merge in Marantz's sense, ending with a grammatical change as the indirect object, namely demotion on the relational hierarchy.

Let us consider the kind of demotion, that the causee is subject to. It is different from the two kinds of subject demotions we have considered above: it is different from type I, because it does not require an object promotion. It is different from type II as in (10a) with respect to the adverbial behavior of 'spontaneously', as shown in (11):

- (11) a. os-i cecello kam-ki-n-ta.
 dress:NOM spontaneously spool:PASS:CON:IND
 'The dress is spontaneously spooled.'
- b. *Mary-ka Sue-eyke sil-ul cecello kam-ki-ess-ta.
 Mary:NOM Sue:DAT tread:ACC spontaneously spool:CAU:CON:IND
 'Mary makes Sue spool the thread spontaneously.'

As the example (11) shows, the demotion that the causee experiences is different from that of the agentless passive does: the subject of the root verb in the causative of (11b) undergoes demotion to the causee, while the agentless passive of (11a) undergoes demotion caused by spontaneousness. Even though the demotion that the causee undergoes is different from that of the passives, the causee is also demoted to the indirect object from its original subject position. In this respect, the causee object as well as the passive subject belongs to the same process of demotion.

A similar behavior is also found in the intransitive homophoneme:

- (12) a. cong-i wul-li-ess-ta
 bell:NOM ring:PASS:PST:IND
 'The bell was rung.'
- b. oppa-ka aka-lul wul-li-ta
 brother:Nom baby:ACC cry:CAU:IND
 'The brother makes the baby cry.'

(12a) is passive, in particular, the type II passive as in (11a):

- (13) a. cong-i cecello wul-li-ess-ta
 bell:NOM spontaneously ring:PASS:PST:IND
 'The bell was rung spontaneously.'
- b. *oppa-ka aka-lul cecello wul-li-ta
 brother:Nom baby:ACC spontaneously cry:CAU:IND
 'The brother makes the baby cry spontaneously.'

The causative in (13b) does not comply with 'spontaneously,' even though the

verbal form is identical to the passive. Rather the causee argument from the original subject position is demoted by the new argument, the subject of the matrix verb. Keeping the original position of the causee, let us insert an adverb 'intentionally,' which describes the action of an agent and consider the adverbial behavior, as in (14) and (15):

- (14) a. *os-i kouylo kam-ki-n-ta.
 dress:NOM intentionally spool:PASS:CON:IND
 'The dress intentionally is spooled.'
- b. Mary-ka Sue-eyke sil-ul kouylo kam-ki-ess-ta.
 Mary:NOM Sue:DAT tread:ACC intentionally spool:CAU:CON:IND
 'Mary intentionally makes Sue spool the thread.'
- (15) a. *cong-i kouylo wul-li-ess-ta
 bell:NOM intentionally ring:PASS:PST:IND
 'The bell intentionally was rung.'
- b. oppa-ka aka-lul kouylo wul-li-ta
 brother:Nom baby:ACC intentionally cry:CAU:IND
 'The brother intentionally makes the baby cry.'

As the examples in (14) and (15) show, the subject oriented adverb complies with the causatives as in (14b) and (15b), but not with the passives as in (14a) and (15a). Therefore, the causee we have considered is more closely related to the subject and thereby the causee demotion in the causatives is different from the spontaneously demoted subject in the passives in spite of the identical verbal forms. It will be called the type III.

4.3 Typology of Morpheme-I Affixation

We have seen three different types of demotion: Type I passives in Korean behave like the passives in English involving subject demotion and object promotion; Type II passives involve spontaneous demotion of the subject; and Type III causatives involve causee demotion. This is summarized as in the table 5:

Table 5. Typology of Morpheme-I Affixation

	Type I	Type II	Type III
Demotion	+	+ (spontaneous)	+ (causee)
Promotion	+	+	N/A
	passive	passive	causative

Even though each type makes a natural class, the three types also make a natural class with the syntactic property of [+Demotion]. Both the causee and the demoted subject of the passive share the feature of [+Demotion] from the original position. If morphology reflects syntax, this grammatical feature should be reflected in the morphology. In Korean, the morpheme-I both on the passive and the causative informs the shared grammatical property, [+Demotion]. This grammatical information, [+Demotion] makes the two seemingly unrelated constructions share the morpheme-I on the passives and the causatives.

4.4 The Grammaticality of Morpheme-I

The basic concept of demotion is derived from the Relational Hierarchy; the demoted subject in the passive construction means subject loses its original argument position and reduced to the lower position in the Relational Hierarchy. The property [+Demotion] in this paper accompanies the grammatical change caused by affixation of the morpheme-I. Syntactically base-generated position of the argument is changed by the mechanism of affixing the morpheme-I to the verb stem. This implies two things: one is the change in the verbal structure; the other is the change in the argument structure.

Regarding the verbal structure, various accounts (Marantz's Morphological Merger 1984, 1985; Baker's Incorporation 1988;¹⁶ Chomsky's Bare Phrase 1995) have been provided to show the derivational process of causativization.

As for the argument structure, Bresnan and Moshi (1990)'s three level

16) Baker's analysis on the causativization clearly explains the mechanism of merge between the causative affix and the verb stem with the notion of VI(Verb Incorporation); VI syntactically treats the causative affix as the matrix verb and takes a clausal complement CP; the verb stem is the embedded verb, which raises to the embedded I, then raised to the embedded C, and finally is incorporated onto the matrix causative verb.

syntactic architecture¹⁷⁾ will provide the solution. Bresnan and Mosh assume the argument structure, abstraction from the syntactic expression to syntactic function, which is further specified by Alsina (1992, 1996a, 1996b), showing the interaction between the syntactic function and the morphology. Along with this, Broady (2000)'s Mirror theory reinforces that morphology reflects the syntactic derivational process.

In Korean, the morpheme-I employed on the verb visually shows the change of verbal structure in the causative and the passive formation. The morpheme-I introduced by the passive and causative formation carries out the property of [+Demotion], entails the existence of more salient argument in the sentence, and affects the argument structure, performing the same function as the grammatical change. Therefore the morpheme-I shown in the passive and the causative not only shows the shared property of the passive and the causative, but also induces the argument function change.

4.4.1 Morpho-Lexical Operations

Following Bresnan and Moshi (1990) and Alsina (1992, 1996a, 1996b), if we postulate a few more supposed layers between the conventional lexicon and the syntax, this will be the argument structure working with morpho-lexical operations and morpho-syntactic operations as Alsina does. The morpho-lexical operations of the morpheme-I subsequently works for grammatical function changes, which is a part of lexical entries in the argument structure.

Bresnan and Moshi factors out the assignment of grammatical functions into partial assignments depending on intrinsic properties and relative ordering of thematic roles; The functional decompositions of subject and object are [-r, -o] and [-r, +o] respectively.¹⁸⁾

The property of [+Demotion] of the morpheme-I induces the grammatical

17) Bresnan & Moshi (1990)'s three level syntactic architecture is composed of a(argument structure, f(unctional) structure, and c(onstituent) structure.

18) Bresnan and Moshi (1990) decomposes the syntactic function into [+/-r] and [+/-o]. The feature [r] signifies semantically restricted, and the feature [o] the property of complementing transitive predicators. With these two features, the basic syntactic functions are represented: SUB [-r -o], OBJ [-r +o], OBJ_o [+r+o], OBL_o [+r-o].

function change of the relevant argument; [-r,-o], the subject of the base verb both for the passive constructions and for the causative constructions loses its base argument function, resulting in the demoted position. The demoted argument should wait for the rearrangement of the grammatical functions. Therefore [+Demotion] of the morpheme-I affixation correctly recapitulates the process of a stem verb incorporating with an affix in terms of the morpho-lexical operation.

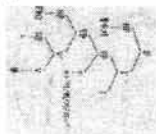
4.4.2 Morpho-Syntactic Operations

The unique property of [+Demotion] of the morpheme-I affixation posits a syntactic interaction with the composition of argument structures. Ultimately, the causative morpheme adds a new external argument and internalizes the old external argument, whereas the passive morpheme externalizes the old internal argument. Even though the final structures of the passives and causatives are different from each other, the operations involved show the shared properties. For explanation, let us consider the following examples:¹⁹⁾

- (16) a. ai-ka cec-ul mek-ess-ta
 baby-NOM milk-ACC drink-PST-IND
 'The baby drank milk.'
- b. kay-ka John-ul mul-ess-ta
 dog-NOM John-ACC bite-PST-IND
 'The dog bit John.'

When the morpheme-I is attached onto the verbs in the sentences (16a) and (16b), [+Demotion] causes the change of the grammatical function in the argument structure. The external arguments, the baby in (16a) and the dog in

19) In Kang (1997)'s Bare Phrase structure, the VP-shell account on the causative and the passive construction is similar to the existence of the morpho-syntactic level in this paper.



(a) passive



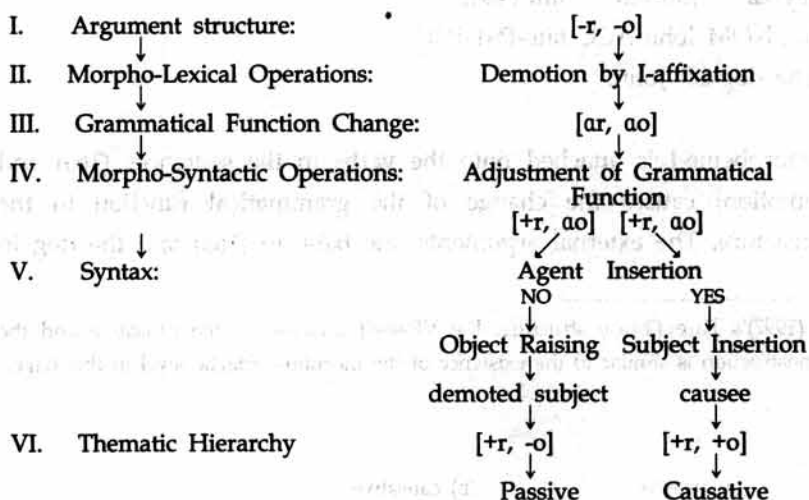
(b) causative

(16b) lose their base-generated grammatical functions of [-r, -o] and demoted to be nullified as [ar, ao]. The morpho-syntactic operations of [+Demotion] have the effect of internalizing arguments and result in [+r, ao] by the adjustment of grammatical functions.

The morpho-lexical operations subsequently work on the syntax for the vacated external argument in two-ways: one for the increase of the argument, in which the agent is inserted for the causative and the demoted subject get the thematic role of [+r,+o] according to the thematic hierarchy; and the other for the reduction of the argument, which is realized with promotion of the internal argument and the demoted subject get the thematic role of [+r,-o] for the passive later in the syntax. Consequently, the morpho-syntactic operation of [+Demotion] makes the causative affix increase the verb's valence by adding additional argument, subject, whereas the passive reduces it by one, occupying the subject position via object raising.

In summary, [+Demotion] of the morpheme-I affixation causes the argument change, and works between the morphology and the syntax with the morpho-lexical operations and morpho-syntactic operations, performing grammatical function change. The following table 6 illustrates the derivational process of the causative and the passive with the feature [+Demotion].

Table 6.



4.4.3 Further Evidence on Demotion

Another kind of demotion is found in the lexicon with the way of vocabulary enlargement: the adjectives take the morpheme-I to transform themselves into verbs extending the argument slots. For instance, the adjective *-nelp-ta* meaning wide is transformed into *nelp-hi-ta* meaning make wide.

- (17) *kil-i nelp-ta*
 road-NOM wide-IND
 'The rode is wide.'

The verb formation on the adjective in (17) will be a supporting evidence for the feature [+Demotion] in the morpho-lexical operations; the morpheme-I affixation working on the morpho-lexical level causes the grammatical change of the argument structure by the operation of [+Demotion]. The original external argument undergoes internalization and the valency of the verb is extended. The language universal rule of the Extended Projection Principle requires the agent insertion with the morpho-syntactic operations. Thus this kind of transitive making processes of adjectives with morpheme-I affixation support the morpho-lexical operations of [+Demotion] and the morpho-syntactic operations of agent insertions.

5. Conclusion

Starting with the phonetic similarity of the causative verb and the passive verb, the implied relationship is captured by the morpheme-I distribution. Marantz's alternation account of the causative to passive is grammatically reinterpreted by feature analysis; Marantz's d-structure merge for the causative is recaptured by the subject demotion and the agentless verb for the passive by the object promotion accompanying the subject demotion. Also the residual homophones conventionally resorted to the property of [+/-benefactive] serve as a stepping stone for connecting the causative with the passive. Thereby, the relationship between the passive and the causative presented on the morphology

is represented by the shared property [+Demotion] in the syntax. This serves an evidence that morphology mirrors the syntactic property, and also works on the interface of morphology and syntax with the morpho-syntactic operations of promotion and agent insertion.

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Seung Jae Lee

Tourism English Interpretation

Hotel & Tourism Management, Kyung Hee University

1 Hoyki-dong, Tongtaymun-gwu.

Seoul 130-701, Korea

Phone: 82-2-961-9387

Email: sjleeth@khu.ac.kr

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