Covert generic causatives in Korean: A dispositional ascription analysis[1]

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Abstract. This paper introduces a rarely discussed type of causatives in Korean, i.e. covert generic causatives. The construction conststs of a sole causer subject which is strictly non-agentive and a verb which is strictly non-causative. These causatives describe a dispositional causative property of the subject that brings about a result state describe by the verb. I propose that the verb undergoes covert causativization (i.e. zero causativization), taking a non-agentive causer subject. This causativizing strategy is unexpected in two ways: (i) Typologically unexpected in that covert causativization shows a restriction on one semantic domain, namely non-agentive causers; (ii) Locally unexpected in that Korean already has an overt causativizing strategy. I argue that this construction fills in a paradigmatic gap for non-agentive causers, since overt causatives require agentive causers. I further propose dispositional ascription analysis to account for covert generic causatives, and further claim they are a type of dispositional middles, extending the typology of middles.

Keywords: causativization, non-agentivity, dispositional ascription, argument realization, lexical semantics, Korean.

1. Introduction

This paper introduces a rarely discussed type of causatives in Korean, which I call covert generic causatives. This construction consists of a main verb which is in surface non-causative, and a sole causer subject, as in (1).

(1) chong-un cwuk-e.
gun-TOP die-DECL
'Guns kill e.g. people.'

Despite the non-causative form of the predicate, the expression gives rise to a causative reading which describes a dispositional property of the causer that brings about a result state. I argue that the predicate undergoes covert causativization via null morpheme, which is comparable to zero causativization (e.g. *Sun melts* vs. *Snow melts* in English), syntactically licensing the causer subject. I propose that this covert process forms a paradigmatic counterpart to an overt causativizing strategy (i.e. morphological causativization) that Korean has, using an overt morpheme *-i/hi/li/ki/wu/kwu/chwu*.

I show that the covert and overt process crucially differ with respect to the agentivity of a causer that the causativized predicate takes; the overt process adds an agentive causer to the meaning, as in (2a), while the covert process adds a non-agentive causer, as in (2b).

(2) a. holangi-nun salam-ul cwuk-y-e.
tiger-TOP person-ACC die-CAUS-DECL
'Tigers kill people.'

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b. chong-un cwuk-∅-e.
gun-TOP die-CAUS-DECL
'Guns kill e.g. people.'

Thus, covert generic causatives fill in a paradigmatic gap for non-agentive causers which exists due to an agentivity constraint imposed on overt causatives (i.e. morphological causatives).

Another difference between the two processes is that overt causativization gives rise to either direct or sociative causation whereas covert causativization gives rise only to direct causation. I show that causativization, either overt or covert, is sensitive to verb classes with respect to the type of causer that it adds to the meaning. Specifically, patient-subject verbs (i.e. statives, non-causative change-of-state verbs) adds a direct causer, giving rise to direct causation, whereas agent-subject verbs (i.e. activity verbs, causatives) adds a sociative causer, giving rise to sociative causation. I propose that these differences in the behavioral profiles of causativization can be attributed to the property *uniqueness of participants* (Krifka, 1998); simply put, each thematic role is uniquely assigned to just one participant. I argue that covert causativization never gives rise to sociative causation due to the semantic conflict between non-agentivity contraint that it imposes on an added causer, and the nature of sociative causers being agentive.

Covert causativization raises both language specific and typological interest. Language specifically, it is an unexpected strategy since a causativizing strategy already exists in Korean, namely overt causativization. Typologically, covert causativization is an unexpected strategy since it shows restriction on one semantic domain, namely the non-agentivity of the causer.

I further argue that covert generic causatives are a type of dispositional middles (e.g. *This bread cuts easily*), extending the typology of middles; nonetheless, I acknowledge the fact that they are two separate constructions, given their apparent structural differences. Despite the difference in what their dispositional description is about (i.e. patient vs. causer), covert generic causatives show a key property of dispositional middles: (i) they are generic; (ii) they are intransitive; (iii) they involve causative semantics; (iv) they involve an unexpressed argument in their meaning. I thus propose dispositional ascription analysis, originally proposed for dispositional middles (Lekakou, 2004), to account for covert generic causatives.

In section 2 I introduce covert generic causatives, mainly arguing for the subjecthood of the causer argument. In section 3 I discuss two main properties of covert generic causatives, compared to overt causatives. In section 4 I propose the causativization paradigm in Korean that accounts for both covert generic causatives and overt causatives. In section 5 I analyze covert generic causatives via dispositional ascription analysis, given their overlapping properties with dispositional middles. In section 6 I conclude.

2. Syntactic properties of covert generic causatives

The main focus of this section is to discuss the syntactic properties of covert generic causatives[2], specifically the non-canonical grammatical relation between the causer DP and the verb whose

[2]There has been little prior work on this construction. Few prior studies have discussed similar constructions, in which the first DP has been analyzed as a topic that is pragmatically interpreted as a causer (Bak, 1981; Ahn et al., 1992). I will argue for the subjecthood of the first DP in this section.

form does not overtly encode a causative meaning. Covert generic causatives, illustrated in (3), consist of a non-causative verb, which expresses a result state, and a causer argument. The puzzle is that despite its non-causative form, the predicate seems to take a causer subject like a causative, giving rise to a causative reading.

(3) chong-un cwuk-e.
gun-TOP die-DECL
'Guns kill e.g. people.'

Note that canonically, non-causative change-of-state verbs (e.g. *cwuk-* 'die') only take patient subjects, not causer, as in (4a), and thus do not appear in canonical causative constructions. As in (4b), only a causative (e.g. *cwuk-y-* 'kill'), not a non-causative form, can take a causer subject.

(4) a. salam-un cwuk-e.
person-TOP die-DECL
'People die.'
b. holangi-nun salam-ul {cwuk-**y**-e/*cwuk-e}.
tiger-TOP person-ACC die-CAUS-DECL/die-DECL
'Tigers kill people.'

Korean is known to allow null arguments (i.e. *pro*-drop) relatively freely. Arguments can be optional without impairing the acceptability of a sentence, as in (5).

(5) a. Did Sarah bring her book?
b. e, (kyay) (chayk) kacye-wa-ss-e.
yes that.person book bring-come-PST-DECL
'Yes, she brought the book.'

This *pro*-drop analysis suggests that covert generic causatives may involve a *pro*-dropped patient, which fills in the gap between the causer argument and the non-causative verb. This section argues against the *pro*-drop analysis, arguing for the sole subjecthood of the causer and an absence of an unexpressed patient, via three converging lines of evidence.

2.1. Subject control

Reflexives and subject-controlled adjunct clauses have been argued to be typically oriented toward subjects. A *pro*-drop analysis predicts that one would see subject-oriented properties with respect to the unexpressed patient. In contrast, a sentence with a subject-controlled adjunct, e.g. *-ttay* 'when'-clause, is only acceptable when *PRO* refers to the causer, and not the patient, as in (6); see Yoon (2004) for the subjecthood of non-nominative subjects.

(6) ppang$_i$-un [PRO$_{i/*j}$ sinsenha-l **ttay**] salccy-e.
bread-TOP fresh-COMP when become.fat-DECL
'Bread$_i$ fattens e.g. people$_j$ when PRO$_{i/*j}$ fresh.'

The grammaticality of (6) supports that the causer (e.g. *ppang* 'bread') is the only grammatical subject of the verb. Ideally, this result for the subjecthood of the causer should be further supported by the other two tests that have been previously used for the same purpose, i.e. the reflexive pronoun *caki* 'self' and a rationale clause with *-wihay* 'in order to'. Nonetheless,

it seems impossible to construct causer-controlled sentences with respect to *caki* 'self' and a rationale clause. I argue that this relates to a non-agentive condition seemingly imposed on causers in covert generic causatives.[3] This contradicts with an agentive condition that the reflexive *caki* 'self' and a rationale clause seem to impose on their subjects, as in (7).

(7) a. koyangi$_i$-ka/*hwapwun$_i$-i **caki**$_i$ pang-ey iss-e.
cat-NOM/flower.pot-NOM self room-LOC exist-DECL
'The cat$_i$/The flower pot$_i$ is in self$_i$'s room.'
b. koyangi$_i$-ka/*hwapwun$_i$-i [PRO$_i$ hayspich-ul pat-ki **wihay**]
cat-NOM/flower.pot-NOM sunlight-ACC receive-NMLZ in.order.to
pang-ey iss-e.
room-LOC exist-DECL
'The cat/The flower pot is in the room to receive sunlight.'

But the degree to which modifiers with *PRO* subjects are possible, they clearly do not point to the patient, as in (8).

(8) a. *swul$_i$-un **caki**$_j$ cip-eyse masi-myen ppalka-ycy-e.
alcohol-TOP self house-LOC drink-if red-become-DECL
Intended: 'Alcohol$_i$ reddens (e.g. people$_j$) if they drink at self's$_j$ house.'
b. *swul$_i$-un [PRO$_j$ chwiha-ki **wihay**] ppalka-ycy-e.
alcohol-TOP become.drunk-NMLZ in.order.to red-become-DECL
Intended: 'Alcohol$_i$ reddens (e.g. people$_j$) to PRO$_j$ become drunk.'

It is unacceptable when *caki* 'self' or a *PRO* in a subject-controlled adjuncts is controlled by the unexpressed patient (e.g. people). This argues against the subjecthood of the patient.

2.2. Adverbial modification

Adverbs show different distributions with respect to what they can modify. Sentential adverbs such as subject-oriented adverbs and aspectual adverbs (e.g. *carefully*, *clumsily*) can appear sentence-initially, modifying a causing event (e.g. John's spilling of the beans, in (9a)) (Jackendoff, 1972). In contrast, verb phrase-level adverbs such as manner, degree or time adverbs (e.g. *infrequently*, *completely*) cannot occur sentence-initially, as in (9b); they can only modify a caused event (e.g. the beans being spilt in *John spilled the beans completely*) (Tenny, 2000).

(9) a. Clumsily, John spilled the beans.
b. *Completely, John spilled the beans.

The distinction between sentential adverbs and verb phrase-level adverbs is also observed in Korean. An aspectual adverb, *kapcaki* 'suddenly', can appear sentence-initially, as in (10a), whereas a degree adverb, *wancenhi* 'completely', cannot, as in (10b).

(10) a. kapcaki swuci-ka salccy-ess-e.
suddenly Suji-NOM become.fat-PST-DECL
'Suddenly, Suji became fat.'
b. *wancenhi swuci-ka salccy-ess-e.
Completely Suji-NOM become.fat-PST-DECL

[3]The agentivity of causers will be later argued, in section 3.

'*Completely, Suji became fat.'

More importantly, subject-oriented adverbs make similar predictions about covert generic causatives. Only the adverbs that are oriented toward the syntactic subject of the verb (e.g. *salccy-* 'become fat') between two possible candidates, a causer (e.g. *ppang* 'bread') and an unexpressed patient (e.g. people), will appear sentence-initially. Here, I test this pattern with the adverb *hwahakcekulo* 'chemically', oriented toward the causer *ppang* 'bread', and *kepwukhakey* 'uncomfortably', oriented toward the patient 'people', as in (11).

(11) a. hwahakcekulo ppang-un salccy-e.
chemically bread-TOP become.fat-DECL
'Chemically, bread makes, e.g. people, to become fat.'
b. *kepwukhakey ppang-un salccy-e.
uncomfortably bread-TOP become.fat-DECL
Intended: 'Uncomfortably, bread makes, e.g. people, to become fat.'

As in the examples above, only the adverb oriented toward the causer can appear sentene-initially, supporting not only that the causer is the subject of the predicate, but also that the patient is not.

2.2.1. Honorification

Referent honorifics *-si* (i.e. HON.REF) are marked on predicates and show an honorific agreement with subjects that require an honorific marking (i.e. HON). The general pattern of a referent honorific subject-predicate agreement is illustrated in (12) (Brown, 2015); see Yoon (1996) for the subjecthood tests for non-nominative subjects. As in (12), the referent *emeni* 'mother' agrees with the predicate, which is shown by the use of a nominative honorific marker, *-kkeyse*, on the subject and *-sy* on the predicate.

(12) pothong emeni-tul**-kkeyse**-nun chincelha*(**-sy**)-e.
generally mother.HON-PL-NOM.HON-TOP kind-HON.REF-DECL
'Generally, mothers are kind.'

The referent honorific subject-predicate agreement is obligatory even when the subject that requires an honorific marking (e.g. *emenitul* 'mothers') is *pro*-dropped.

I show the verb of a covert generic causative shows a referent honorific agreement with the causer, and not with the unexpressed patient. A *pro*-drop analysis predicts that the verb will show the referent honorific agreement with the patient in covert generic causatives. (13) intends to describe a general property of knives in which they cause, e.g. elder people (HON), to get hurt.

(13) *khal-un tachi**-sy**-e.
knife-TOP get.hurt-HON.REF-DECL
Intended: 'Knives get people (HON) hurt.'

A *pro*-drop analysis incorrectly predicts that the verb will show an honorific agreement with the unexpressed patient. The unacceptability of (13) suggests that the unexpressed patient is not the grammatical subject of the verb, but rather, the causer may be.

In order to argue for the analysis that the causer is the grammatical subject, we need evidence

in which the verb shows a referent agreement with the causer; this includes a clear assumption that the patient does not require honorific marking. Nonetheless, such a construction appears to be ungrammatical, as in (14). The example intends to describe a general property of elders in which they cause e.g. children, to get hurt, assuming the context in which the speaker has a belief that elders are clumsy and have a general tendency to hurt children a lot.

(14) *elusin-tul-un tachi(**-sy**)-e.
elder.HON-PL-TOP get.hurt-HON.REF-DECL
Intended: 'Elders (HON) get people hurt.'

(14) is still ungrammatical even without the referent honorific marker *-si*; the sentence would have been acceptable if the patient was the subject. (14) seems to suggest that neither the causer nor the patient is the right candidate for the subject of the verb. However, I argue that the ungrammaticality is due to the agentivity of the causer argument, and not related to its subjecthood; this relates to the observation that covert generic causatives seems to allow only non-agentive causers, and the fact that non-agentive entity denoting expressions never receive honorific marking in Korean.

Thus, the referent honorific agreement pattern does not provide us direct evidence to support the subjecthood of the causer, but is still sufficient to conclude that the patient is not the subject of the verb in covert generic causatives.

In this section, I have argued that the verb of a covert generic causative is indeed syntactically intransitive, and grammatically licenes the causer subject, not the unexpressed patient. The three pieces of evidence not only support that the causer is the only subject of the verb, but also show that the patient argument is not syntactically present, and thus is not *pro*-dropped.

3. Semantic properties of covert generic causatives

In this section, I show that covert generic causatives have two distinct semantic properties compared to morphological causatives: (i) they always give rise to direct causation; (ii) they only take non-agentive causer subjects.

3.1. The type of causation

Morphological causatives in Korean have been analyzed as giving rise to direct causation, while periphrastic causatives are compatible with indirect causation (Shibatani, 1973). This can be observed by testing their compatibility with a context involving temporally separted events (Fodor, 1970) and with a complex causing event with a contextually-established intermediate cause (Kratzer, 2005); expressions giving rise to direct causation have been argued to be incompatible with both contexts, whereas expressions compatible with indirect causation are compatible with either context.

First, morphological causatives cannot describe the same context involving temporal separation between the two events, as in (15).

(15) *sala-ka os-ul thoyoil-ey kencotay-ey nele-se ilyoil-ey
Sarah-NOM clothes-ACC saturday-at drying.rack-LOC hang-by sunday-at

mal**-ly**-ess-e.
dry-CAUS-PST-DECL
'Sarah dried (e.g. her) clothes on Sunday by hanging them on the drying rack on Saturday.'

Moreoever, morphological causatives are not compatible with a context with a contextually-established intermediate cause, as in (16).

(16) a. The context of indirect causation: Suppose Eugene left his shirt on the chair, which got wet by the heavy rain. He was collecting other clothes to take them and his shirt to the laundry, while Sarah turned on the fan to cool herself down. Eugene's shirt, which happened to be in front of the fan, fully dried before Eugene collected it for laundry.

b. #sala-ka yucin-uy syechu-lul mal**-ly**-ess-e.
Sarah-NOM Eugene-GEN shirt-ACC dry-CAUS-PST-DECL
'Sarah dried Eugene's shirt.'

Example (16b) can only describe a direct context, e.g. Sarah intentionally used the fan as an instrument to dry Eugene's shirt.

Morphological causatives in Korean also give rise to sociative causation. Sociative causation, described in (17), has been argued to fall inbetween direct and indirect causation (Shibatani and Pardeshi, 2002); see Shibatani and Chung (2002) for Korean. It involves a causer of a sociative causing event (e.g. *sensayngnim* 'teacher'), generally agentive, and an agent or a causer of a main event (e.g. *haksayngtul* 'students'). Given their semantic implications, the causer of sociative causation is referred to as 'sociative causer', while the causer of direct causation is referred to as 'direct causer'.

(17) sensayngnim-i haksayngtul-ul yek-kkaci kel**-ly**-ess-e.
teacher.HON-NOM students-ACC station-to walk-CAUS-PST-IND
'The teacher walked the students/directed the students to walk to the station.'

In sociative causation, the sociative causer plays a less direct role in the event than in direct causation, in that they are not the agent or the direct causer of the main event. (17) is compatible with the reading in which the teacher supervised the students walking to the station but did not necessarily walk with them. Compared to indirect causation, sociative causation is more direct in that the sociative causer is more involved in the event in some sense, and frequently is the one that has initiated the action. The sociative causer can be involved either by helping with the action or keeping the agent or the direct causer under their supervision when performing the action.

When a context further specifies that the causer, e.g. *Sarah*, is clearly not involved in the event in any way, the causing event can only be described with periphrastic causatives (i.e. *-key ha-*), as in (18) (Shibatani and Pardeshi, 2002).

(18) sala$_i$-ka [caki$_i$-ka cip-eyse yoliha-nun tonganey] yucin-ul hakkyo-kkaci
Sarah-NOM self-NOM home-LOC cook-COMP while Eugene-ACC school-upto
{ket**-key ha**-yss-e/*kel**-ly**-ess-e}.
walk-COMP-do-PST-DECL/walk-CAUS-PST-DECL
'Sarah$_i$ made Eugene walk to school while she$_i$ cooked at home.'

The example above illustrates the context in which the causer *Sarah* cannot be physically involved in the walking event with Eugene since she cannot be at home cooking and walking Eugene to school at the same time.

In contrast to morphological causatives which give rise to either direct or sociative causation, covert generic causatives only give rise to direct causation. First, example (19) shows that in covert generic causatives, the event of causing (e.g. raining) and the causing of a caused event (e.g. some generic patient to become rusty) cannot be temporally separated.

(19) *sansengpi-nun [cennal nayli-m-ulosse], ku taumnal pwusik-toy-e.
acid.rain-TOP before.day fall-NMLZ-by that next.day rust-become-DECL
Intended: 'Acid rain rusts the next day by raining the day before.'

Second, example (20) shows that covert generic causatives disallow any intermediate causes, implying direct causation.

(20) a. The context of indirect causation: There is a solar panel which is the only source of electricity in the house. Clothes are naturally dried in the house, unless there is enough energy saved by the sun to turn on the fan. And the fan facilitates the clothes to dry faster.
b. #hayspich-un cal mall-a.
sunlight-TOP well dry-DECL
Intended: 'Sunlight dries well.'

However, covert generic causatives are not compatible with contexts of sociative causation. (21) not only shows that covert generic causatives are incompatible with contexts that describe sociative causation, but also shows that the construction itself is ungrammatical.

(21) a. The context of sociative causation: Sarah is good at directing or helping how to peel fruits.
b. *sala-nun cal kkakk-acy-e.
Sarah-TOP well peel-become-DECL
Intended: 'Sarah directs/helps someone well to peel e.g. fruits.'

Thus, covert generic causatives always give rise to direct causation which contrasts with morphological causatives that give rise to sociative causation as well as direct causation.

3.2. The agentivity of causer subjects

Morphological causatives restrict their subject to be strictly agentive[4], as in (22); compare English which for some causatives allows the subject to be underspecified[5] (e.g. John/The hammer/The wind/John's stupidity broke the vase).[6]

[4]See Yeon (2008), Wolff et al. (2009), and Jo (2020) for the same restriction imposed by lexical causatives in Korean.

[5]The underspecified causer is used as a cover term that refers to both agentive and non-agentive causers (i.e. instruments, natural force, personal characteristics); it has also been referred to as 'effectors' (Van Valin and Wilkins, 1996).

[6]Prior work on causatives has suggested that there are two major sorts of causers. The definition of agentive and non-agentive causation follows Beavers and Zubair (2013, p. 33): agentive causation refers to causation by the subject's action/volition whereas non-agentive causation refers to causation by "some stative property of

(22) sala-ka/*mangchi-ka/*palam-i/*sala-uy mengchengham-i elum-ul
Sarah-NOM/hammer-NOM/wind-NOM/Sarah-GEN stupidity-NOM ice-ACC
el-**ly**-ess-ta.
froze-CAUS-PST-DECL
Intended: 'Sarah/The hammer/The wind/Sarah's stupidity froze the ice.'

In contrast, covert generic causatives also impose a strong condition on their causers, yet different from morphological causatives in that their causers are strictly non-agentive, as in (23a). An expression with an agentive causer, as in (23b), is no longer compatible with a causative reading, giving rise to a canonical reading in which a patient subject undergoes a change, *Tigers die*.

(23) a. chong-un cwuk-e.
gun-TOP die-DECL
'Guns kill.'
b. #holangi-nun cwuk-e.
tiger-TOP die-DECL
Intended: 'Tigers kill.'

In sum, in this section, I have shown the two semantic properties of covert generic causatives in comparision to morphological causatives. The next section accounts for these differences between the two types of causatives, while addressing their similarities given that they are both compatible with direct causation.

4. Proposal: the causativization paradigm in Korean

In this section, I provide an explanation for the non-causative verb's seemingly non-canonical licensing of causer subjects. I argue that a verb of covert generic causatives undergoes a covert causativization, taking a causer subject. I further propose a general causativization paradigm in Korean that explains the covert causativization in line with the overt causativization. Prior to the discussion on the covert causativization process that covert generic causatives undergo, I revisit previous analyses that have been proposed for overt morphological causativzaton process in Korean, and extend the analysis to account for covert generic causatives.

4.1. Revisiting overt morphological causativization: uniqueness of participants

Morphological causatives undergo an overt morphological causativization using a set of allomorphs *-i/hi/li/ki/wu/kwu/chwu*, giving rise to either direct or sociative causation. This contrasts with periphrastive causatives, causativized using *-key ha-*, which are compatible with indirect causation. The distribution of causative semantic inferences with respect to the two causativization strategies is as in table (24), modified from Shibatani and Chung (2002: 116).

(24)

Direct / Sociative	Indirect
-i/hi/li/ki/wu/kwu/chwu	*-key ha-*

disposition of the subject". The scope of this paper remains within the range of making a distinction between agentive and non-agentive causers with respect to their empirical patterns, without addressing further theoretical discussions.

This illustrates the empirical pattern that different semantic effects arise from morphological causativization, direct and sociative causation. One main prediction of this analysis is that every morphological causative is assumed to be compatible either with direct or sociative causation. In this section I show that the pattern of causativization process in fact shows the effect of semantic verb classes in determining which type of causation arises, and to account for this empirical pattern, adopt the *uniqueness of participants*, proposed by Krifka (1998).

Morphological causatives in Korean are attested across four semantic verb classes (i.e. statives, non-causative change-of-state verbs, activities, causatives). This is illustrated in (25).

(25) a. Statives

nelp-	'be wide'	*nelp-**hi-***	'cause to become wide'
nuc-	'be late'	*nuc-**chwu-***	'cause to become late'

b. Non-causative change-of-state verbs

el-	'become frozen'	*el-**li-***	'cause to become frozen'
ssek-	'rot'	*ssek-**hi-***	'cause to become rotten'

c. Activities

ket-	'walk'	*kel-**li-***	'cause to walk'
mek-	'eat'	*mek-**i-***	'cause to eat'

d. Causatives

kkakk-	'peel'	*kkakk-**i-***	'cause to peel'
takk-	'clean'	*takk-**i-***	'cause to clean'

The four verb classes behave differently in two ways with respect to the type of causer subjects they take, when morphologically causativized. Specifically, statives and non-causative change-of-state verbs share in common taking a patient subject, while activities and causatives take an agent subject; note that causatives in Korean require its subject to be strictly agentive. I refer to the former group as patient-subject verbs, and the latter group as agent-subject verbs. I show that when causativized, patient-subject verbs give rise to direct causation, whereas agent-subject verbs give rise to sociative causation. First, when a patient-subject verb is causativized, the process adds a causer which gives rise to direct causation like lexical causatives, i.e. a direct causer, as in (26).

(26) a. emma-ka kil-ul nelp-**hy**-ess-e.
mother-NOM road-ACC wide-CAUS-PST-DECL
'Mother widened the road.'

b. emma-ka elum-ul el-**ly**-ess-e.
mother-NOM ice-ACC be.frozen-CAUS-PST-DECL
'Mother froze the ice.'

In both examples, the causativized verb entails that the added causer (e.g. *emma* mother) is the direct causer of the event (e.g. widening in (26a) and freezing in (26b)). In contrast, when an agent-subject verb is causativized, the process adds a causer which gives rise to sociative causation, i.e. a sociative causer, as in (27).

(27) a. emma-ka ai-lul wus-**ky**-ess-e.
mother-NOM child-ACC laugh-CAUS-PST-DECL
'Mother made the child laugh.'

b. emma-ka ai-lul/eykey sakwa-lul kkakk-**y**-ess-e.
mother-NOM child-ACC/DAT apple-ACC peel-CAUS-PST-DECL

'Mother made the child peel the apple.'

In both examples, the added causer (e.g. *emma* 'mother') is not the direct causer of the event (e.g. causing to laugh in (27a) and causing to peel in (27b)). Both sentences give rise to the reading where the added causer helps or supervises the subject of an input verb (e.g. *ai* 'child') who is the agent of the main event (e.g. laughing in (27a) and peeling in (27b)). Thus, causativization process shows sensitivity as to whether an input verb is a patient-subject verb or an agent-subject verb.

Previous semantic analyses on morphological causativization in Korean assumes causativization as a single semantic process that adds a causer, without specifically identifying the properties of its input verbs. A modified version of Pylkkänen's (2008) universal CAUSE is represented in (28), proposed by Jo (2021: 147). *Cause* takes either an event or a state to capture the fact that all verb classes above can be causativized.

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

This falsely predicts that every morphological causative should be semantically identical. There are two limitations of this analysis which contradict with the empirical pattern: (i) the causativization gives rise to a single semantics; (ii) it presupposes that the process uniformly applies to all semantic verb classes. Thus, we need a tool to explain that different semantics arise from causativization, direct and sociative causation, crucially showing a verb class effect of an input verb.

An important common thread between the two results of causativization is that in both cases there is only one agent who causes a direct causation in the event. It seems that a sociative causer is added when a direct causer is already present in the event (i.e. agent-subject verbs). I argue that this empirical pattern can be neatly explained by the property *uniqueness of participants*[7] (Krifka, 1998) while assuming the cauastive semantics in (28): each thematic role is uniquely assigned to just one participant. This property adds a specification that a participant cannot be added when the participant of the same thematic role already exists in the meaning. It explains why a sociative causer, and not another direct causer, is added to the causal event. Nonetheless, it still requires a tool to explain why only a direct causer, and never a sociative causer, is added when patient-subject verbs are causativized. We also need to explain why the semantics chooses to add a specific type of causer, sociative causer, rather than blocking the causativization for agent-subject verbs.

To fully account for these facts, I further argue for a prototypical hierarchy of causers in the causal structure of an event. The causal structure prefers a true direct causer and then a sociative causer. Sociative causer is a direct causer which follows a true direct causer in a causal structure: a causer that is less direct than the true direct causer but still to some extent directly involved in the event. This resolves a clash between two direct causer existing in the causal chain. Thus, given the property *uniqueness of participants* and the causal hierarchy, causativization works as follows: by default, causativization adds a direct causer which is the best candidate added to the causal chain due to the causer hierarchy, but when an agent is already present (i.e. agent-subject verbs), an added direct causer is interpreted as a sociative

[7]The formalization assumes the event semantics of Davidson (1967). Here I mainly consider the relation between an agent and a verbal predicate without addressing further theoretical issues.

causer which is the next best candidate in the causal structure.

Thus, this section has shown that the semantic implications that morphological causatives give rise to show a verb class effect. In the next section, I show how the verb of covert generic causatives licenses its causer subject, and propose a causativization paradigm that explains both morphological causatives and covert generic causatives.

4.2. Covert causativization

One of the properties of covert generic causatives discussed in §3 is that they exclusively take non-agentive causers as their subjects, and this property contrasts with the agentivity constraint that morphological causatives in Korean show. I assume that the non-causative verb of covert generic causatives undergo covert causativization via null morpheme. Overt and covert causativization only differ in the kind of causer that it adds to the semantics; the overt process adds an agentive causer while the covert process adds a non-agentive causer. I then propose a causativization paradigm for Korean causatives which explains the two causativization process as well as the types of causation that each process gives rise to.

First, I argue for covert causativization which allows the non-causative verb of covert generic causatives to take a non-agentive causer subject. As discussed in §4.1, I adopt the causal semantics for overt causativization from Jo (2021). I assume the same causal semantics for covert causativization. The difference is the overt process is introduced by an overt morpheme *-i/hi/li/ki/wu/kwu/chwu* while the covert process is done by a null morpheme -∅. The crucial difference between these two processes is that they impose different semantic contraints on their added causer. Thus, causatives in Korean form a paradigm. Causativization by default adds a direct causer to the semantics while specifically for agent-subject verbs, it adds a sociative causer due to *uniqueness of participants* and the causer hierarchy. Given this pattern, the overt process contrains the causer to be agentive whereas the covert process contraints it to be non-agentive.

The last puzzle piece is that covert generic causatives only give rise to direct causation and never to sociative causation. In fact, covert generic causatives show sensitivity to verb class like morphological causatives. Only patient-subject verbs can be covertly causativized giving rise to direct causation.

(29) a. pesu-nun nuc-e.
bus-TOP be.late-DECL
'Trains cause to be late.' (statives)

b. nayngcangko-nun el-e.
refrigerator-TOP be.frozen-DECL
'Refrigerators cause to become frozen.' (non-causative change-of-sate)

We thus need an explanation for what is blocking agent-subject verbs to be covertly causativized, and why thus covert causativization never gives rise to sociative causation. I argue that there is a contradiction between the nature of a sociative causer which agent-subject verbs select when causativized and the covert process that adds a non-agentive causer. The reason why sociative causation is not attested in covert generic causatives is that it is conceptually impossible for a non-agentive causer to be sociative; sociative causers are presupposed to be agentive and thus this type of causer, non-agentive sociative causer, is precluded. Thus, the causativization

paradigm can be summarized as below.

(30) Causativization paradigm in Korean:

	overt causativization (adds agentive causer)	covert causativization (adds non-agentive causer)
patient-subject verbs	direct causation	direct causation
agent-subject verbs	sociative causation	N/A

In this section, I have shown that the verb of covert generic causatives undergoes covert causativization, and thus is non-causative by its form but causative by its semantics. I have further accounted that covert generic causatives only give rise to direct causation due to the natural property of sociative causers. In sum, I have proposed a causativization paradigm for Korean causatives that explains a verb class effect that both morphological causatives and covert generic causatives show. In the following section, I will propose a dispositional ascription analysis for covert generic causatives by analyzing this construction as a type of dispositional middles.

5. Covert generic causatives as a type of dispositional middles

In this section, I argue that covert generic causatives and dispositional middles are functionally similar, and thus covert generic causatives are a type of dispositional middles. Covert generic causatives show four key syntactic and semantic properties of dispositional middles: (i) they are generic, specifically giving rise to a dispositional reading; (ii) they are syntactically intransitive; (iii) they involve cauasative semantics; (iv) they involve an unexpressed argument in their meaning. Despite their formal similarities, the two constructions show paradigmatic contrast in what their dispositional description is about; covert generic causatives express a disposition of what causes the general change, whereas dispositional middles express a disposition of what undergoes the general change.

Dispositional middles, also known as middle constructions (e.g. (31a)), are defined as syntactically intransitive and also give rise to a generic reading (Condoravdi, 1989; Ackema and Schoorlemmer, 1994, 2017). Following Condoravdi (1989), they are assumed to be a targeted interpretation of genericity which is realized in different ways across languages depending on how they encode this genericity (e.g. unergative verbs in English/Dutch vs. (reflexive) passives in Greek/French) (Lekakou, 2004). Crucially, while taking a patient subject, dispositional middles still semantically imply an unexpressed agent; yet, the unexpressed agent cannot be syntactically realized, as in ((31b)).

(31) a. This glass breaks easily.
b. *This bread cuts easily by John. (Condoravdi, 1989: p.16)

The core semantic properties of middles are given in (32). The core semantic components follow those of the middle interpretation proposed for personal middles, i.e. dispositional middles, by Lekakou (2004); these core semantics have been further extended to impersonal middles (Lekakou and Pitteroff, 2018).

(32) The core components of the middle interpretation: (Lekakou, 2004: p.183)
a. The internal argument (the understood or notional object) is the subject of the

sentence.

b. The reading is non-eventive; middles do not make reference to an actual event having taken place, they rather report a property of the grammatical subject. The otherwise eventive verb becomes a derived stative and, more precisely, receives a generic interpretation.

c. The agent is syntactically suppressed and receives an arbitrary interpretation.

The semantics given above, while specifiying the types of arguments that are expressed (i.e. patient) and are suppressed (i.e. agent) in dispositional middles, show important overlapping properties as covert generic causatives; middles involve an argument that is syntactically suppressed, receiving an arbitrary interpretation, and an argument about which the expression describes a non eventive, thus generic interpretation.

Based on these functional similarities, I argue that covert generic causatives are a type of dispositional middles. Despite their difference in what their dispositional description is about, the two constructions show significant overlapping properties regarding the existence of syntactically suppressed argument and the generic interpretation of the expressed argument. I further extend the typology of middles by proposing a larger understanding of middle interpretation, taking into account these similarities, as in (33).

(33) The core components of the middle interpretation (proposed)

a. The reading is generic, describing a dispositional property of the grammatical subject.

b. There is an argument, subject of the sentence, which receives that generic interpretation.

c. There is an argument that is syntactically suppressed and receives an arbitrary interpretation.

The only difference between the two constructions is that covert generic causatives describe a dispositional property of a causer whereas dispositional middles describe that of a patient. And following this difference, covert generic causatives involve a syntactically suppressed patient while dispositional middles involve a syntactically suppressed agent/causer.

I propose dispositional ascription analysis to account for covert generic causatives, initially proposed for dispositional middles by Lekakou (2004). Contra previous syntactic analyses on middles, dispositional middles have been argued to be dispositional ascriptions to the internal argument (i.e. Middle Interpretation) (Lekakou, 2004: 184). This is given in (34).

(34) Middle Interpretation = the ascription of a dispositional property to the understood object.

The analysis of dispositional middles follows the analysis of dispositional *will* (Brennan, 1993), specifically adopting dispositional ascription analysis by Fara (2001). On this analysis, the dispositional description of an argument addresses an intrinsic property of that argument, beyond addressing a general fact about it; this is illustrated in (35).

(35) a. '*N* is disposed to *M* when *C*' is true iff *N* has an instrinsic property in virtue of which it *M*s when C.

b. Sugar is disposed to dissolve when put in water. (Fara 2001)

Dispositional ascriptions are argued to be subject-oriented, since they mainly describe a dispositional property of the subject, as in (36).

(36) Context: Midas has a special ability that turns everything he touches into gold.
?? Bread is disposed to turn into gold when touched by Midas.

(36) intends to describe a general fact which depends on the special ability of *Midas* that he turns everything he touches into gold. Since this general fact relies on an intrinsic property of *Midas*, not bread, (36) is relatively unacceptable because it falsely gives rise to a generic reading oriented toward its subject, *bread*.

I suggest that this property explains the motivation for covert generic causatives. Since dispositional expressions are subject-oriented and Korean causative forms, both lexical and morphological, are only used with agentive causers. Thus, this allows the language to have no ways to express a dispositional property of non-agentive causers. This further accounts for the fact that covert generic causatives are always generic. Non-agentive causers can be expressed in episodic contexts, since episodic sentences are not subject-oriented. In episodic sentences, non-agentive causers alternatively appear as an adjunct due to the agentivity constraint imposed on causatives, as in (37).

(37) sala-ka yucin-ul chong-ulo cwuk-y-ess-e.
Sarah-NOM Eugene-ACC gun-with die-CAUS-PST-DECL
'Sarah killed Eugene with a gun.'

(38) attempts to describe the dispositional property of guns, similarly taking the non-agentive argument, e.g. *chong* 'gun', as an adjunct. The sentence does not give rise to a dispositional reading oriented toward the gun but rather toward the subject, *Sarah*.

(38) a. Context: the guns have dispositional property of killing an object at once, when used.
b. #sala-nun chong-ul ssol-ttay han peney cwuk-y-e.
Sarah-TOP gun-ACC shoot-when at.once die-CAUS-DECL
#'Sarah kills (has a tendency to kill) at once when shooting a gun.'

Thus, I argue that due to the subject-oriented property of dispositional sentences, the only way to describe a dispositional property of non-agentive causers is to take them as a subject, as in (39).

(39) chong-un cwuk-e.
gun-TOP die-DECL
'Guns kill.'

This also explains why covert causativization only adds direct causers like morphological causatives, giving rise to direct causation. Indirect causation of either agentive and non-agentive causers can be expressed via periphrastic causatives; non-agentive indirect causers can appear as a subject of periphrastic causatives. Compare (40) to (23b).

(40) chong-un salam-tul-ul ppalukey cwuk**-key ha**-y.
gun-TOP person-PL-ACC fast die-COMP do-DECL
'Guns cause people to die fast.'

Thus, I extend the middle interpretation in (34) to (41) in order to account for covert generic causatives.

(41) Middle Interpretation (extended) = the ascription of a dispositional property to the understood patient or causer.

In sum, I have argued that covert generic causatives are a type of dispositional middles, and have further proposed a dispositional ascription analysis for covert generic causatives.

6. Conclusion

The novel contribution of this paper is to provide evidence for a hiterto unattested type of causatives, referred to as a covert generic causative. Covert generic causatives represent two new constructions of typological interest: (i) causatives with non-agentive causers; (ii) dispositional middles with causer subjects. Putting all the pieces together, covert generic causatives are a type of causatives that not only fit into a causativization paradigm in Korean, but also adds a non-agentive puzzle piece into the paradigm. This construction is also a type of middles formed through the process of dispositional ascription. Thus, this construction extends a typological understanding of both causatives and dispositional middles.

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