A Comparative Study between English and Korean Resultative Constructions*

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1. Introduction

English resultative phrases, which describe the state of an argument resulting from the action denoted by the verb, are well known to occur only in limited environments. As illustrated in examples (1), English transitive and unaccusative verbs can appear with resultative phrases, but unergative verbs cannot:

(1) a. John hammered the metal flat.
b. The river froze solid.
c. *He shouted hoarse.

The ungrammaticality of unergative resultatives like (1c) can be saved by the addition of a so-called fake reflexive or a similar NP, as shown in examples (2):

(2) a. He shouted himself hoarse.
b. He cried his eyes out.
c. He ran the pavement thin.

There have been two prevailing analyses to account for such distributional behavior of resultatives phrases: Affected Theme Restriction (ATR) and Direct Object Restriction (DOR). The ATR (Goldberg 1995 among

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others) claims that the resultative phrase can be predicated of only a theme argument. Meanwhile, the DOR (Simpson 1983, Levin and Rappaport 1995, among others), built upon the Unaccusative Hypothesis, allows only an (underlying or surface) object to serve as the subject of the resultative phrase. One strong argument against the theta-role based former approach comes from unergative cases as in (2): the postverbal NPs in (2) appear to receive no thematic role from the main verb at all. If the NP can receive a theta role, there is no reason why we cannot have sentences like **He ran the pavement*. As for the English data, the latter DOR analysis seems to be more plausible. Under this account, the ungrammaticality of (1c) follows easily: The NP *he* is not the object but the subject of the main predicate. This analysis predicts the grammaticality of examples in (2): the postverbal NPs here are all the objects regardless of their theta role status. Further support for such an analysis can be found in the impossibility of examples like (3).

(3) a. *The lake froze the fish dead.
b. *The snow melted the road slushy. (Carrier and Randall 1992)
c. *Fred cooked on the stove black (Jackendoff 1990)
d. *John loaded the hay into the wagon full.

The fish in (3a) and *the road* in (3b) are neither the underlying nor the surface object. Also in (3c) and (3d), *on the stove* and *into the wagon* are oblique complements, not the objects.

This observation proves that the DOR analysis makes more sense for English resultative constructions. Yet, the question that follows is whether this DOR still can be applicable to other languages with different syntactic structures. Korean, which unlike English allows flexible word order, would be a good language to test such a syntactically based account. To this end, this paper first reviews the types of resultatives in Korean and shows that both the ATR and the DOR have difficulties in predicting the distribution and formation of Korean resultative constructions. The paper then provides an alternative, constraint-based approach within the framework of Head-driven Phrase Structure Grammar (HPSG). The final section is devoted to an explanation for the differences between the two languages and suggest why such differences arise.

2. Basic Properties of Korean Resultative Constructions

2.1. Resultative Types

In Korean, there are three main uses of resultative phrases. First, resultatives are predicated of direct objects of some transitive verbs.[1]

(4) Ku-nun soy-lul pyongpyongha-key chyessta.
He-TOP metal-ACC flat-COMP pounded
'He pounded the metal flat.'

In the example, the resultative phrase is predicated of the direct object of the transitive verb. One interesting type that cannot be found in English is that Korean transitive constructions allow a resultative phrase to be predicated of the subject of the embedded clause describing the result event:

(5) a. Ku-nun Mary-lul [chim-i malu-key] chingchanhayessta.
He-TOP Mary-ACC saliva-NOM dry.out-COMP praised
'(lit.) He praised Mary (his) saliva dried out.'
'He spoke in the highest terms of Mary.'

b. Ku-nun nolay-lul [mok-i swi-key] pullessta.
He-TOP song-ACC throat-NOM become.hoarse-COMP sang
'(lit.) Hesang songs (his) throat hoarse.'

The sentences in (5) show that the resultative phrases *malu-key* and *swi-key* are predicated not of the direct object but of the nominative subject *chim-i* and *mok-i*.

Another main use of resultatives involves the resultative constructions based on passive and intransitive (unaccusative) verbs, as in English:

(6) Thakca-ka kkaykkusha-key ttak-i-ess-ta.
table-NOM clean-COMP wipe-PAS-PAST-DCL
'The table was wiped clean.'

As for unergative resultatives, Korean appears to behave just like English:

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[1] In glossing Korean data, I adopt the Yale Romanization system and the following abbreviations: TOP (Topic), ACC (Accusative), COMP (Complementizer), NOM (Nominative), GEN (Genitive), DECL (Declarative), LOC (Locative), QUES (Question), MOD (Prenominal Modifier Marker).

(7) a. *Ku-nun aphu-key kichimhayessta
He-TOP sick-COMP coughed
'*He coughed sick.'

b. *Ku-nun cec-key wulessta.
He-TOP soggy-COMP cried
'*He laughed soggy.'

Unergative verbs describing the manner of action cannot have resultative attributes predicated of them. Like English, there is a way of saving this ungrammaticality:

(8) a. Ku-nun [(ku-uy) mok-i aphu-key] kichimhayessta
He-TOP (he-GEN) throat-NOM sick-COMP coughed
'He coughed his throat sore.'

b. Ku-nun [(casin-uy) sonswuken-i cec-key] wulessta.
He-TOP (self-GEN) handkerchief-NOM soggy-COMP cried
'He cried the handkerchief soggy.'

The main difference between the two languages we can observe, however, is that the NP that the resultative phrase in (8a) is predicated of is the *nominative* NP. This NP is directly related to the matrix subject: the optional specifier of the NP is in general coreferential with the matrix subject.[2]

2.2. Generalizations about Korean Resultative Constructions and Accompanying Issues

As observed in the previous section, one difference between Korean and English comes from the fact that Korean resultative phrases can be predicated of not only the object of the main predicate, but the subject of an independent clause in transitive and unergative verbs. This observation raises several empirical and theoretical issues.

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[2] As an anonymous reviewer pointed out, there are cases in which the specifier of the NP is not coreferential with the matrix subject:

(i) ai-tul-i [cihacheol-i huntulli-key] twie taniessta
children-PL-NOM subway-NOM swing-COMP ran play
'Children ran and play to the extent that the subway swang.'

When observing the flexibility in the possible types of resultatives in Korean, it is questionable whether all verb type scan occur with resultatives in principle. Are unergatives really impossible in Korean? As observed in (7), unergatives appear not to be able to occur with resultatives directly. To save the construction, they need to introduce a result event clause (a clause with a resultative phrase and its subject) as shown in (8). There has been an attempt to account for the explanation of the ungrammaticality of (7). For instance, Kim and Maling (1986) attribute the unacceptability to there being no pragmatic link between the act of coughing and the resultant state of being sick. But their pragmatic account seems to suffer from problems, especially when considering unacceptable cases where we can establish a pragmatic link between the action of the main predicate and the resultant state. For example, it is not difficult to imagine the link between the act of crying and the state of being tired in (9):

(9) *John-i phikonha-key wulessta.
John-NOM tired-COMP cried
'*John cried tired.'

The impossibility of unergative resultatives appears to rely on the lexical semantics of the resultative phrase rather than on pragmatics; the phrase requires a delimited lower bound (cf. Goldberg 1995 for English). The phrase like *phikonha-key* 'tired' has no delimited lower bound. Accepting this constraint (cf. Kim 1993) and the assumption that all types of verbs can occur with a resultative phrase, we can predict that if the added resultative phrase observes this aspectual constraint, it alone can occur with an unergative verb. This prediction is borne out:

(10) John-i nemeci-key talliessta.
John-NOM fall.down-COMP ran
'*John ran falling down.'

The sentence means that John ran and reached the resultant state of being falling down or fainting.

The next question is 'Is the DOR applicable to Korean also?' My answer is negative: as observed earlier, Korean allows cases where the resultative phrase is predicated of the subject of an independent clause. We have already seen that the resultative phrase can be predicated of the subject of an embedded clause as in (8).

Further, when the strategy of introducing an independent clause is adopted, even the unaccusative verb also allows the resultative phrase to be predicated of the lower clause's subject:

(11) ?Hoswu-ka [kokitul-i cwuk-key] elessta.
lake-NOM fish-NOM dead-COMP froze
'*The lake froze the fish dead.'

This observation shows that the strict syntactic DOR restriction does not hold in Korean.

Then, what about the Affected Theme Restriction? The examples in (12a) and (12b) show that the resultative phrase can be predicated of not only a theme but even a locative argument: [3]

(12) a. John-i mal-ul cichi-key talliessta. (ambiguous)
John-NOM horse-ACC tired-COMP ran
'John ran (his) horse tired.'

b. Ku-nun [pal-ey mulcip-i sayngki-key] kelessta.
He-TOP foot-LOC blister-NOM come.out-COMP walked
'He walked his foot blistered.'

The resultative phrases in (12a) can be predicated either of the subject or of the theme object. (12b) displays another interesting case where the resultative phrase is predicated of the locative argument in the independent clause.

One remaining issue is concerned with the question of whether or not Korean resultative constructions are adjunct clauses. Since a resultative phrase in unergative resultatives and the NP of which it is predicated form a sentential clause, one is tempted to assume that the two predicates involved in this construction are both main predicates, and this construction is similar to an adjunct clause. Such a claim (accepted by Kim and Maling 1996) appears not to be far-fetched when observing they are different from adjunct clauses only in the morphological forms of the predicative phrase:

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[3] Another remaining issue is concerned with the question of whether or not Korean resultative constructions are adjunct clauses. However, the comparison with true adverbial clauses reveals that resultative phrases are selected by the main predicate. See Kim 1998 for further discussion.

(13) a. Ku-nun [mok-i swi-key] wulessta.
He-TOP throat-NOM hoarse-COMP cried
'He cried his throat hoarse.'

b. Ku-nun [mok-i swi-lttaykkaci] wulessta.
He-TOP throat-NOM hoarse-until cried
'He cried until his throat become hoarse.'

However, there are several pieces of evidence showing that resultative constructions are basically different from adjuncts clauses, and that the resultative predicate is not a primary predicate but a secondary predicate selected by the main predicate.

First if the *-key* phrase is an adjunct phrase, then there is no reason why we cannot replace this with a true adverbial phrase: [4]

(14) a. John-un khayn-ul napcakha-key nwuless-ta
John-TOP can-ACC flat-COMP pressed
'John pressed the can flat.'

b. *John-un khayn-ul napcak-hi nwuless-ta
John-TOP can-ACC flatly pressed
'*John pressed the can flatly.'

As the difference in the English translations shows, the adjective *flat* serves as the predicate of the object *the can*, but not the adverb *flatly*. The same applies to Korean. If *napcakha-key* were taken to be an adverbial, then it would be unexpected why a similar adverb cannot replace it.

Another piece of supporting evidence for this claim comes from negation: the resultative phrase can be negated, but not the main verb (cf. Li 1990, Kim and Maling 1996). For example, in adjunct clauses like (15a), we have two possible readings as given in the translation. But in resultative con-

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[4] When a *-key* suffixed phrase is used as a true adverbial phrase, it can be replaced by its *-i* suffixed adverb:

(i) a. John-i ppall-i talin-ta
John-NOM fast-ADV run

b. John-i ppalu-key talin-ta
John-NOM fast-ADV run

As can be noticed, the two adverbials can be interchangeable with no difference in meaning. See Jang (1997) for further discussion.

structions like (15b), we have only one reading.

(15) a. Ku-nun [pay-ka aphul-ttaykkaci] mek-ci anhassta.
He-TOP stomach-NOM sick-until eat-COMP not
Reading A: 'He ate but he stopped when he felt pain in the stomach.'
Reading B: 'He didn't eat. He waited until he felt pain in the stomach.'

b. Ku-nun [pay-ka aphu-key] mek-ci anhassta.
He-TOP stomach-NOM sick-COMP eat-COMP not
Reading: 'He ate but stopped so that his stomach did not become painful.'
No possible reading: 'He didn't eat and as a result his stomach became painful.'

One obvious difference we observe here is that with the resultative clause in (15b) we cannot have the situation where he didn't eat. If the bracketed part of (15b) were also taken to be an adjunct, such a meaning difference would be hard to capture.

Another main argument lies in semantic restrictions of resultative constructions, hardly observed in adjunct clauses. The NP that the resultative phrase is predicated of should be correferential or closely related with one of the main predicate's arguments.

(16) a. Tom-un casin-uy/ku-uy sonswuken-i
Tom-TOP self-GEN/he-GEN handkerchief-NOM
ces-key wulessta.
soggy-COMP cried
'Tom$_i$ cried his$_i$ handkerchief soggy.'

b. *Tom-un John-uy sonswuken-i ces-key wulessta.

(17) Tom-un John-uy sonswuken-i cesul-ttaykkaci wulessta.
'Tom cried until John's handkerchief become soggy.'

It would be rather an unusual situation for Tom to cry so that someone else's handkerchief became soggy. A natural situation would be that Tom cried his handkerchief soggy. Such a semantic restriction can be violated hold in an adjunct clause. The contrast between (18a) and (18b) gives us a more clear difference: no direct relation can exist between Tom and dawn.

(18) a. ??/*Tom-un nal-i say-key nolassta.
Tom-TOP day-NOM dawn-COMP played
'Tom played day dawning.'

b. Tom-un nal-i say-lttaykkaci nolassta.
Tom-TOP day-NOMdawn-until played
'Tom played until day dawn.'

Further, unlike predicate phrases in adjunct clauses, resultative phrases have a delimited lower bound and are nongradable. The contrast in (19a) and (19b) illustrates this point:

(19) a. *Ku-nun phikonha-key nolayhayessta.
He-TOP tired-COMP sang
'*He sang tired.'

b. Ku-nun phikonhal-ttaykkaci nolayhayessta.
'He sang until he felt tired.'

Another similar restriction is that resultatives are not possible with verbs that inherit a delimited bound (cf. For English, see Goldberg 1995). Verbs like *anc-a iss-ta* 'sit' and *po-ta* 'watch' are inheritedly delimited bound. But an adjunct clause has no such aspectual restriction: [5]

(20) a. *Ku-nun ttapunha-key anc-a issessta.
He-TOP bored-COMP sit-COMP stayed
'He sat bored.'

b. Ku-nun ttapwunhal-ttaykkaci anc-a issessta
'He sat until he felt bored.'

(21) a. *Ku-nun TV-lul kochangna-key poassta
He-TOP TV-ACC broken-COMP watched
'*He watched the TV broken.'

b. Ku-nun TV-lul kochangna-l-ttaykkaci poassta
'He watched the TV until it is broken.'

A further piece of evidence for the claim that the *-key* form verb is a

[5] (20a) is grammatical with a depictive reading.

secondary predicate, not an adjunct clause could be observed from its close similarity to causative constructions.

(22) a. John-un ku-ka/lul nemeci-key milessta
John-TOP he-NOM/ACC falling.down-COMP pushed
'John pushed him falling down.'

b. John-un ku-ka/lul nemeci-key hayessta
John-TOP he-NOM/ACC falling.down-COMP made
'John made him fall down.'

Except for the difference in the type of the main predicate, the resultative in (22a) and the causative in (22b) are identical in terms of semantics. They both mean that John's action caused his collapse. This causation relation in the causative construction comes from the main predicate, whereas in the former such a causative reading arises only when the main predicate combines with the resultative phrase. If the resultative phrase were taken to be an adjunct, there should be a special mechanism to add this semantic relation. This strong resemblance between the two further supports that the resultative phrase is not an adjunct but a second predicate (cf. Jang 1997 and Sells 1998). Given this, we need to have a theory where the main predicates place a selectional restriction on the resultative phrase (unlike the main predicate in the adjunct clause) which we will discuss in what follows.

The resultative constructions are superficially similar to adjunct clauses. However, the contrast we have seen so far clearly shows that if we treated them identically, we would not be able to capture their obvious differences.

3. Structure and Formation of Resultative Constructions

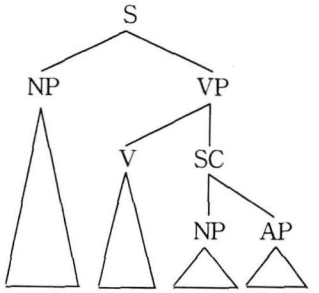
3.1. English

3.1.1. Syntactic Structures

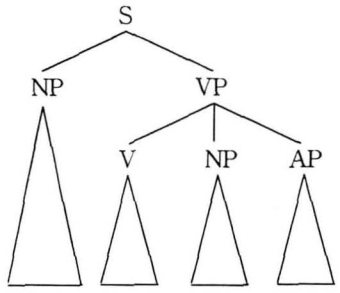
According to Carrier and Randall (1992), there are three main analyses of the syntactic structure of English resultative constructions: the Binary Small Clause (SC) analysis (van Voorst 1986, Hoekstra 1988), the Ternary analysis (Simpson 1983, Carrier and Randall 1992, Goldberg 1992, 1995), and the Hybrid analysis (Sato 1987). For the English data, the two prevailing

analyses in the literature are the Binary SC represented in (23a) and the Ternary analysis given in (23b). Both analyses commonly assume that transitive and unergative resultative constructions have identical syntactic structures to capture the common fact that there sultative XP in both constructions denotes a change of state due to the action of the main verb:

(23) a.



b.



It is not hard to imagine that the supposition of one identical structure for transitives and unergatives would bury certain differences between the two.

Problems of the Binary SC analysis in (23a) lie in the analysis of transitive resultatives. In this view, the postverbal NP of the transitive resultative is not a sister of the main verb, but rather the subject of the small clause. Thus, it is not an argument of the main verb. This is a contradiction to the observation that the postverbal NP in transitive resultative constructions can undergo passivization, middle formation, and adjectival passive formation (cf. Goldberg 1995). As also pointed out by Carrier and Randall (1992) and Levin and Rappaport (1989, 1995), the postverbal NP in this approach cannot receive any theta-role from the main verb since it is not an argument of the main verb. The verb can assign a theta role to the SC, not to the postverbal NP, if it assigns one at all. Following this analysis, we would have the following argument structures:

(24) a. paint: agent < theme > a′. paint′: agent < r(esult)-event >
b. shout: agent < > b′. shout′: agent < r-event >

To obtain the argument structures of (24a)′ and (24b)′ from (24a) and (24b) respectively, Hoekstra (1988) assumes a rule that adds a SC complement in 3 steps: (a) add a SC to the verb, (b) eliminate the internal arguments of the verb, if there is one, and (c) add a causative reading to the verb. This

rule, however, ignores the fact that resultatives generally inherit the argument structures of their non-resultatives (cf. Carrier and Randall 1992). Also, the assumption that the postverbal NP in transitive constructions is not the argument of the main verb can give us an ad hoc interpretation of transitive resultatives. For example, this analysis will allow (24a)' to have the reading that the car became yellow as a result of his painting something other than the car, as pointed out by Carrier and Randall (1992). This viewpoint also requires an additional way of stating the fact that the main verb somehow selects the type of resultative phrases.[6] Since the resultative phrase is embedded within the small clause, the main verb is not allowed access to the nonlocal resultative phrase in the small clause.[7]

Unlike the Binary SC analysis, the Ternary analysis claims that the postverbal NP even in unergative resultatives is a sister of the verb as in the tree structure as noted in (23b). According to Carrier and Randall

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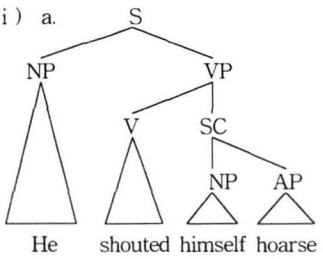
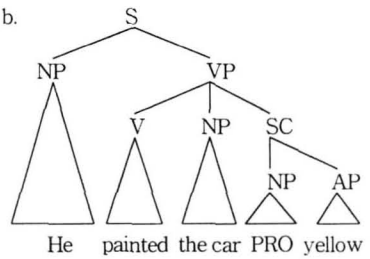
[6] The analysis that regards the small clause as a maximal projection of the resultative phrase (e.g. Stowell 1983) may not have this problem. See Pollard and Sag (1994: 116-131) for detailed discussions of a small clause analysis.

[7] There is a similar analysis that tries to state the view that the subject and its predicate form a constituent. It is the so-called Hybrid Small Clause Analysis whose syntactic structures are given in the following (Cf. Carrier and Randall 1992):

(i) a.



b.



This approach does not have the problem concerning the argumenthood of the postverbal NP in transitive resultatives, since the postverbal NP is a sister of the main verb. However, this view also suffers from problems. First, it cannot state the fact that the resultative phrase is selected by the main verb. There remains a more serious problem, observed in Carrier and Randall (1992), among others. In unergative resultatives, the postverbal NP is the subject of the SC. This NP needs to get case (accusative) from the main verb. Thus, the SC should not be a maximal projection in order for the main verb to govern the NP and assign accusative case. If we assume that the SC is not a maximal projection, then we encounter a contradiction (Williams 1983 and others). In transitive resultatives, the subject of the SC is PRO. And this PRO should not be governed due to the PRO Theorem. Thus, we need a different definition of barrierhood of the SC for government, depending on the type of verb.

(1992), the argument structures will add one theta role, r(esultant)-state for each case as represented in (25).[8]

(25) a. paint: agent < theme > a′. paint′: agent < theme r-state >
b. shout: agent < > b′. shout′: agent < r-state >

Unlike the small clause analysis, this ternary analysis does not have the problem concerning the argumenthood of the postverbal NP, since it is a sister of the verb and hence its argument. Then, the issue in this analysis is the grammatical status of the postverbal NP in unergative resultatives: the postverbal NP is the sister of the main verb. However it is evident that this NP does not get a theta role from the main verb; hence, it is not the direct argument. Carrier and Randall (1992) solve this problem by assuming that the mapping from argument structure to syntactic structure is not symmetric. The fact that an NP is a syntactic sister of a verb does not necessarily mean that it is an argument of that verb. This ternary analysis for unergative resultatives violates the general view that the subject and its predicate form a constituent, since in this analysis the postverbal NP is taken to be syntactically a sister of the main verb and thus does not form a constituent with its predicate, resultative phrase.

However, there are several pieces of evidence that the postverbal NP in unergative resultatives is a sister of the main verb and thus its syntactic object. The first piece of evidence is that this NP can undergo passivization as in (26).[9]

(26) a. The pavement was run thin.
b. Her Nikes have been run threadbare.
c. We had been talked into a stupor.
d. ?His handkerchief was sneezed soggy.
e. ?Her gums were chewed sore.

The data in (26) indicate that the postverbal NP in unergative resultatives also has the property of being the main verb's object. There is another

[8] The theta role, *r-state*, is taken to be the one that a resultative phrase bears, in Carrier and Randall (1992).

[9] Of course, the ability of an NP to passivize is not an indication that it is the semantic argument of a verb. The position I take is that if an NP undergoes passivization, this NP is the syntactic complement of the main verb, at least.

piece of evidence that the postverbal NP in unergative resultatives is not the subject of the small clause, but may be the object of the main verb.[10] Postal (1974: 83-84) provides a generalization that Complex NP Shift operates not on subjects but on objects. This generalization will predict the following contrast:

(27) a. *I regret the fact that ___ were destroyed - so many of our priceless relics.
b. I believe ___ to have been tortured by Brazilians - the priests who are going to speak today.

Given that Postal's generalization is correct, we can expect if the postverbal NP in unergative resultatives bears not the subject property but the object property, then it will undergo Complex NP Shift. And, this is indeed the case.[11]

(28) a. The joggers ran _____ thin [the pavement that the people constructed a month ago].
b. ?He walked ___ to pieces [the feet that had not fully recovered from the injury].
c. ?He cried ___ out [the eyes that need to be examined by the doctor].
d. ?He sneezed ___ soggy [the handkerchief that he bought in the store].

There is another argument for rejecting the small clause analysis, but favoring the ternary analysis where the postverbal NP is syntactically the object of the main verb. If the NP-XP sequence after the main verb in unergative resultatives forms a constituent – a small clause, then we would expect that they can occur in pseudo-cleft and it-cleft. But the data show this is not true:[12]

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[10] The object here means an NP with accusative. In a GB perspective, this object could be a subject in a deep structure level.

[11] There was some variation in native speaker's reaction to these examples, the speakers who do not accept (28b)-(28d) with the genitive pronoun, *his*, in the head NP of the relative clauses, require the definite article in place of it.

[12] Pollard and Sag (1994) also use Complex NP-Shift and Cleft constructions to argue for a Subject-to-Object Raising analysis.

(29) a. *What he shouted ___ was [himself hoarse].
b. *It is [himself hoarse] that he shouted ___.

(30) a. *What he cried ___ was [his eyes out].
b. *It is [his eyes out] that he cried ___.

(31) a. *What the joggers ran ___ was [the pavement thin].
b. *It is [the pavement thin] that the joggers ran ___.

What we find is that the NP and the result XP form an independent unit:[13]

(32) a. What the joggers ran ___ thin was [the pavement].
b. It is [the pavement] that the joggers ran ___ thin.

(33) a. The one he shouted ___ hoarse was [himself].
b. It is [himself] who he shouted hoarse ___.

(34) a. ?What he cried ___ out was [his eyes].
b. ?It is [his eyes] that he cried ___ out.

Though the sentences (32) to (34) may not provide strong evidence for the ternary analysis for unergative resultatives, the ungrammatical sentences from (29) to (31) indicate that the NP-XP sequence does not form a small clause constituent. If the NP-XP sequence did form a constituent, nothing should block it from appearing in the focused position of cleft constructions.[14]

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[13] Some speakers pointed out that though sentences (34) are bad, they are marginal on the reading where his eyes physically left his body, i.e., he cried his glass eye out of its socket.

[14] For example, some gerund complement phrase that forms a small clause constituency with its subject can undergo pseudo clefting and it-clefting, as noted in Pollard and Sag (1994: 122):

(i) a. It was [him doing that] that I resented [t].
b. What I resented [t] was [him doing that].

But in contrast, the NP and XP sequence in the *consider* type verb construction does not form a small clause and act like a constituent, as shown from the following contrast:

(ii) a. *It is John a liar that I considered.
b. *What he considered was John drunk.

See Pollard and Sag (1994) for further discussion on this issue.

Thus, passivization, cleft-constructions, and complex NP shift support the view that the postverbal NP-XP sequence is not a small clause, and that the accusative postverbal NP is syntactically not the subject of the resultative XP, but the object of the main verb. This does not mean that transitive and unergative resultatives are exactly parallel.

We can readily find that there are also differences between transitive and unergatives. Two major differences are in middle formation (MF) and adjectival passive formation (APF). Both MF and APF refer to argument structure and apply only to verbs that have a direct internal argument or theme.[15]

(35) MF from transitive resultatives:
  a. The metal hammers flat easily.
  b. The corn waters flat easily.

(36) MF from unergative resultatives:
  a. *Those tires drive bald easily.
  b. *He talks blue in the face easily. (cf. Goldberg 1991)

(37) APF from transitive resultatives:
  a. the stomped-flat grapes
  b. the smashed-open safe
  c. the hammered-flat metal (Carrier and Randall 1993)

(38) APF from unergative resultatives:
  a. *the driven bald tires (Goldberg 1991)
  b. *the danced-thin soles

Examples (35)-(38) show the contrast between transitive and unergative resultatives in these two formations.

We have observed a clear contrast with identical syntactic structures in English unergative and transitive resultative constructions. We can observe that both Middle Formation and Adjective Passive Formation refer to argument structure, whereas passive, cleft, or Complex NP shift constructions do not. Then, the answer seems to be, as claimed in Carrier and

[15] Williams (1983) and Bresnan (1982) argue that the externalized argument in APF and MF bears the theme theta role, while Levin and Rappaport (1986) and Carrier and Randall (1992) claim that it is a direct internal argument of the verb.

Randall (1992), that the mapping from argument structure the syntactic structure is not a one-to-one correspondence. A syntactic complement is not necessarily a semantic argument of the main verb, especially in unergative resultatives. The postverbal NP in these resultatives is thus the syntactic complement of the unergative verb though may not be the semantic argument. The interesting point is that this is what we find in the contrast between English raising and control constructions, which we will discuss more in what follows.

3.1.2. Mismatch between Syntax and Semantics

As observed by Wechsler (1997), there is great resemblance between raising and unergative resultatives. Traditional examples of English raising and control verbs are given in (39) and (40).

(39) a. She seems to have lost her keys.
b. The joggers believed them to have lost her keys.

(40) a. John tried to be quiet.
b. John persuaded the kids to be quiet.

Raising verbs like *seems* and *believed* do not assign theta roles to one of their syntactic complements, unlike control verbs like *tried* and *persuaded*. This in turn means that control verbs can thus exert more influence over the subject or the object NP than raising verbs.[16]

The exact same contrast is observed in resultative constructions. The transitive resultative assigns a theta role to its object whereas the unergative resultative does not, as we have observed. Accommodating this distinction into resultatives, we could classify the types of resultatives into control and raising resultative constructions, as Wechsler (1996, 1997) has argued for:

(41) a. John hammered the metal flat.
b. The water froze solid.
c. John jumped out of the car.

---

[16] See Pollard and Sag (1994) for more discussion of the properties of raising and control verbs.

(42) a. The joggers ran their Nikes threadbare.
b. The speaker was laughed off the stage.

The examples in (41) are control resultatives whereas those in (42) are raising ones. In control resultatives, a phrase like *the metal* that the resultative phrase *flat* is predicated of is a semantic argument of the matrix verb *hammer*. But the situation is different in raising resultatives. The NP *their Nikes* that the resultative phrase *threadbare* is predicated of is not a semantic argument of the matrix verb *ran*. In raising resultative constructions, the unergative verb does not assign a theta role to the postverbal NP. Thus, it does not exert direct influence over the object NP. This is the very property of common raising verbs like *seem* and *believe*.[17]

3.1.3. Formation of English Resultative Constructions

A remaining issue is then how to form resultative constructions. The common assumption has been that resultatives generally inherit the argument structures of their non-resultatives.[18] Reflecting this viewpoint, I also assume that the following lexical rule (cf. Wechsler 1996) is at work in the formation of resultatives, represented in the feature structure system of HPSG.[19]

(43) English Resultative Formation Lexical Rule:

$$\begin{bmatrix} \textit{nonresultative} \\ \text{HEAD} \quad \textit{verb} \\ \text{COMPS} \quad \langle \cdots \rangle \end{bmatrix} \Rightarrow \begin{bmatrix} \textit{resultative} \\ \text{HEAD} \quad \textit{verb} \\ \text{COMPS} \quad \langle \cdots, \mathbf{XP[SUBJ\langle NP \rangle]} \rangle \end{bmatrix}$$

---

[17] The distinction between raising and control resultatives is similar to Washio's (1997) classification between strong and weak resultatives. His 'strong' resultatives are similar to raising resultatives in that the meanings of the verb and the resultative phrase are completely independent of each other as in *John ran the pavement thin*. His 'weak' resultatives are control resultatives in our terms in that the semantics of the verb includes the kind of state the patient will come to be in as the result of the verb's action as in *John hammered the metal flat*. See Washio (1997) for further discussion.

[18] For example, Carrier and Randall (1992) provides three main arguments for the lexical rule treatment of resultative formation: resultatives are subject to lexical processes such as middle formation, adjectival passive, and nominalizations.

[19] The feature logic of this paper is mainly adopted from Pollard and Sag 1994. Some of the abbreviations we are using are COMPS (COMPLEMENTS), SUBJ (SUBJECT), CONT (CONTENT), RELN (RELATION), and so forth.

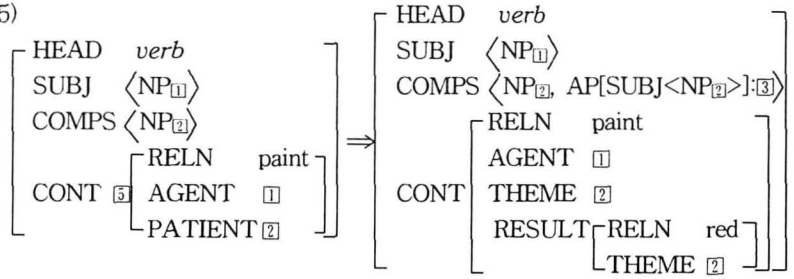
The lexical rule takes as its input a nonresultative verb and yields as its output a resultative verb. It guarantees that the resultative output inherits the argument structure of its nonresultative input (indicated by the dots), as specified in COMPS (COMPLEMENTS). With this inheritance, the lexical rule also adds one additional complement (resultative) phrase whose subjectis unexpressed.[20]

Let us, then, consider how transitive resultatives are formed within this system with the following examples.

(44) a. John painted the door.
b. John painted the door red.

According to the lexical rule in (43), the resultative verb *paint* in (44b) is taken to be derived from the purely transitive verb *paint* in (44a), as represented in (45):

(45)



The lexical rule allows the input verb *painted* to add a resultative predicative phrase as an additional complement. In terms of semantics, the action of John's painting the door resulted in the door being in the state of beingred.[21] But one may wonder how the unexpressed subject of the

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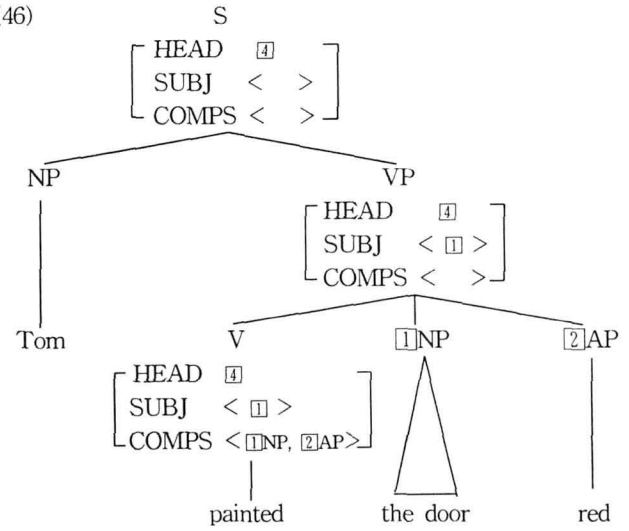
[20] One thing to note here is that though the constraint in the lexical rule (43) appears to be simple, this is not all; other independent constraints required from various grammatical levels will further restrict acceptable forms. For example, the output of the lexical rule also has the constraint that the added complement designates the result state of the event, meaning that the resultant phrase must be eventive, not stative, and needs to have a delimited lower bound as note dearlier. This general constraint prevents cases like the phrase *bored* in *Tom cleaned the table bored* from being interpreted as a resultative predicate.

[21] It is a standard assumption (cf. van Valin 1990 and Goldberg (1995) among others) that the resultative involves 'cause-become' relation, a relation between an action and a resultant state. When the result event is added, the meaning of the main

complement AP ($NP_{[2]}$) is coindexed with the object complement ($NP_{[2]}$). This coindexing relation follows from the semantically based control theory of Pollard and Sag (1994), whose explanation for the grammar of English complement control is derived from the interaction of semantically based principles of controller assignment. According to their control theory, control verbs are classified into three types: *influence* type (object control verbs such as *persuade, appeal* and *cause*), *commitment* type (subject control verbs such as *promise, intend* and *try*) and *orientation* type (subject control verbs such as *want, hate* and *expect*). For each of these types, the analysis identifies a role which is designated as the controller, based on its semantics. A resultative verb like *paint* would be classified as an *influence* type in which the controller of the expressed subject of the infinitival VP complement is semantically defined to be the argument bearing the 'INFLUENCED' role. This explains the coindexing relation between the unexpressed subject of the resultative predicate AP and the object complement.[22] If we look at the syntactic structure that this output lexical entry in (45) generates, it will have the following ternary structure:

(46)



verb gets a causative meaning, i.e. the agent caused the referent of the postverbal NP to be in the result state by the action of the verb.

[22] The principles that determine the distribution of anaphors and pronominals (binding theory) also play roles in control theory. See Pollard and Sag 1994, Chap 7 for further discussion.

The structure in (46) conforms to all the universal constraints (principles) in HPSG: the HFP (Head Feature Principle), the VALP (Valence Principle), and the IDP (Immediate Dominance Principle):[23] The head (part-of-speech) information of the verb *painted* (tagged [4]) is identified with that of the VP it projects and then with that of S, in accordance with the HFP. The verb *painted* combines with its two complements, [1]NP and [2]AP. This verb also lexically selects an NP subject, and this specification is also part of the VP. Hence, the VP combines with the subject NP and eventually forms a fully saturated phrase. No constraints are violated in each local structure, guaranteeing the structure in (46) to be a well-formed linguistic object.[24] Now let us consider an unergative case:

(47) a. The dog barked.
b. The dog barked itself hoarse.

Our resultative formation lexical rule will derive the resultative intransitive verb *barked* in (47b) from its nonresultative verb *barked* in (47a):

(48)

$$\begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP}_{[1]} \rangle \\ \text{COMPS} & \langle\ \rangle \\ \text{CONT} & \begin{bmatrix} \text{RELN} & \text{bark} \\ \text{AGENT} & [1] \end{bmatrix} \end{bmatrix} \Rightarrow \begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP}:[1] \rangle \\ \text{COMPS} & \langle [2]\text{NP}_{[4]},\ \text{AP}[\text{SUBJ}\langle \text{NP}_{[2]} \rangle]:[3] \rangle \\ \text{CONT} & \begin{bmatrix} \text{RELN} & \text{bark} \\ \text{AGENT} & [1] \\ \text{RESULT} & [3]\begin{bmatrix} \text{RELN} & \text{hoarse} \\ \text{THEME} & [4] \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

[23] The HFP principle roughly says that the head features of a mother phrase are identical with those of its head daughter. The Valence Principle plays the role of category cancellation associated with function application in Categorial Grammar. This principle guarantees that the VALENCE feature specifications of a lexical entry be discharged when it combines with subject, complement(s), or specifier. The IDP specifies universally available types of phrases, for example, licensing phrases consisting of a phrasal head daughter and a subject daughter, a lexical head and any number of complements, and a head with a specifier, a head with a modifier. See Pollard and Sag (1994) for details.

[24] HPSG is a constraint-based theory of grammatical competence. All of its representations – lexical entries, phrases, sentences and even universal principles – are partial descriptions of constructs used to model types of linguistic utterances. Thus the grammar requires that every linguistic object strictly observe every relevant constraint.

As noted, the lexical rule adds the resultative phrase AP into the COMPS list. But notice here that we have another new complement [2]NP[i]. The introduction of this new complement is independently motivated by the Raising Principle in English as given in Pollard and Sag (1994). As is well known, one clear property of raising verbs is the sharing of entire syntactic information between the unexpressed VP complement's subject and the raising controller (the subject in subject-to-subject cases and the object in subject-to-object cases). As one way of capturing the generalization that unassigned arguments must be raising controllers, they posit the Raising Principle given in (49):

(49) Raising Principle:
If a verb's VALENCE feature contains XP[SUBJ <[1]NP>] and lacks a local controller, then add the phrase [1]NP to COMPS value (cf. Pollard and Sag 1994:143).

Now, going back to (48), we can observe the resultative phrase AP has an unexpressed subject (AP[SUBJ <[1]NP>]), thus requiring a local controller. This requirement triggers the addition of one complement NP (which is the unexpressed subject of the resultative AP) in accordance with the principle in (49). This is why we do not allow cases like **The dog barked hoarse.*

Now let us consider an unaccusative case.

(50) a. The water froze.
b. The water froze solid.

The resultative formation lexical rule in (44) will generate the resultative *froze* from its nonresultative counterpart *froze*:

(51)

$$\begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP}_{[1]} \rangle \\ \text{COMPS} & \langle\ \rangle \\ \text{CONT} & \begin{bmatrix} \text{RELN} & \text{freeze} \\ \text{THEME} & [1] \end{bmatrix} \end{bmatrix} \Rightarrow \begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP}_{[1]} \rangle \\ \text{COMPS} & \langle \text{AP[SUBJ } \langle \text{NP}_{[2]} \rangle\text{]:}[3] \rangle \\ \text{CONT} & \begin{bmatrix} \text{RELN} & \text{freeze} \\ \text{THEME} & [1] \\ \text{RESULT} & \begin{bmatrix} \text{RELN} & \text{solid} \\ \text{THEME} & [1] \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

One may ask why the Raising Principle cannot be applied here. The reason is simple: the verb *froze* is not a raising verb, but a control verb; the

predication subject *the water* is a semantic argument of the verb *freeze*.

In sum, we have observed that the simple lexical rule is enough to account for the formation of English resultative constructions when equipped with independently motivated constraints on raising and control verbs.

3.2. Korean Resultative Constructions

3.2.1. Syntactic Structures of Korean Resultatives

Then, how do Korean resultative constructions compare with this discussion? It would be an interesting question to see whether both transitive and unergative resultatives in Korean also have the identical ternary structures.

Let us consider two typical Korean resultative examples:

(52) a. ku-nun cha-lul nolah-key chilhayessta. [Transitive]
He-TOP car-ACC yellow-COMP painted
'He painted the car yellow.'

b. ku-nun [mok-i swi-key] oychessta. [Unergative]
He-TOP throat-NOM hoarse-COMP shouted
'(literally) He shouted (his) throat hoarse.'

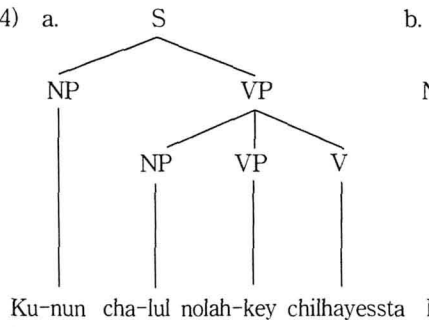
Korean resultative constructions, especially unergative resultatives, are basically different from English ones. In Korean unergative resultatives, the counterpart NP of the English postverbal NP is nominative and does not undergo passivization. Examples in (53) show the contrast between transitive and unergative in passivization:

(53) a. cha-ka nolah-key chilhaye-ci-ess-ta. (Transitive)
car-NOM yellow-COMP paint-PAS-PAST-DECL

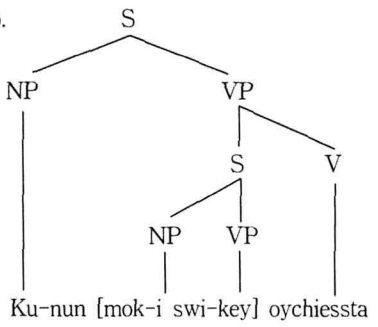
b. *[mok-i swi-key] oychi-ci-ess-ta. (Unergative)
throat-NOM hoarse-COMP shout-PAS-PAST-DECL

This contrast implies that we need different syntactic structures for the transitive and unergative resultatives: the Hybrid Analysis. Under the Hybrid Analysis, we can represent the syntactic structure and argument structure of the Korean examples as in (54) and (55).

(54) a.



b.



(55) a. *chilhayessta* ('painted'): agent <theme, result-state>
b. *oychiessta* ('shouted'): agent <result-event>

The transitive resultative will have three theta roles including the result theta role, whereas the unergative resultative will have the agent and the propositional theta role, *result-event*.

When considering the structure of Korean resultatives, we can raise the question of whether or not we can collapse these two structures into one as the Binary SC or the Ternary analyses do. The answer appears to be 'no.' As we have discussed before, unlike in English unergative examples, the counterpart NP in Korean that the resultant XP is predicated of should be case-marked as nominative and it is not the syntactic object of the main verb. As we have observed earlier, double nominative structures can also occur in unergative resultatives.

(56) a. Ku-nun [pal-i pwul-i na-key] talliessta.
He-TOP foot-NOM fire-NOM occur-COMP ran
'(literally) He ran(his) foot burning.'

b. Ku-nun [mok-i/ey phi-ka na-key] wulessta
He-TOP throat-NOM/LOC blood-NOM come.out-COMP ran

Here, the verb *na-* takes two arguments: *pal-i* 'foot-NOM' and *pwul-i* 'fire-NOM'. Neither of them can be syntactically the direct object of the matrix verb. Even, the experiencer *pal-i*, can even get locative case *-ey*. This example indicates that resultant XP has its own argument structure and assigns theta roles to its arguments.

This independent case domain suggests that we need different syntactic structures and argument structures for transitive and unergative resultatives.

The resultative phrase and its predicate NP in unergative resultatives form a strong semantic unit as in English. The resultative predicate NP in Korean unergative resultatives is not the syntactic object of the matrix verb as in English, but rather it is both the syntactic and semantic subject of the resultative phrase. This in turn means that we need the hybrid analysis (e.g., ternary for transitive and binary for unergative) for Korean resultative constructions.[25]

3.2.2. Formation of Korean Resulative Constructions

We have observed that Korean resultative constructions can be classified into two groups: cases with an independent result event clause being added and those with a predicative phrase denoting a result state. In generating these resultatives in Korean, I assume that the lexical rule in (57) is at work for the formation of Korean resultative constructions.[26]

(57) Korean Resultative Formation Lexical Rule:

$$\begin{bmatrix} \text{HEAD} & \text{verb} \\ \text{COMPS} & \langle \cdots \rangle \end{bmatrix} \Rightarrow \begin{bmatrix} \text{HEAD} & \text{verb} \\ \text{COMPS} & \langle \cdots, \text{XP} \rangle \end{bmatrix}$$

---

[25] A consequence of this Hybrid Analysis for Korean resultative construction is that it can give a partial answer to the question of why it is in general hard to have fake-reflexive construction in Korean. Compare the following pairs.

(i) a. He shouted himself hoarse.
b. *Ku-nun caki-ka michi-key nolayhayessta.
He-TOP self-NOM crazy-COMP sang
'(literally) He sang himself crazy.'

If we assume that the minimal domain for the Korean anaphoric binding is S or NP as in most cases, and that the resultative phrase and its predicate NP form a sentence, then we can account for why (i)b is ungrammatical. If this observation is correct, we can predict the ungrammaticality of fake-object constructions in Korean. Though the antecedent of Korean reflexive *caki* is generally within the minimal domain, S or NP, there are lots of cases where *caki* in an embedded clause is bound to an argument in a higher clause. It has long been observed that in most of these non-local binding cases, one crucial factor indetermining its antecedent is the non-syntactic factor, so called 'point of view' or 'logophoricity.' (Pollard and Sag (1994: 307-312), among others.) That is, the referent of its antecedent in a higher clause is the individual whose speech, thoughts, or feelings are reported or reflected in a given context. If this assumption is correct, we can further explain why no reflexive occurs in Korean unergative resultatives. Matrix verbs (e.g., cry, sing, laugh, etc.) in unergatives do not have the ability to assign the logophoric feature to its subject.

[26] As in English, the added resultant phrase has an aspetcual constraint; the resultative XP should denote a resultant event or state.

This lexical rule takes as its input a nonresultative verb and yields an alternative resultative verb with one additional predicative complement which is a type of resultant event. Notice here that there is one difference from the English resultative lexical rule: the resultative phrase has no specification on its subject value, implying that its subject value can be either saturated or unsaturated. Thus when it is saturated, we will have an independent clause, whereas when it is not, we will have just one resultant phrase. This freedom allows Korean, unlike English, to have a full sentence depicting a resultevent as in (55).[27]

Let us examine how this system works out in detail for each resultative type, beginning with transitive cases:

(58) a. Ku-nun thakca-lul ttakassta
he-TOP table-ACC wiped
'He wiped the table.'

b. Ku-nun thakca-lul [kkaykkusha-key] ttakassta
he-TOP table-ACC clean-COMP wiped
'He wiped the table clean.'

The nonresultative verb *ttakassta* 'wiped' in (58a) would be the input to its resultative counterpart, as represented in (59):

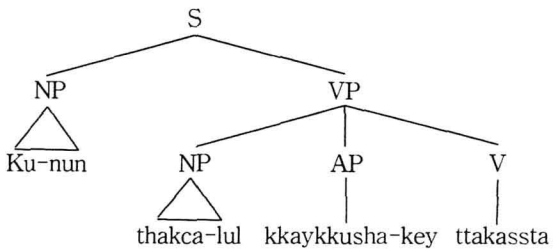
(59)

$$\begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP}_{\boxed{1}} \rangle \\ \text{COMPS} & \langle \text{NP}_{\boxed{2}} \rangle \\ \text{CONT} & \begin{bmatrix} \text{RELN} & \text{wipe} \\ \text{AGENT} & \boxed{1} \\ \text{PATIENT} & \boxed{2} \end{bmatrix} \end{bmatrix} \Rightarrow \begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP}_{\boxed{1}} \rangle \\ \text{COMPS} & \langle \text{NP}_{\boxed{2}},\ \text{AP}[\text{SUBJ}\langle \text{NP}_{\boxed{2}} \rangle]:\boxed{3} \rangle \\ \text{CONT} & \begin{bmatrix} \text{RELN} & \text{wipe} \\ \text{AGENT} & \boxed{1} \\ \text{RESULT} & \begin{bmatrix} \text{RELN} & \text{clean} \\ \text{THEME} & \boxed{2} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

This lexical output will generate the following structure for the resultative sentence (58b):

[27] I recently discovered that Sells (1998) also presents a similar analysis in which a resultative phrase or a sentence is "freely composed" into an input verb. See Sells (1998) for details.

(60)



The resultative AP in (59) has an unexpressed subject; it, therefore, needs to look for a local controller, dependent upon the lexical semantics of the main predicate. The meaning of *paint* restricts the controller of *nolah-key* 'yellow-COMP' to be its object (given the semantic-based control theory as set forth by Pollard and Sag 1994). But notice that verbs like *talliessta* 'ran' or *capassta* 'catch', whose lexical meaning has no such semantic restriction, allow either the subject or the object to be the controller of the resultative phrase, as shown the possible interpretations of the sentences in (61):

(61) a. John-i mal-ul cichi-key talliessta. (ambiguous)
John-NOM horse tired-COMP ran
'John ran (his) horse tired.'
'John ran his horse, and he became tired.'

b. John-i Mary-uy son-ul aphu-key
John-NOM Mary-GEN hand-ACC painful-COMP
capassta. (ambiguous)
hold
'John hold Mary's hands painful.'
'John hold Mary's hands and his hands became painful.'

Now let us consider an unergative case.

(62) a. Ku-nun wulessta.
He-TOP cried
'He cried.'

b. Ku-nun [mok-i aphu-key] wulessta.
He-TOP throat-NOM hoarse-COMP cried
'He cried his throat hoarse.'

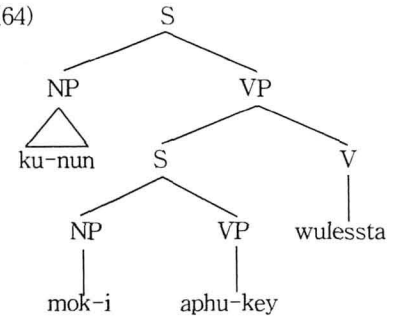
According to the Korean resultative formation lexical rule, the nonresultative input will generate a resultative unergative output:

(63)

$$\begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP}_{\boxed{1}} \rangle \\ \text{COMPS} & \langle\ \rangle \\ \text{CONT} & \begin{bmatrix} \text{RELN} & \text{cry} \\ \text{AGENT} & \boxed{1} \end{bmatrix} \end{bmatrix} \Rightarrow \begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP}_{\boxed{1}} \rangle \\ \text{COMPS} & \langle \text{S[VFORM-key]}_{\boxed{2}} \rangle \\ \text{CONT} & \begin{bmatrix} \text{RELN} & \text{cry} \\ \text{AGENT} & \boxed{1} \\ \text{RESULT} & \begin{bmatrix} \text{RELN} & \text{throat} \\ \text{THEME} & \boxed{4} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Again, the yielded resultative unergative verb generates the following structure:

(64)



One key point of the proposed analysis is that a resultative predicative phrase can be freely added either as a saturated or as an unsaturated phrase, only if the resultative phrase observes the aspectual restriction.

This also explains why we can have a sentence like the following:

(65) a. John-i kkamulachi-key solichi-ess-ta
John-NOM faint-COMP shouted
'*John shouted fainted.'

In sum, we have observed that a simple lexical rule can account for the formation of Korean resultative constructions without relying on the notion of unaccusative and unergative distinction. Notice here that raising properties do not play any role in Korean. In what follows, we will discuss this issue further.

4. Similarities and Differences between English and Korean Resultative Constructions

With respect to the fact that resultative constructions represent a certain change of state due to the action denoted by the matrix verb, the two languages show no difference. The observed differences are as follows:

- English unergative resultatives have syntactically ternary structures, whereas their Korean counterparts have binary structures; the predicative NP of the resultative phrase is realized as the object in English and as the subject of the embedded clause in Korean.
- Resultative phrases in Korean can be predicated of either an agent or a theme argument (even a locative element). In other words, they can be predicated of even a subject or a complement other than the direct object.
- In the formation of resultative constructions, both English and Korean employ one simple lexical rule introducing a resultative phrase. The difference is that in Korean it is not specified whether the resultative XP is a saturated phrase or an unsaturated phrase.

To answer where these differences come from, let us consider several relevant questions first. The first related question is: Why must the subject of the resultative phrase be expressed in English at all? The answer is that English has the property that a predicative complement of any category except a nonfinite VP must locally express its overt subject (cf. Wechsler 1997)

(66) a. To err is human.
b. The counselor recommended living together before getting married.

(67) a. *John considers [PRO fond of herself].
b. *The director kept [PRO on the stage].

However, no such restriction holds in Korean.

(68) a. Yonchwulca-ka ku kes-ul mwutaywi-ey twuesse
director-NOM that thing-ACC on.stage-LOC put
'The director put it on the stage.'
b. 'Yonchulcaka *pro*} mwutaywi-ey twuesse.

As can be observed in (68b), the subject of the second predicate need not be expressed, given a proper context. That is why the subject of a resultative phrase, especially in unergatives, need not be realized.

The second question is: why in English is the subject of the resultative phrase in unergatives realized as the object of the main predicate, whereas in Korean why is it the subject of the embedded clause? The difference may come from the fact that in English, raising (or Exceptional Case Marking construction) is the basic complementation pattern, whereas it is not in Korean.

There seems to exist no 'true' ECM construction in Korean equivalent to the English one (cf. Hong 1990). Several clear differences between the two languages support this claim: unlike in English, the VP complement in Korean is finite, headed by the suffix *-ko*.

(69) John-un Lee-ka/lul papo-i-ess-ta-ko mitnunta.
John-TOP Lee-NOM/ACC fool-COP-PST-DECL-COMP believe
'John believes that Lee was a fool.'

The finiteness of the VP, unlike in English, makes it optional for the VP's subject to have either a nominative or an accusative.

Further, the controllee of the unexpressed subject of the VP does not have to be the embedded subject, as noted by Hong (1990). The controllee in (70) is the locative phrase.

(70) John-i LA-lul [hankwuksalam-i ceyil manhi santa-ko]
John-NOM LA-ACC Korean-NOM most many live-COMP
sayngkakhanta.
think
'John thinks that LA has the largest Korean population.'

The behavior of a wh-phrase in the Korean ECM construction also shows the difference from the English one (cf. Lee and Wechsler 1995).

(71) a. John-un nwuku-lul hyonmonghata-ko mit-ni?
John-TOP who-ACC clever-COMP believe-Ques
'Who does John believe to be clever?'

b. *John-un nwuku-lul hyonmongha-nya-ko mit-ess-ta
John-TOP who-ACC clever-QUES-COMP believe-Ques
'Who does John believe to be clever?'

One general condition in Korean is that a wh-phrase needs to appear in a clause with a question morpheme on the predicate. The contrast between (71a) and (72b) shows that the accusative wh-phrase is licensed by the higher predicate with no specific case motivation.

Another case showing that the accusative NP is base-generated comes from the contrast in (72a) and (72b), as noted by Song (1994).

(72) a. Wuli-ka John-i santa-ko sayngkakha-n cip-ey
We-NOM John-NOM live-COMP think-MOD house-LOC
pwul-i nass-ta
fire-NOM set-DECL
'The house where we believed that John was living was set on fire.'

b. *Wuli-ka John-ul santa-ko sayngkakha-n cip-ey
We-NOM John-NOM live-COMP think-MOD house-LOC
pwul-i nass-ta
fire-NOM set-DECL
'The house where we believed John to be living was set on fire.'

The data we have observed so far indicate clear differences between the English ECM and the Korean ECM construction, implying that the ECM is a basic complementation pattern in English whereas it is not in Korean. If this observation is correct, the difference in resultative constructions also follows: in Korean, nothing requires the subject of a resultative phrase to be realized as the object since the accusative object is from the beginning selected by the higher predicate. In English, however, it needs to be realized as the object because of a case motivation.

5. Conclusion

Syntactic proponents have accepted the view that the unaccusative hypothesis and the direct object restriction are principled reasons for the distribution of resultative constructions. However, a careful examination of Korean which allows various types of resultatives and further the resultative phrase predicated of a theme, an experiencer, or a locative argument, has revealed that the view is problematic, requiring a different perspective to capture the language differences.

In accounting for the distribution of resultatives in English and Korean, we have not resorted to notions such as unaccusativity or unergativity, or surface or deep structure. Instead, we adopt, following Wechsler (1996, 1997), the distinction between raising and equi verbs. This independently motivated-distinction, equipped with a simple lexical rule and other language independent constraints, is straight forward enough to account for English as well as Korean resultative constructions.

The analysis presented here has thus been able to predict the tight syntactic constraints in English resultatives and the relative flexibility of Korean resultative constructions. Further the difference between the resultative constructions in the two languages has been simply a matter of feature specifications on the lexical rule. This system has enabled us to provide a systematic account for the syntactic and semantic mismatch in the unergative construction, without resorting to a syntactic or lexical distinction between unergative and unaccusative verbs.

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ABSTRACT

A Comparative Study between English and Korean Resultative Constructions

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English resultative phrases have been known to appear in limited environments. Two prevailing approaches to capture such limited distribution have been the Affected Theme Restriction (cf. Goldberg 1995) and the Direct Object Restriction built upon the Unaccusative Hypothesis (cf. Simpson 1983). This paper challenges both of these, especially for the explanation of Korean resultative constructions. In particular, this paper, by adopting the basic idea of Weschler's (1997, 1998), shows that the distinction between raising and equi verbs is enough to predict (English as well as Korean) resultative constructions. This distinction, combined with a lexical rule that freely introduces a resultative phrase, predicts the differences between the two languages as well as the flexibility of Korean resultative constructions, for example, allowing the resultative phrase to predicate an agentive subject or an argument rather than theme or patient.

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