

Intransitive Resultative Constructions and Fake Objects

Chang-Su Lee

An unergative verb takes a fake object in resultative use though it cannot in non-resultative use. This paper proposes that a fake object is an internal argument of the main verb. To explain the fact that a fake object satisfies Case Filter, we reinterpret Burzio's Generalization. This leads us, against Chomsky (1995), to argue that [+assign Accusative Case] is not an intrinsic feature of the verb. Verb's capacity of assigning the Accusative Case crucially relies on whether the verb has an external θ -role to assign. So an unergative verb is always a potential Accusative Case assigner since it takes an external argument. In this paper, we also clarify that the FI Principle forces the appearance of a fake object.

1. Introduction

The following sentence in (1) is called a resultative construction:

(1) John hammered the metal flat.

In (1a), the sentence final adjective *flat*, called a resultative, a result phrase, or a resultative predicate, describes the final state of the object NP which results from the action or process denoted by the verb.¹ Thus (1) can be paraphrased as in (2):

(2) John caused the metal to become flat by hammering it.

Resultative constructions in English come in the two varieties shown in (3) and (4) based on the transitivity of their verbs in nonresultative sentences:

¹ The term "resultative" may be used to indicate a resultative sentence.

(3) *Transitive Resultative Constructions*

- a. Bill wiped the counter dry.
- b. Susan combed Mary's hair smooth.

(4) *Intransitive Resultative Constructions*

- a. Lucy talked *herself* hoarse.
- b. Mary walked *her feet* sore.

Each verb used in (3), being a transitive, can take a direct object NP without a result phrase as shown in (5):

- (5) a. Bill wiped the counter.
- b. Susan combed Mary's hair.

On the other hand, each verb used in (4), being an intransitive, cannot take a direct object NP without a result phrase as shown in (6):

- (6) a. *Lucy talked *herself*.
- b. *Mary walked *her feet*.

We can say that the sentences in (6) are ungrammatical because the verbs used in those sentences, not being Case assigners, cannot assign the Accusative Case and so the postverbal NPs violate the Case Filter.² But such a way of explanation cannot account for why the intransitive resultative constructions as in (4) are grammatical. Apparently, in (4), there is nothing to Case-mark the postverbal NP. Since the matrix verb is not an Accusative Case assigner, it cannot do so as shown in (6). The resultative cannot do so either, since it is assumed that Case is assigned by a zero level [-N] head. Then how can the postverbal NP in the so-called intransitive resultative construction satisfy the Case Filter?

This paper argues that the so-called fake objects, just like the italicized NPs in (4), play the role of a direct object, and that it satisfies the Case Filter by being assigned the Accusative Case just as normal direct objects in transitive sentences do. For this, following Rothstein's (1992) reinterpretation of Burzio's generalization, we argue that (structural) Case is a literally structural property with specific theta properties: a verb assigns Accusative Case to the postverbal NP if and only if that verb assigns an external

² *Case Filter:*

*NP, where NP has no Case. (Chomsky, 1981: 49)

theta-role. Besides, we clarify that FI (=Full Interpretation) Principle forces the appearance of a fake object in the intransitive (unergative) resultative construction. Our claims will be justified through the syntactic structure of resultatives suggested by Lee (1996).

2. Object-Orientedness and Fake Objects

There is an interesting property of resultatives: they are always “object” related. Note the following sentence in (7):

(7) Fred painted the house black.

The sentence in (7) has the meaning of (8a) and it cannot be interpreted as in (8b):

- (8) a. Fred caused the house to become black by painting it.
 b. Fred caused himself to become black by painting the house.

In this respect, it is notable that the sentence in (9) cannot have a resultative meaning:

(9) Charlie ate the hot dogs full.

The sentence in (9) can be paraphrased as in (10a) whereas it cannot be paraphrased as in (10b):

- (10) a. Charlie ate the hot dogs when (or even though) he was full.
 b. Charlie became full as a result of eating the hot dogs.

If the sentence’s final adjective *full* in (9) can be regarded as a resultative predicate, that sentence should represent a resultative meaning as in (10b). But the adjective *full* in (9) can only be understood as a depictive phrase,³

³ A depictive phrase is a kind of secondary predicates which characterizes the state of an NP at the time of the initiation of the main predicate’s action. The depictive construction in (ia) can be paraphrased as in (ib):

- (i) a. Bill cut the bread hot.
 b. Bill cut the bread, and at the time he cut it, it was hot.

As we can see in (ii), in contrast with result phrases, depictive phrases can be predicated of either the subject or the object:

- (ii) a. John ate the meat *nude*. (subject-oriented depictive)
 b. John ate the meat *raw*. (object-oriented depictive)

and so the sole meaning of (9) is (10a). The fact that (9) can only have the meaning of (10a) clearly indicates that a resultative predicate is always predicated of the object.

In short, there must be an object NP of which the result phrase is predicated for an acceptable resultative construction. In transitive resultatives, the normal direct object of the verb is the host NP⁴ for the result phrase. For an intransitive (unergative) verb to form a resultative construction with a result phrase, there must be a so-called fake object. That is, the fake object plays the role of a direct object in the intransitive resultative constructions.

A fake reflexive pronoun is a common type of the fake object:

- (11) a. *The joggers ran sick.
 b. The joggers ran *themselves* sick.
 (Carrier and Randall, 1992: 217)

- (12) a. *Sam cried sick.
 b. Sam cried *himself* sick.
 (Napoli, 1992: 66)

Sometimes we can find other kinds of fake objects:

- (13) a. Sam cried *his eyes* out. (Napoli, 1992: 66)
 b. The tourists walked *their shoes* ragged.
 c. The joggers have run *the pavement* thin.
 (Carrier and Randall, 1992: 217)

According to Carrier and Randall (1992), body parts such as *his eyes* in (13a), some NPs which are closely related to body parts as *their shoes* in (13b), or some NPs which come in contact with body parts as *the pavement* in (13c) can be used as fake objects.

Then what is the syntactic status of a fake object? According to the discussion developed so far, a result phrase is always predicated of the direct object. The logical consequence of such an observation is that the postverbal NP in the intransitive (unergative) resultative construction (namely, the fake object) should be regarded as an internal argument.

⁴ The term "host NP" is used to indicate the notional subject of a result or a depictive phrase in Jackendoff (1990).

There are two pieces of empirical evidence which show that a fake object is an internal argument of a verb. The first one comes from the phenomenon of long distance *wh*-extraction of the postverbal NP out of the intransitive resultative construction. Let us consider the following examples:

- (14) a. ?Which metal_i do you wonder who hammered t_i flat?
 b. ?Which metal_i do you wonder whether to hammer t_i flat?
 (Carrier and Randall, 1992: 204)
- (15) a. ?Which sneakers_i do you wonder who ran t_i threadbare?
 b. ?Which sneakers_i do you wonder whether to run t_i threadbare?
 (Carrier and Randall, 1992: 204)
- (16) a. ?Which boys do you wonder whether to punish?
 b. *How do you wonder whether to punish these boys?

As we can see in (16a), when a complement *wh*-phrase is extracted out of the *wh*-island, the result is a Subjacency violation rather than an ECP violation. This means that the *wh*-trace of a complement in (16a) is lexically governed by the verb in the sense of Chomsky (1986a). In contrast, when an adjunct *wh*-phrase is extracted out of the *wh*-island, that sentence is totally ungrammatical as shown in (16b). This means that the *wh*-trace of an adjunct (16b) is not lexically governed by the verb and so it violates ECP.⁵ The sentences in (14) are instances of long-distance *wh*-extraction of the postverbal NP out of the transitive resultative construction, whereas those in (15) are instances of long distance *wh*-extraction of the postverbal NP out of the intransitive resultative construction. As we can see in the above examples, when the *wh*-postverbal NPs are extracted out of the resultative construction, the result is a Subjacency violation just like the case of (16a). This means that a complement, rather than an adjunct, is extracted out of the *wh*-island in each sentence in (14) and (15). In other words, the marginal status of the examples in (14) and (15) indicate that postverbal NPs

⁵ An anonymous reviewer pointed out that the ECP violation of (16b) comes from the fact that the adjunct trace cannot be antecedent-governed. Proper government can be achieved in two quite distinct ways: theta-government and antecedent-government (Chomsky, 1986a: 17). Now we are discussing the phenomenon of long distance *wh*-extraction out of a *wh*-island. In this situation, due to the intervening *wh*-Spec of CP, the base trace cannot be antecedent-governed whether it is lexically governed or not. Therefore, theta-government is the only crucial requirement for satisfying ECP in this situation.

in intransitive resultatives are internal arguments of the verb.

The second piece of evidence for the complementhood of the postverbal NP in the intransitive resultative construction is found in verbal passive formation:

- (17) a. The seedlings_i were watered t_i flat.
 b. Those cookies_i were broken t_i into pieces.
 c. The socks_i have finally been scrubbed t_i clean.
 (Napoli, 1992: 66)
- (18) a. Her Nikes_i have been run t_i threadbare.
 b. We_i have been talked t_i into a stupor.
 c. Ralph_i was laughed t_i out of the room.
 (Napoli, 1992: 66)

The intransitive resultatives in (18) can form verbal passives just like the transitive resultatives in (17). In other words, when a resultative sentence is passivized, whether it is transitive or intransitive, the postverbal NP plays a role of the subject, just as normal direct objects do. This means that the postverbal NP in the intransitive resultative construction is a direct internal argument of the verb.

Carrier and Randall (1992), however, argue that the postverbal NP in the intransitive construction is not a direct internal argument of the verb. The major point of their argument is that adding a resultative predicate does not change the transitivity properties of the matrix verb. They show that there are critical differences between the intransitive and the transitive resultative construction indicating that only in the latter case does the postverbal Case-marked NP behave as a thematic argument of the matrix verb. They demonstrate, for instance, that intransitive resultatives do not participate in middle formation (MF), adjectival passive formation (APF) and process nominal formation (PNF), though the parallel transitive constructions are acceptable. This is shown in the following examples (Carrier and Randall, 1992: 188ff):

- (19) *Middles from Transitive Resultatives*
 a. New seedlings_i water t_i flat (easily).
 b. Those cookies_i break t_i into pieces (easily).
- (20) *Middles from Intransitive Resultatives*
 a. *Competition Nikes_i run t_i threadbare (easily).
 b. *Delicate feet_i walk t_i to pieces (easily).

- (21) *Adjectival Passives from Transitive Resultatives*
- a. the stomped-flat grapes
 - b. the spun-dry sheets
- (22) *Adjectival Passives from Intransitive Resultatives*
- a. *the danced-thin soles
 - b. *the run-threadbare Nikes
- (23) *Process Nominals from Transitive Resultatives*
- a. The watering of tulips flat is a criminal offense in Holland.
 - b. The painting of fire engines the color of school buses is strictly prohibited by state law.
- (24) *Process Nominals from Intransitive Resultatives*
- a. *The drinking of oneself sick is commonplace in one's freshman year.
 - b. *The talking of your confidant silly is a bad idea.

The essential assumption of Carrier and Randall (1992) is that MF, APF, and PNF apply to a verb only if it has a direct internal argument. If such an assumption is correct, it can be argued that the postverbal NP in the intransitive construction cannot be a direct internal argument of the verb on the basis of (20), (22), and (24).

However, we can consider those examples in (19-24) in another perspective. If the direct argumenthood is not a necessary and sufficient condition but a necessary condition for MF, APF, and PNF, we can say that those sentences in (20), (22), and (24) are ill-formed due to some other reason than the non-direct argumenthood.

First, let us consider the case of MF. At first glance, it seems that the direct argumenthood condition is too weak for MF. Some recent researches have suggested that only "affecting" verbs can enter into certain constructions.^{6,7} One such construction is the English middle (Hale and Keyser, 1986). Contrary to the expectation of Carrier and Randall (1992), not all

⁶The concept of "affectedness" was first suggested by Anderson (1977) in order to explain the following asymmetry in NP passives:

- (i) a. the barbarian's destruction of the city
- b. the city's destruction by the barbarians
- (ii) a. John's pursuit of fame
- b. *fame's pursuit by John

direct arguments can serve as a subject in the middle construction. Consider the contrast between the well-formed middles of (25) and the examples in (26), which are ill-formed under the middle interpretation.

- (25) a. This glass breaks too easily.
 b. Detective novels sell quickly.
- (26) a. *Whales save with difficulty.
 b. *Turkeys pursue fast.

In the sense of Hale and Keyser (1986), the sentences in (25) are well-formed middles because they involve affecting verbs: *break*, and *sell*. These are verbs that cause a change of state or location in the entity denoted by their direct object. In contrast, the verbs *save* and *pursue* are not affecting verbs. So the middles formed with these verbs, as in (26), are therefore unacceptable though *whales* and *turkeys* are direct internal arguments of the verb. This means that the sole condition of the direct argumenthood cannot be a sufficient condition for MF. There are other examples which shed light on this point:

- (27) a. This kind of metal *hammers smooth* fast.
 b. This counter *wipes dry* quickly.
 c. Mordy's hair *combs smooth* with difficulty.
 d. Every window here *nails shut* fast.
 e. This room *sponges clean* easily.
 f. Elephants do not *knock unconscious* easily.
- (28) a. *This (kind of) metal *hammers* fast.
 b. *This counter *wipes* quickly.
 c. *Mordy's hair *combs* with difficulty.
 d. *Every window here *nails* fast.
 e. *This room *sponges* easily.
 f. *Elephants do not *knock* easily.
- (Rapoport, 1990: 47)

Anderson (1977) has argued that NP passives are restricted to those cases in which the object NP is "affected" by the action of the verb or nominal. In (ii b) *pursuit* (*pursue*) does not "affect" its object, so the sentence is ill-formed.

⁷ I will not pursue the question as to which of the various analyses involving affectedness is correct. I simply accept the proposal that affectedness is the relevant constraint for a certain construction like MF.

The middles of (28) are considerably worse than those of (27). This tells us that the crucial condition on MF is not the direct argumenthood but the affectedness in the sense of Anderson (1977). If the sole condition on MF is the direct argumenthood as the suggestion of Carrier and Randall (1992), the middles of (28) should be acceptable. However, this is not the case. The dilemma of (27) and (28) can be solved under the assumption that even though the base verbs of transitive resultatives are not “affecting” verbs, the amalgam of the base verb and result phrase form an “affecting” verb which can participate in MF. So we can conclude that the crucial condition on MF is the concept of affectedness, and the Carrier and Randall’s (1992) argument that the postverbal NPs in intransitive resultatives are not direct arguments, based on MF, is unreasonable.⁸

Now, let us reconsider the case of APF. Carrier and Randall’s (1992) major assumption on APF is that APF applies to a verb which has a direct internal argument. However, Jackendoff (1990) remarks that such an argument is at best marginal. He presents some counter-examples like the following (Jackendoff, 1990: 236):

- (29) a. *washed-clean clothes
- b. *hammered-round wire
- c. *cooked-black stove

Jackendoff (1990) points out that the phrases of APF in (29) are totally out. Hence the evidence for the non-direct argumenthood based on APF is

⁸ An informal definition of “affectedness” is presented by Rapoport (1990: 45) like the following:

- (i) Affecting verbs are those that cause a change of state or location in the entity denoted by their object NP.

Such a definition cannot explain the ungrammaticality of the sentences in (20). So I speculate that the definition (i) should be replaced by a more detailed definition like (ii):

- (ii) Affecting verbs are those that *directly* cause a change of state or location in the entity denoted by their object NP.

If we assume that the amalgam of the intransitive verb and the result phrase affects the postverbal NP *indirectly* in a certain sense, the ungrammaticality of the sentences in (20) can be explained straightforwardly under the definition (ii).

at best weak.

Finally, let us reconsider the case of PNF. Carrier and Randall's (1992) major assumption on PNF is also that PNF applies to a verb only if it has a direct internal argument. However, such a simple assumption cannot cover all the cases of PNF. Sometimes the so-called transitive resultatives cannot be nominalized at all as we can see in the following examples presented by Kayne (1985) (his (114)):

- (30) a. *The starving of John into giving up could have been avoided.
 b. *The hammering of metal flat is exceedingly difficult.

Under the suggestion of Carrier and Randall (1992), the sentences in (30) should be acceptable because they are based on transitive verbs which have direct internal arguments. However, contrary to their expectation, they are ungrammatical. So their argument concerning PNF cannot be maintained. Moreover, Jackendoff (1990: 237) points out that nominalizations of transitive resultatives are relatively acceptable only when the result phrase is an NP. In other words, for Jackendoff (1990), "*The painting of fire engines the color of school buses*" is acceptable whereas "*The cooking of food black*" is unacceptable. If the judgement of Jackendoff is correct, we can say that PNF of resultatives is a more complicated phenomenon and that it cannot be solved by the simple suggestion of Carrier and Randall (1992).

In sum, both verbal passivization and *wh*-extraction of the postverbal NP out of the intransitive resultative construction prove that the postverbal NP in the intransitive resultative construction is also a direct internal argument. The counter-argument of Carrier and Randall (1992) on this view cannot be sustained because MF, APF and PNF are insufficient to determine the direct internal argumenthood of the postverbal NP in the resultative construction.

3. Reinterpretation of Burzio's Generalization

In section 2, we pointed out that a fake object in the intransitive construction is a direct internal argument of the main verb. This means that the Accusative Case is assigned to the fake object.

But the postverbal NP in the intransitive resultative construction would not be linked to the grammatical function (GF) of object in the absence of the result phrase:

- (31) *They ran their shoes.
 (32) They ran their shoes threadbare.

The sentence in (31) is explained by the traditional assumption that an intransitive verb cannot assign the Accusative Case. Then, how can the postverbal NP in the intransitive resultative construction, as in (32), satisfy the Case Filter?

The traditional view that an intransitive cannot assign the Accusative Case is based on the following assumption:

- (33) Case assigning property is a lexical feature.⁹

At this point, we need to reconsider (the so-called) Burzio's generalization:

- (34) $\theta_s \leftrightarrow A$ (Burzio, 1986: 185)

The point of (34) can be paraphrased like the following:

- (35) *Burzio's Generalization*:

A verb assigns an external θ -role (θ_s), if and only if it assigns the Accusative Case (A).

Burzio (1986: 185) points out that (34), which is equivalent to the statement $-\theta_s \leftrightarrow -A$, consists of two independent claims:

- (36) a. $-\theta_s \rightarrow -A$
 b. $-A \rightarrow -\theta_s$

Rothstein (1992: 125) suggests that the conjunction of these two principles makes a strong prediction as in (37):

- (37) No Accusative Case is assigned when and only when no external theta-role is assigned.

In other words, when an external θ -role is assigned, Accusative Case will always be available to licence an NP in the object position. An immediate consequence of this reinterpretation is like this: unergative verbs (as opposed to unaccusative verbs) are always potential Accusative Case-assigners:¹⁰

⁹ See Pesetsky (1982) among others.

¹⁰ Hoekstra (1984) also claims that the transitivity of a verb depends on whether the verb has an external θ -role to assign.

(38) *Transitivity and Case Assigning Property*

Transitivity		Can assign Accusative Case?	Does assign an external θ -role?
Transitives		Yes	Yes
Intransitives	Unergatives	Yes	Yes
	Unaccusatives	No	No

Rothstein's reinterpretation of Burzio's generalization in (37) accounts for certain syntactic phenomena.

First, (37) explains why some of the so-called "CP-deletion verbs", but not others, are exceptional Case assigners (Rothstein, 1992: 125). For instance, even though both are CP-deletion verbs, *believe* can assign Accusative Case while *seem* cannot:

- (39) a. Mary_i is believed t_i to be a genius.
 b. Mary_i seems t_i to be a genius.
- (40) a. John believes Mary to be a genius.
 b. *It seems Mary to be a genius.

As we can see in (39), both *believe* and *seem* are CP deletion verbs and so the subject of the embedded sentence can move to the matrix subject position without violating ECP. But, as shown in (40), only *believe* can assign Accusative Case to the subject of the embedded sentence. According to (37), this asymmetry finds a natural explanation: since *seem* does not assign an external θ -role, it cannot assign the Accusative Case.¹¹

Second, Rothstein's suggestion in (37) also explains why unergatives can form the *X's way* construction whereas unaccusatives cannot:

- (41) a. Harry moaned *his way* down the road.
 b. Bill belched *his way* out of the restaurant.
 (Jackendoff, 1990: 211)
- (42) a. *The river melted *its way* downstream.
 b. *The door swung *its way* open.
 (Rothstein, 1992: 130)

¹¹ The fact that *seem* does not assign an external θ -role is confirmed by the observation that it takes a dummy expletive as its syntactic subject:

- (i) It seems that Mary is a genius.

If we take *X's way* as a direct object, why unaccusatives cannot form the *X's way* construction, as shown in (42), is clearly accounted for: unaccusatives do not have an external θ -role to assign.¹² According to (37), it is naturally predicted that unaccusatives cannot assign the Accusative Case, and so each sentence in (42) is ungrammatical since *its way* violates the Case Filter.¹³

So far, we have observed Rothstein's (1992) finding that the Accusative Case assigning property depends not on the traditional dichotomy of transitivity but on the verb's capacity of assigning an external θ -role. This observation is paraphrased as follows:

- (43) A verb which has an external argument can assign the Accusative Case.

According to (43), we can predict the following:

- (44) Unergatives can form an intransitive resultative construction with a fake object while unaccusatives cannot.

The following examples confirm our prediction of (44):

- (45) *Intransitive Resultatives Based on Unergatives*:

- a. Lucy laughed *herself* sick.
- b. Mary walked *her feet* sore.
- c. Susan drank *herself* silly.

¹² The subject NPs in (42a) and (42b) are raised from the internal argument position to get the Nominative Case. So they are not regarded as external arguments.

¹³ If a verb takes a direct object, it cannot form the *X's way* construction, and this fact clearly indicates that *X's way* is a direct object of the verb:

- (i) a. *We ate hot dogs *our way* across the U. S.
 - b. *Sue whistled a tune *her way* through the tunnel.
- (Jackendoff, 1990: 212)

The sentences in (i) are ungrammatical since each phrase of *X's way* cannot receive the Accusative Case. Interestingly, if the direct object NPs are omitted from (i), those sentences become grammatical. In this case the phrase of *X's way* can avoid the violation of the Case Filter:

- (ii) a. We ate *our way* across the U. S.
 - b. Sue whistled *her way* through the tunnel.
- (Jackendoff, 1990: 212)

(46) *Intransitive Resultatives Based on Unaccusatives:*

- a. The shirt bleached *white* in the sun.
- b. The bacon fried *crisp*.
- c. The river froze *solid*.

(Napoli, 1992: 60-66)

The intransitive resultative based on an unergative has a fake object as we can see in (45). On the other hand, the intransitive resultative based on an unaccusative is grammatical without a fake object.¹⁴ This asymmetry is successfully explained by (44). According to (44), an unergative which can assign an external θ -role can assign the Accusative Case to the postverbal NP. So a fake object appears in the intransitive resultative construction. In contrast, an unaccusative does not have an external θ -role to assign, and so cannot have a fake object with the Accusative Case.

Thus far, we have pointed out that a fake object appears only in the intransitive resultative construction based on an unergative. This is exactly predicted by (44). Then, what's the reason for the asymmetry in (45-46)? This question will be answered in the next section.

4. Fake Objects and Case Filter

4.1. Case as an Optional Feature

According to Chomsky (1995: 277), some features are intrinsic, either listed in the lexical item or determined by listed features; others are optional, added arbitrarily when a lexical item enters the numeration. For example, let us consider the following sentence:

(47) We build airplanes.

In (47), intrinsic features of the three lexical items include the categorial features, [1 person] of *we*, [3 person] and [-human] of *airplanes*, [assign Accusative Case] of *build*, and [assign Nominative Case] of T. Optional

¹⁴ Of course, if a fake object is inserted in each sentence of (46), it is ungrammatical.

- (i) a. *The shirt bleached *itself* white in the sun.
- b. *The bacon fried *itself* crisp.
- c. *The river froze *itself* solid.

features include [plural] of *airplanes* and φ -features of *build*.

Among others, note the point that Chomsky (1995) regards [assign Accusative Case] of a verb as an intrinsic feature. If this is correct, we cannot but distinguish the verb *walk* in (48–49) into two separate verbs:

- (48) a. *Mary walked her feet.
 b. Mary walked.
 (49) a. Mary walked her feet sore.
 b. *Mary walked sore.

In (48a), the verb *walk* does not assign the Accusative Case to the postverbal NP. If a result phrase like *sore* is added to the same sentence, the same verb now assigns the Accusative Case to the postverbal fake object. Chomsky (1995) would resolve this problem by distinguishing two separate verbs as follows:

- (50) a. $walk_1$ [-assign Accusative Case] (*walk* in (48))
 b. $walk_2$ [+assign Accusative Case] (*walk* in (49))

But such a way of resolution as in (50) is problematic. First of all, it is very dubious whether $walk_1$ and $walk_2$ are really different verbs from each other. Both of them have the same phonological features and the same meaning. If we should distinguish $walk_1$ and $walk_2$ under the sole standard of the Accusative Case assigning property, such a distinction brings about an unwanted complexity in the lexicon.

Now, we assume the following:

- (51) The feature of [assign Accusative Case] is optional.

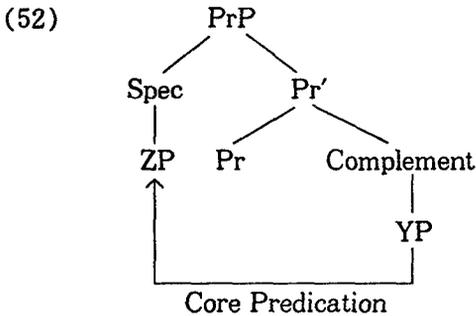
Given this assumption, every problem mentioned so far disappears. Here, an interesting question arises: why does the verb *walk* have the feature of [-assign Accusative Case] in (48) whereas it has [+assign Accusative Case] in (49)? We shall answer this question in 4.3.

4.2. A Predicational Approach to the Resultative Construction

In Lee (1996), the syntactic structure of resultatives are suggested on the basis of some basic assumptions:

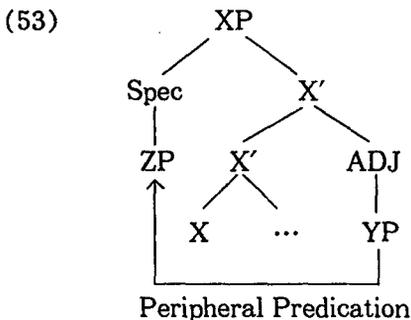
First, there are two types of predication: Core Predication and Peripheral

Predication. When the relevant subject and the predicate XP form a syntactic constituent, e.g., matrix predication and (the so-called) complement small clause (=SC) predication, we call their relation Core Predication. It is syntactically represented as a PrP structure, which was originally suggested in Bowers (1993). In a PrP structure, Core Predication is expressed as a relation between the subject in the Specifier and the predicate XP in the complement position:



Bowers (1993) proposes that Pr has the following syntactic and semantic properties: (a) the canonical position of an external argument is [Spec, PrP]; (b) Pr functionally selects the maximal projection YP of any category Y; (c) either PrP is functionally selected by I (or AGR), or it can be subcategorized as a complement of V¹⁵; (d) the semantic function of PrP is predication.

On the other hand, when the relevant subject and the predicate XP do not form a syntactic constituent and the latter is regarded as an adjunct, e.g., the so-called adjunct SC predication, their relation will be called Peripheral Predication. In the structure of Peripheral Predication, the adjunct predicate is represented as an X'-adjoined adjunct:



¹⁵ When I takes a PrP as its complement, we get matrix predication. When V takes a PrP as its complement, we get (the so-called) complement SC predication.

Second, the structural Case assignment is, literally, structurally determined. In particular, it is argued that the canonical position of the object NP (before Spell-Out) is the Spec of VP.

One major point of Case-checking Theory in Chomsky (1993) is that the N-features of T and V as checker and those of subject and object NPs as checkee are already given in the lexicon. Instead, Lee (1996) suggests (54), which is rather different from the original Checking Theory of Chomsky (1993):

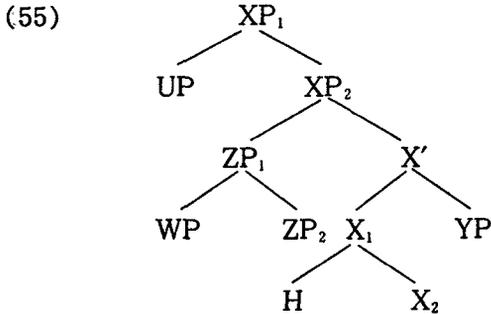
- (54) The [+Nominative] feature of the subject and the [+Accusative] feature of the object as checkee are not given to NPs when they are introduced into the computational system from the lexicon, but generated structurally in the position of [Spec, PrP] and [Spec, VP], respectively.

Given (54), the NP-movement for Case-checking can be uniformly defined as Spec-to-Spec movement on both cases of Nominative and Accusative Case-checking, since the source position of NP-movement for Accusative Case-checking is also the Spec position (of VP).

Third, the morphological motivation for the overt V-raising below the structure of INFL is subcategorization feature checking in the sense of Yang (1993 fall lecture, 1994). According to Yang (1993 fall lecture), the main predicate is inserted into the syntactic structure with its subcategorization feature which prescribes the number of external and internal arguments. To clarify the subcategorization feature of the main predicate, Yang exploits the concept of domain in the sense of Chomsky (1993).

Chomsky (1993: 11ff) provides two kinds of important concepts of domain which are defined by the minimal X-bar structure:¹⁶

¹⁶Chomsky(1993: 11) defines the *domain* of a head α as follows: the *domain* of α is the set of nodes (i) which are contained in the least full-category maximal projection dominating α , and (ii) that are distinct from and do not contain α . Thus, the domain of X in (55) is {UP, ZP, WP, YP, H} and whatever these categories dominate.



Chomsky (1993) assumes that the fundamental X-bar theoretic relation is that of head-complement, typically with an associated θ -relation determined by properties of the head. He defines this relation as a concept of domain which is called *complement domain*:

- (56) The *complement domain* of α is the subset of the domain reflexively dominated¹⁷ by the complement of α (Chomsky, 1993: 11)

According to the definition (56), the complement domain of X in (55) is YP and whatever it dominates.

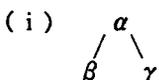
Chomsky's other concept of domain is *the residue of complement domain*. The residue is a heterogeneous set, including the specifier and anything adjoined to the maximal projection, its Spec, or its head. The technical definition of the residue of complement domain is as follows:

- (57) The *residue* of α is the domain minus the complement domain of α (Chomsky, 1993: 11)

Thus, in (55), the residue of X is {UP, ZP, WP, H} and whatever they dominate.

However, Chomsky (1993: 12ff) says that the operative relations have a local character. He is, therefore, interested not in the sets just defined, but rather in minimal subsets of them that include just categories locally related to the heads:

¹⁷In the following structure,



α dominates β and γ , and α reflexively dominates α , β and γ .

- (58) For the set S of categories, let us take $\text{MIN}(S)$ (minimal S =minimal domain) to be the smallest subset K of S such that for any $\gamma \in S$, some β reflexively dominates γ .

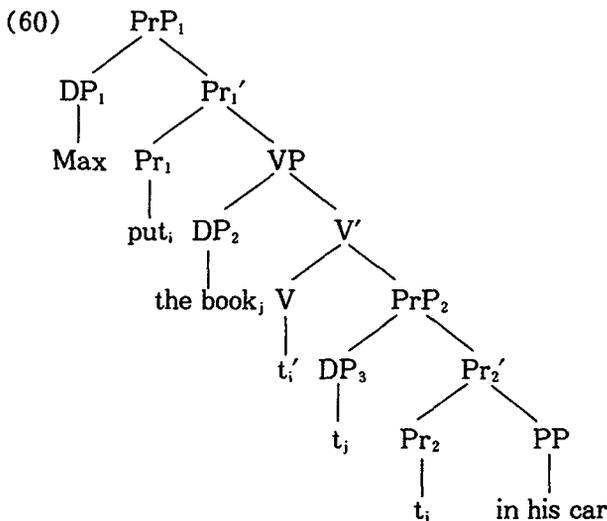
Especially, Chomsky (1993: 12) calls the minimal complement domain of α its *internal domain* (=ID), and the minimal residue of α its *checking domain* (=CD). The terminology is intended to indicate that elements of the internal domain are typically internal arguments of α , while the checking domain is typically involved in checking inflectional features.

Under Chomsky's assumption, Yang (1993 fall lecture, 1994) suggests that the selectional (or subcategorization) feature of a predicate is the syntactic specification of the external and internal arguments of the predicate. According to Yang's suggestion, the selectional feature of *put* is prescribed in lexicon in the following way:

- (59) *put*: [CD=1, ID=2]

The concept of CD is identical to that of external argument. The concept of ID is identical to that of internal argument. If the subcategorization feature in (59) is a strong morphological feature to be checked before Spell-Out, as in the assumption of Yang (1994), the overt V-raising to Pr can be explained within the Minimalist framework.

Let us consider the following structure:



At first, the verb *put* is inserted from lexicon into the position of Pr_2 with the subcategorization feature $[CD=1, ID=2]$. In this position, the verb *put* has one CD (=DP₃) and one ID (=PP), so its subcategorization feature cannot be checked. Then the verb *put* raises to V in accordance with the Economy Principle of Derivation.¹⁸ In this process, the verb *put* forms a chain (put_i, t_i). The concept of the domain of a chain is defined as follows (Chomsky, 1993: 13ff):

- (61) a. The domain of the chain $(\alpha_1, \dots, \alpha_n)$ is the set of nodes contained in the minimal projection of α_1 that are distinct from α_i and do not contain α_i .
- b. The complement domain of the chain $(\alpha_1, \dots, \alpha_n)$ is the subset of the domain of the chain $(\alpha_1, \dots, \alpha_n)$ reflexively dominated by the complement of α_i .
- c. The minimal complement domain is the internal domain (=ID).
- (62) a. The residue of the chain $(\alpha_1, \dots, \alpha_n)$ is the domain of the chain $(\alpha_1, \dots, \alpha_n)$ minus the complement domain of the chain $(\alpha_1, \dots, \alpha_n)$.
- b. The minimal residue is the checking domain (=CD).

Given the definition of (61) and (62), the chain (put_i, t_i) has one CD (=DP₂) and two IDs (=DP₃ and PP). Apparently, it seems that the subcategorization feature of the verb *put*, $[CD=1, ID=2]$, can be checked or satisfied in this stage. But this is not the case. Here, let us assume (63):

- (63) An argument DP must have a Case feature before Spell-Out in order for a derivation to converge.

Then, the candidate for CD, the DP₂ *the book*, must raise from the Spec of PrP_2 to the Spec of VP to obtain the $[+Accusative]$ feature as checkee. After this raising, there emerges a chain ($the\ book_i, t_i$), in which the DP₂ in the Spec of VP and the trace in the Spec of PrP_2 are actually the same lexical element. Now, I would like to suggest the following constraint for counting the domain of a predicate:

¹⁸ *Economy Principle of Derivation*: A derivation with a longer move is blocked.
 a. Principle of shortest chain: A derivation with a longer chain is blocked.
 b. Principle of shortest link: A derivation with a longer link is blocked.

- (64) For a chain $(\alpha_1, \dots, \alpha_n)$, it is counted as an ID of a predicate X if the tail of the chain is in the minimal complement domain of X.

By the constraint of (64), the subcategorization feature of the verb *put*, [CD=1, ID=2], cannot be checked in this position. Then the verb *put* raises to Pr₁. In this stage, the verb *put* form a chain (*put*_i, *t*'_i, *t*_i). According to the definition of (61) and (62), the chain (*put*_i, *t*'_i, *t*_i) has one CD (=DP₁) and two IDs (=the chain of DP₂ and PP). So the subcategorization feature of the verb *put*, [CD=1, ID=2], can be checked or satisfied in this stage. Hence, the overt V-raising to Pr is motivated by subcategorization feature checking in our theoretical framework.

Lee (1996) argues that resultative constructions are an instance of Core Predication based on the observation that resultatives are arguments of the main verb. The most convincing evidence for the argumenthood of a resultative comes from the phenomenon of long-distance *wh*-extraction of resultatives. Consider following sentences from Carrier and Randall (1992: 185):

- (65) a. ?How flat_i do you wonder whether they hammered the metal *t*_i?
 b. ?How shiny_i do you wonder which gems to polish *t*_i?
 c. ?Which colors_i do you wonder which shirts to dye *t*_i?
- (66) a. ?How threadbare_i do you wonder whether they should run their sneakers *t*_i?
 b. ?How hoarse_i do you wonder whether they sang themselves *t*_i?
 c. ?How dry_i do you wonder whether the sun baked the field *t*_i?

Those sentences in (65) are instances of long-distance *wh*-extraction of resultatives from the transitive resultatives, while those in (66) are instances of long-distance *wh*-extraction of resultatives from the intransitive resultatives. As McNulty (1988: 157,165) points out, when *wh*-resultatives are extracted out of *wh*-islands, the result is a Subjacency violation rather than an ECP violation. In this respect, resultatives behave like internal arguments:

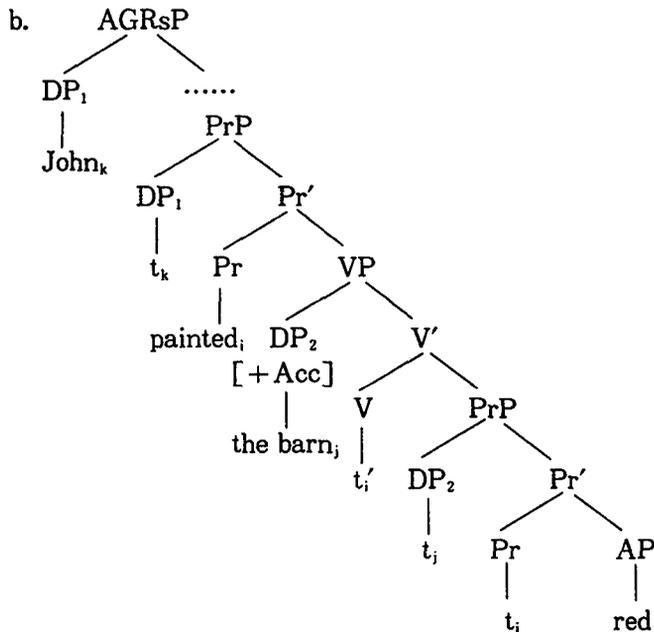
- (67) a. ?Which boys_i do you wonder whether to punish *t*_i?
 b. ?Which guests_i do you wonder which dishes to serve *t*_i?
 c. ?Which letters_i do you wonder how vaguely to word *t*_i?

- (68) a. *How_i do you wonder whether to punish these boys t_i?
 b. *How_i do you wonder who should punish these boys t_i?
 c. *How_i do you wonder which boys to punish t_i?

Those sentences in (67) are instances of long-distance *wh*-extraction of internal arguments. On the other hand, those in (68) are instances of long-distance *wh*-extraction of adjuncts. If resultatives are adjuncts, as argued in Rothstein (1985) and Jackendoff (1990), the marginality of the sentences in (65) and (66) must be identical to (68). But the marginality of the sentences in (65) and (66) is identical to (67). This means that the result XPs in (65) and (66) are arguments of the verb. (This evidence crucially supports the claim that resultatives are internal arguments of the verb.)

Under the discussion so far developed, the resultative construction has the following syntactic structure:

- (69) a. John painted the barn red.



In (69b), the object *the barn* and the result phrase *red* are generated in the Specifier and in the complement position of the lower PrP. The lower PrP structure itself reflects their predicational relation. The verb *painted* is generated in the position of Pr° of the lower PrP, and mediates the predicational relation between *the barn* and the AP *red*. The fact that the result

phrase is an argument of the matrix verb is captured by the sisterhood relation of *painted* and *red* in the lower PrP. The verb *painted* raises to the higher Pr via V for its subcategorization features checking. In the position of the higher Pr, it mediates matrix predication between the subject *John* and the VP. The Spec of VP is filled with *the barn* which has undergone DP-movement for getting the Case feature of [+Acc].

4.3. Accusative Case Realization of a Fake Object

An intransitive (unergative) verb like *run* can take a fake object in a resultative construction. However, the verb *run* does not take any internal argument when it appears in a non-resultative construction:

- (70) a. The joggers ran their Nikes threadbare.
 b. *The joggers ran their Nikes.

This phenomenon is not very strange under the assumption that [assign Accusative Case] is an optional feature. If [assign Accusative Case] is an optional feature, why cannot the postverbal NP in (70b) get the Accusative Case from the verb *run*? Here, I argue that the sentence in (70b) is ungrammatical not because the postverbal NP violates the Case Filter but because it cannot get a proper θ -role from the verb.

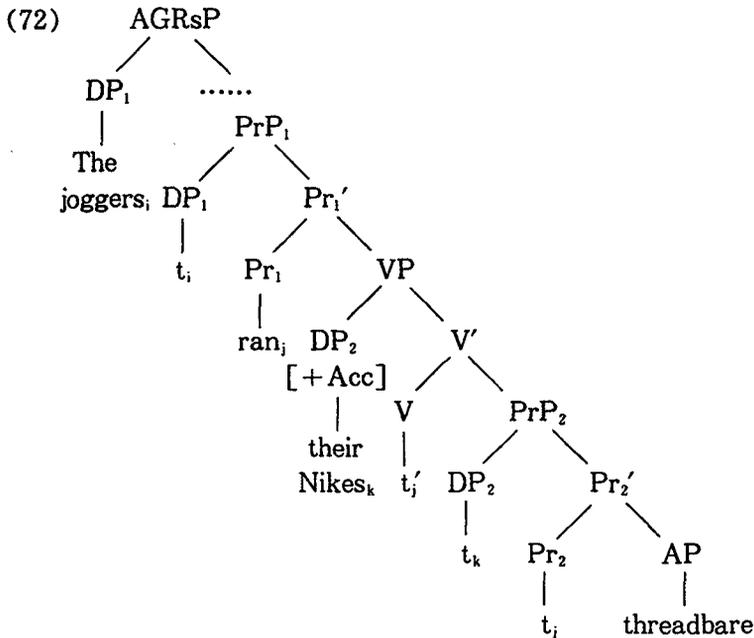
Let us assume that the argument structure of the verb *run* in intransitive resultative use is different from that of non-resultative use. Given this assumption, the subcategorization requirement of the verb *run* should be represented in lexicon as follows:

- (71) *run*: V, [CD=1, ID=0 or 2]

If the verb *run* takes the subcategorization feature [CD=1, ID=0], it is used in the non-resultative construction. On the other hand, if it takes the subcategorization feature [CD=1, ID=2], it is used in the intransitive resultative construction. Since the verb *run* does not take an NP argument without a result phrase, the postverbal NP in (70b) cannot get a proper θ -role from the verb and so it violates θ -criterion.

Now let us return to our major topic: how can a fake object avoid the Case Filter? The fake object in the intransitive resultative construction receives the Accusative Case in the same way as the object in the transitive one does. The syntactic configuration of the intransitive resultative con-

struction is not different from that of the transitive resultative construction:



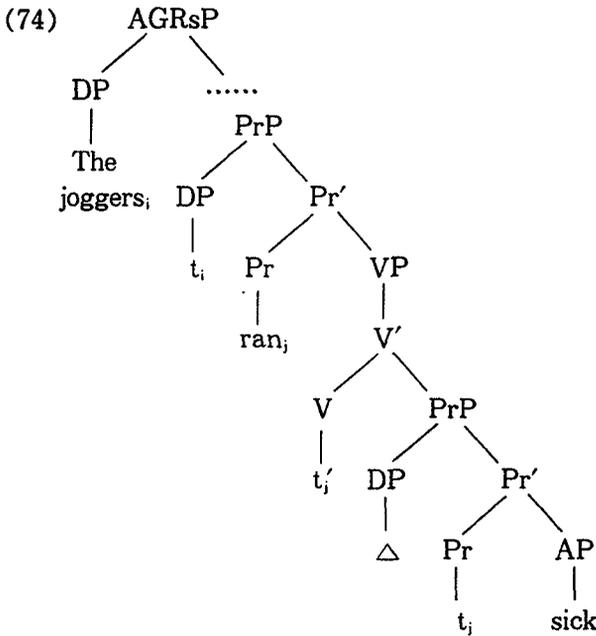
In (72), the verb *ran* is generated in the lower Pr_0 with the subcategorization feature $[CD=1, ID=2]$. In this position the verb *ran* mediates the predicational relation between *their Nikes* and *threadbare*. It combines with the result phrase *threadbare* and compositionally assigns an external θ -role to *their Nikes*. The verb *ran* then undergoes head-movement to Pr_1 by way of V to satisfy its subcategorization feature, $[CD=1, ID=2]$. Incidentally, the Spec of VP is filled with *their Nikes* which has undergone NP(or DP)-movement to obtain the Case feature of $[+Acc]$. This means that the Accusative Case is assigned to the postverbal NP. This is possible since the postverbal NP in the resultative construction is an internal argument of the verb as we argued in section 2.

5. Fake Object and FI Principle

A result phrase can only be predicated of the direct object. There must be a so-called fake object in the intransitive resultative construction if it is based on an unergative verb:

- (73) a. *The joggers ran sick.
 - b. The joggers ran *themselves* sick.
- (Carrier and Randall, 1992: 217)

Why must there be a so-called fake object in the intransitive resultative construction? This mystery can be explained straightforwardly in our predicational approach presented in 4.2. In short, an intransitive resultative construction without a so-called fake object is structurally impossible in our theoretical framework. For example, let us consider the syntactic structure (74) for (73a):



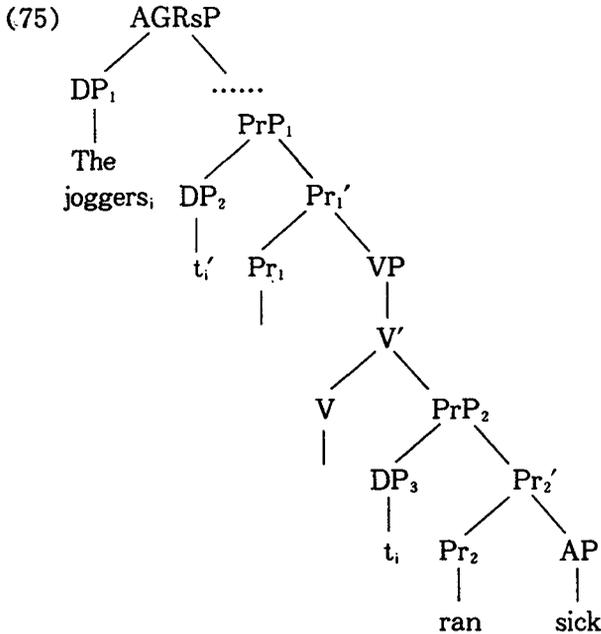
In (74), the Spec position of the lower PrP is empty because there is no fake object. This fact brings about the ill-formedness of (74). The AP, *sick*, in the complement position of the lower PrP cannot be interpreted as a predicate XP because there is no subject to be linked to. So the lower PrP becomes an improper projection. In other words, the structure (74) is illegitimate, since it contains an uninterpretable lexical item, the result phrase *sick*. Hence the Full Interpretation Principle (=FI Principle)¹⁹ forces the appearance of a fake object in the Spec position of the lower PrP in the

¹⁹ *Full Interpretation Principle:*

Every element at the interface level (=LF and PF) must be interpreted.

structure (74).

We may think of an alternative structure rather than (74) for (73a) such as (75):



If, as in (75), the overt subject *the joggers* is generated in the Spec position of the lower PrP and undergoes successive movement to the Spec position of AGRsP, we cannot explain the ill-formedness of (73a) in terms of the FI Principle. In (75), the Spec position of the lower PrP is filled with the initial trace of *the joggers*, *t_i*, and the structure can avoid the FI Principle violation, since the subject position of the lower PrP is occupied by a proper nominal expression.

Such an alternative, however, cannot save (73a). As is well-known, *run* is an unergative verb, so it must have an external argument in its argument structure. And a result phrase is regarded as a complement in our theoretical framework. Therefore, the subcategorization feature of *ran* in (73a) should be [CD=1, ID=1] if it is a convergent structure. But this subcategorization requirement induces an MLC violation²⁰ of *ran* at LF in (75).

²⁰ MLC (Minimal Link Condition):

a must make the "shortest move" (Chomsky, 1994: 14)

In (75), the verb *ran* is inserted from lexicon into the position of Pr₂ with the subcategorization feature [CD=1, ID=1]. In this position, the verb *ran* has one CD (=DP₃) and one ID (=AP), and so its subcategorization requirement is satisfied. Then, at LF, the verb *ran* has to move across two head positions, viz., V and Pr₁, to the position of AGR to have its agreement features checked. Since its subcategorization feature, [CD=1, ID=1] can be checked in the position of Pr₂, there is no proper syntactic motivation for the verb *ran* to move to V or Pr₁. The movement of *ran* from Pr₂ to V or Pr₁ does not benefit the verb itself. Hence, the V-raising of *ran* from Pr₂ to AGR at LF violates MLC by skipping two intervening heads. Therefore, this derivation crashes. If the verb *ran* undergoes successive movements from Pr₂ to AGR via V and Pr₁, such a derivation would violate the Principle of Greed, since it does not have any proper syntactic motivation for dropping in at V or Pr₁. In any case, the alternative structure (75) for (73a) cannot be a convergent structure.

In short, a syntactic structure for the unergative resultative construction without a fake object is structurally impossible in our theoretical framework, and it automatically explains the ungrammaticality of (73a).

As a result, we can say that the FI Principle forces the appearance of the fake object in the unergative resultative construction. That is, absence of the fake object would leave the resultative predicate in the complement position of the lower PrP uninterpreted.

In contrast to the case of unergatives, the unaccusative resultative construction is acceptable even though it lacks a fake object:

- (76) a. The shirt bleached *white* in the sun.
 b. The bacon fried *crisp*.
 c. The river froze *solid*.
 (Napoli, 1992: 60-66)

As is well-known, unaccusatives have deep objects which move into the subject position.²¹ So, the surface subjects of the sentences in (76) are deep objects, since the verbs are unaccusatives. This inference is confirmed by the following examples which show that those arguments which are used as subjects in (76) are used as direct objects in the transitive usage of the

²¹ See Burzio (1986).

same verbs:

- (77) a. The sun bleached the shirt white.
 b. They fried the bacon crisp.
 c. The cold weather froze the river solid.
 (Napoli, 1992: 60-66)

In our theoretical framework, the unaccusative resultatives in (76) have structures in which the initial position of the overt subject is in the Spec position of the lower PrP (since it is a deep object):

- (78) a. The shirt_i [_{PrP} t_i' bleached_j [_{VP} t_j' [_{PrP} t_i t_j white]]].
 b. The bacon_i [_{PrP} t_i' fried_j [_{VP} t_j' [_{PrP} t_i t_j crisp]]].
 c. The river_i [_{PrP} t_i' froze_j [_{VP} t_j' [_{PrP} t_i t_j solid]]].

In the case of unaccusative resultatives, as in (78), the overt subject is generated in the Spec position of the lower PrP, unlike the case of unergative resultatives. So the resultative predicate can have a subject to be linked to even though there is no fake object. Therefore, the so-called fake object need not appear in the unaccusative resultative construction, since it is not necessary for the interpretation of the resultative predicate. Resultatives in the so-called unaccusative construction are predicated of the NP-trace left in the Spec of the lower PrP.

6. Conclusion

A fake object in the intransitive (unergative) resultative construction is a direct internal argument of the verb. So it has the Accusative Case as the normal object does. This observation is based on the reinterpretation of Burzio's generalization of Rothstein (1992): no Accusative Case is assigned when and only when no external theta-role is assigned. This means that (structural) Case is a literally structural property with specific theta properties: a verb assigns the Accusative Case if and only if that verb assigns an external theta-role.

The presence of a fake object in the resultative (unergative) construction is forced by the FI principle. Since resultatives are predicated of only deep objects, there should be a fake object to which the resultative predicate is to be linked in the unergative resultative construction. In contrast, the

unaccusative resultative construction does not need to have a fake object because the surface subject is generated originally in the deep object position. So the resultative predicate in the unaccusative resultative construction can be predicated of the trace of the surface subject. These findings are successfully justified through the syntactic structure of resultatives suggested in Lee (1996).

References

- Anderson, M. (1977) 'Transformations in Noun Phrases,' ms., University of Connecticut.
- Bowers, J. (1993) 'The Syntax of Predication,' *Linguistic Inquiry* 24, 591-656.
- Burzio, L. (1986) *Italian Syntax: A Government-Binding Approach*, Dordrecht: Reidel.
- Carrier, J. and J. H. Randall (1992) 'The Argument Structure and Syntactic Structure of Resultatives,' *Linguistic Inquiry* 23, 173-234.
- Chomsky, N. (1981) *Lectures on Government and Binding*, Dordrecht: Foris.
- Chomsky, N. (1986a) *Barriers*, Cambridge, Mass.: The MIT Press.
- Chomsky, N. (1986b) *Knowledge of Language*, New York: Praeger.
- Chomsky, N. (1991) 'Some Notes on Economy of Derivation and Representation,' In R. Freidin ed., *Principles and Parameters in Comparative Grammar*, Cambridge, Mass.: The MIT Press.
- Chomsky, N. (1993) 'A Minimalist Program for Linguistic Theory,' In K. Hale and S. J. Keyser ed., *The View from Building 20*, Cambridge, MA.: The MIT Press.
- Chomsky, N. (1994) 'Bare Phrase Structure,' MIT Working Papers in Linguistics 5, MIT.
- Chomsky, N. (1995) 'Categories and Transformations,' ms., MIT.
- Chomsky, N. and H. Lasnik (1991) 'Principles and Parameters Theory,' ms., MIT.
- Hoekstra, T. (1984) *Transitivity*, Dordrecht: Foris.
- Hoekstra, T. (1988) 'Small Clause Results,' *Lingua* 74, 101-139.
- Jackendoff, R. (1990) *Semantic Structure*, Cambridge, Mass.: The MIT Press.
- Kayne, R. (1985) 'Principles of Particle Constructions,' In J. Guéron, H. G.

- Obeauer, and J. Y. Pollock eds., *Grammatical Representation*, Dordrecht: Foris.
- Lee, C. S. (1996) *A Predicational Approach to the Resultative and the Depictive Construction in English*, Doctoral Diss., SNU.
- McNulty, E. (1988) *The Syntax of Adjunct Predicates*, Doctoral Diss., University of Connecticut.
- Napoli, D. J. (1992) 'Secondary Resultative Predicates in Italian,' *Journal of Linguistics* 28, 53-90.
- Pesetsky, D. (1982) *Paths and Categories*, Doctoral Diss., MIT.
- Radford, A. (1988) *Transformational Grammar: A First Course*, Cambridge: Cambridge University Press.
- Rapoport, T. R. (1990) 'Secondary Predication and the Lexical Representation of Verbs,' *Machine Translation* 5, 31-55.
- Rothstein, S. (1992) 'Case and NP Licensing,' *Natural Language and Linguistic Theory* 10, 119-139.
- Yang, D. W. (1994) 'The Minimalist Theory and Argument Structure,' *Studies in Generative Grammar* 4.1, 173-210.

Department of English Language Education
Seoul National University
Shillim-dong, Kwanak-ku
Seoul 151-742
Korea