

A Unified Analysis of *-ING* Constructions

Young-Ok Lee

1. Ever since Chomsky's rejection of the transformational analysis of action nominals and derived nominals such as (1),¹ there have been trends to extend the 'lexicalist' analysis to other nominal *-ing* constructions like (2).

- (1) a. John's refusal of the offer (derived nominal)
- b. John's refusing of the offer (action nominal)
- (2) John's refusing the offer

Nominal *-ing* constructions subject to such an extension of the lexicalist analysis bear various names. Schachter (1976) and Jackendoff (1977) refer to constructions like (2) as 'gerundive nominals' while Wasow and Roeper (1972) refers to them as 'verbal gerunds' in contrast to 'nominal gerunds,' which are identical to 'action nominals' of (1b). The term 'POSS-ING constructions' is most generally used for the same nominal *-ing* constructions in contrast to 'ACC-ING constructions.'

However, the attempt to attribute NP structure to nominal *-ing* constructions is limited to the POSS-ING construction, excluding or just disregarding other *-ing* constructions. Specifically, Reuland (1983) asserts that NP-ING constructions such as nominal ACC-ING constructions and adverbial absolute clauses are to be analyzed as having internal S' structure. This internal S' in turn has its regular constituents, i.e. subject and predicate, dominated by the head INFL, which is assumed to be the inflectional morpheme *-ing*.

Reuland does not give any convincing explanation for *-ing* constructions except for a mere handful of NP-ING constructions such as ACC-ING constructions and adverbial absolute clauses. Thus it remains a mystery how to analyze *-ing* constructions such as gerundive relatives, nominal and adverbial PRO-ING constructions, and perception-verb complements. As for theoretical consistency, Reuland's analysis necessitates several artificial conditions and assumptions, which militates against the argument that his analysis is consistent

¹ See Chomsky (1970). Chomsky suggests the 'lexicalist' hypothesis for the derivation of derived nominals and action nominals. Its basic idea is to extend the base rules to accommodate the constructions directly, thus simplifying the transformational component.

with the core case of government of Government and Binding (GB) theory of Chomsky (1981).

All these difficulties arise from (1) restricting the analysis only to NP-ING constructions, excluding other *-ing* constructions, and (2) trying to assign either NP or S structure, excluding other possibilities for the categorial status of *-ing* constructions. We will thus attempt an analysis that reflects the peculiarities of *-ing* constructions as a whole regardless of their particular functions within sentences. We will make use of the new category PRP (Present Participle), which is assumed to designate the present participle form of the verb. The PRP is also assumed to be projected further into PRPP (Present Participle Phrase), and into PRP* (Present Participle small clause). In this way, we will be able to account for the syntactic peculiarities shared by all types of constructions containing the *-ing* form of the verb regardless of their particular functions in the sentence.

2. In this section, we will discuss the various syntactic functions of *-ing* clauses, i.e., *-ing* clauses as nominals, adverbials, and adjectival postmodifiers of the noun phrase. Each of these functions is exemplified in the following quotations:²

(3) *-ing* clauses as nominals

i. as a subject of the sentence:

a. *Delivering the mail* is a government monopoly. (CL: 34)

b. *Andrew's being deaf* meant he wasn't mentally quite "normal," (OL: 157)

c. *Them trying to sing a song* was just too horrible.

ii. as an object of the verb:

a. You want to avoid *catching the money fever*. (SD: 14)

b. How does he explain *his doing such a monstrous thing*?

c. I don't mind *my folks coming in and getting what they want*. (BE: 22)

iii. as a subject complement:

a. Being a red head is *being me*. (ES: 28)

b. What had done it was *his finding them out there behind the garage*. (NM: 179)

c. That noise you hear is *Fred kissing Sheila*.

² The works from which example sentences are quoted are shown in abbreviations. The authors and titles of the works are given at the end of this article.

iv. as a prepositional complement:

- a. There was something new and awkward about *saying his name and hearing her own on his lips*. (OL: 109)
- b. This was bunk about *Eliot's having been a fireman*. (GBY: 22)
- c. He had been all for *Brenda writing to Gary*. (ES: 8)

(4) *-ing* clauses as adverbials:

- a. Maybe he already knew, *being the sort of man who knew and knew*. (SD: 12)
- b. Face to face they had stood, *each declaring himself silently after his own way*. (SD: 33)

(5) *-ing* clause as an adjectival:

Willard read slowly, like a man *reading nothing but headlines* or a lawyer *stressing the importance of every phrase*. (NM: 36)

The nominal *-ing* clause can be used as subject, direct object, subject complement, and prepositional complement. The subject of the nominal *-ing* clause can be realized in three different ways. First, the subject is not phonetically realized, like (a) in each of the four sets of sentences in (3). Second, the subject is in the possessive form of the NP. Third, the subject assumes the accusative form of the NP. We will refer to the three constructions of *-ing* clauses with these three different types of subjects as PRO-, POSS-, and ACC-ING constructions respectively. The three types of construction are all available for the nominal function. In contrast, the adverbial function cannot be performed by the POSS-ING construction while the adjectival function can be performed only by the PRO-ING construction. This is a natural consequence of the fact that the possessive form of an NP can occur only in the position of a Determiner, which is restricted to occur under the NP.

It may appear to be unique for the adjectival function to be performed only by the PRO-ING construction. The *-ing* clause postmodifying the NP is treated as a kind of relative clause, thus given the name of gerundive relative or relative clause participle.³ However, unlike ordinary relative clauses, in the case of gerundive relatives, only the subject of the *-ing* clause can be coreferential with the head noun. Thus the postmodifying *-ing* construction looks

³ Jackendoff (1977) adopts the term 'gerundive relative' and Williams (1975) the term 'relative clause participle.' The fact that different linguists use different terms for the same linguistic construction may indicate that the given construction is not yet fully understood. For the analysis of the gerundive relative along with other *-ing* constructions, see Lee (1987).

more like an adjectival phrase than an ordinary relative clause. The following examples show the structural and functional parallelism between the adjectival phrase and the postmodifying *-ing* clause.

- (6) a. Anyone *capable of understanding this poem* deserves a prize.
 b. The first man *knowing all the answers* will get the prize.

As evidence against collapsing the *-ing* clause postmodifying a noun phrase and the progressive *-ing*, the following pairs of sentences are frequently presented:⁴

- (7) a. The first man *knowing all the answers* will get the prize.
 b. *The first man *who is knowing all the answers* . . .
 (8) a. A woman *resembling my mother* smiled at me.
 b. *A woman *who was resembling my mother* . . .⁵
 (9) a. The company *owning the building* produced this article.
 b. *The company *which was owning the building* . . .

However, on the basis of the following examples, Fabb (1984) suggests that the *V-ing* form is here progressive, not stative.

- (10) *Everyone *owning his house* is a fool.
 (11) *The people *knowing the answers* live in Connecticut.

(10) and (11) are unacceptable because the *-ing* clause postmodifying the noun phrase may not co-occur with a stative predicate.

Now we might treat the difference of grammaticality between (a) and (b) of (7), (8), and (9) along the lines of similar sets of examples containing adjectival phrases like the following:⁶

⁴ Cf. Williams (1975:250)

⁵ (8b) may be acceptable if it is interpreted as 'a woman who was growing similar to my mother . . .' This fact may be regarded as a reflection of the discrepancy between the attributive and predicative usages of the *-ing* phrase, which we will discuss immediately below.

⁶ Quirk et al. (1985:1294-1296) observes similar phenomena of postmodification that includes adjective phrases which are heavy in relation to the head. Adjective phrases are assumed to be heavy when they have a prepositional phrase or a nonfinite verb phrase as complement. Compare the following two examples:

- i. a *typical* mistake.
 ii. a mistake *typical of beginners*.

(12) the heir apparent ≠ *the heir who is apparent

(13) the president elect ≠ *the president who is newly elect

(12) and (13) show that there is no one-to-one correspondence between the attributive and predicative usages of the adjectival phrase. For the present, we cannot define the exact nature of the incongruity between the attributive and predicative usages of the adjectival phrase. Nevertheless, it is undeniable that a certain degree of incongruity does exist. We suggest that the difference of grammaticality between (a) and (b) of (7), (8), and (9) is due to the incongruity between the attributive and predicative usages of the *-ing* clause. It is suggestive that the *-ing* clauses showing the incongruity between the two usages are only those containing stative verbs. Thus the examples in (7-9) do not militate against the categorization of the gerundive relative and the progressive as one and the same.

That both constructions allow only the PRO-ING construction, i.e., the *-ing* clause lacking an overt subject, is evidence that we can combine the gerundive relative with the progressive. We can thus get a very simple and systematic general theory of *-ing* constructions if we collapse the gerundive relative and the progressive into one category.

3. In this section, we will survey past studies on the nominal *-ing* clause. Horn (1975) and Reuland (1983) are the two major studies treating the nominal *-ing* clause, which we will examine and show problems of their analyses.

3.1. Horn (1975) distinguishes two different underlying sources for verbal gerunds without an overt subject, i.e. POSS-ING constructions and ACC-ING constructions. Verbs such as *imagine*, *visualize*, and *wonder* which take both ACC-ING complements and POSS-ING constructions as objects are assumed to be ambiguous when they occur in PRO-ING constructions, i.e. in verbal gerunds lacking an explicit subject. Thus each of the following examples is assumed to be interpreted in two different ways:

- (14) a. We imagined singing old songs
 i. as being fun for some people.
 ii. but we were afraid to try.
- b. The doctors visualize playing the piano
 i. as good therapy.
 ii. but really didn't know how.

- c. Bill wondered about drinking beer at ballgames
 i. as being illegal.
 ii. but decided not to.

Such a distinction presupposes that POSS-ING constructions are nonsentential NP's while ACC-ING complements are sentences. Thus we might suppose that the analysis of POSS-ING constructions and ACC-ING constructions should subsume that of PRO-ING constructions.

Though the POSS-ING construction and the ACC-ING construction have different distributions in some cases, the two constructions coincide in many cases. That is, they freely alternate with each other. First, we will examine the examples in which the two constructions cannot be used interchangeably.

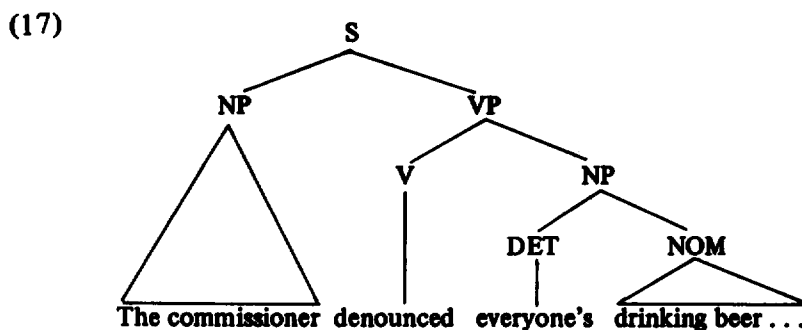
(15) a. The American government defended $\left\{ \begin{array}{l} \text{. Israel's} \\ \text{*?Israel} \end{array} \right\}$ attacking Egypt.

b. The commissioner denounced $\left\{ \begin{array}{l} \text{everyone's} \\ \text{*?everyone} \end{array} \right\}$ drinking beer at
 ball games.

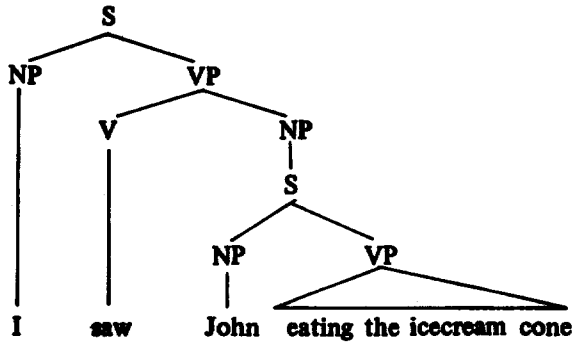
(16) a. Bill took a picture of $\left\{ \begin{array}{l} \text{John} \\ \text{*John's} \end{array} \right\}$ playing the piano.

b. I saw $\left\{ \begin{array}{l} \text{John} \\ \text{*John's} \end{array} \right\}$ eating the icecream cone.

In (15), POSS-ING constructions can comfortably occur while in (16) only ACC-ING constructions can do so. Horn tries to explain this difference by assigning different structures to the two sets of examples, arguing that the difference resides in the internal structure of the *-ing* clause. The structural difference is shown as follows:



(18)



Given the above structural representations, the two constructions can be analyzed as radically different from each other although the only surface difference is the presence or absence of the possessive case marker in the subject of the *-ing* clause. If the subject is in the possessive form, the *-ing* clause termed the POSS-ING construction is analyzed as a noun phrase constituted of a determiner and a nominal, in which the main verb of the VP ends in *-ing*. On the other hand, if the subject of the *-ing* clause is realized in the accusative or common case, the *-ing* clause is analyzed in the same way as other complement clauses such as THAT and FOR-TO complement, i.e., as a noun phrase containing an S. This *-ing* clause is called the ACC-ING or simply the NP-ING construction.

If we strictly follow the line of analysis presented by Horn, we should assign two different structures to the following sets of constructions, which are identical except for the form of the subject of the *-ing* clause.

(19) a. I dislike $\left\{ \begin{array}{l} \text{him} \\ \text{his} \end{array} \right\}$ driving my car.

b. We look forward to $\left\{ \begin{array}{l} \text{you} \\ \text{your} \end{array} \right\}$ becoming our neighbor.

Such examples as (19) make unconvincing the argument that POSS-ING constructions have an internal structure quite different from that of ACC-ING constructions. Moreover, there are examples in which ACC-ING constructions are used instead of POSS-ING constructions, not because of any difference of

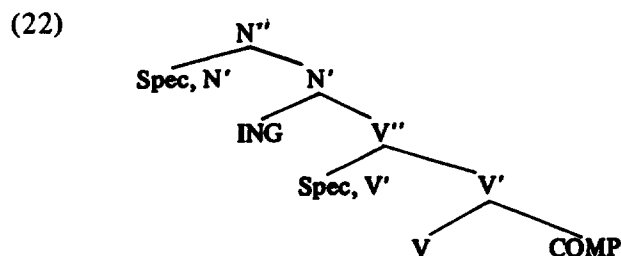
meaning but because of the morphological characteristics of the subject noun or noun phrase. Thus examples like (20) confirm that the appearance of the possessive marker on the subject does not guarantee any fundamental structural difference between POSS-ING and ACC-ING constructions.

- (20) a. You oblige me by *all leaving the room*.
 b. I have my doubts as to *this being true*.
 c. I am afraid of *mischief resulting from this*.
 d. He was surprised at *anybody speaking to him*.

Another serious difficulty in Horn's analysis comes from representing the construction by adopting the idea of X-bar theory that each lexical category X defines a set of syntactic categories X', X'', \dots, X^k , the supercategories of X , related by phrase structure rules of the form (21):

$$(21) X^n \rightarrow \dots X^{n-1} \dots$$

Horn suggests the structure (22) for the POSS-ING construction, which he claims to be equivalent to (17).



(22) shows that V'' is dominated by N' , which cannot be accepted within the system of X-bar theory.

As far as we attempt to represent the structure of the nominal *-ing* construction in terms of the categories Noun and Verb, the construction should be treated as an exceptional case to the phrase structure rule schema assumed by X-bar theory.

3.2. Reuland (1983) attempts to avoid the incongruity of the structural representation of the nominal *-ing* construction within X-bar theory by assigning

the status of INFL to the affix *-ing*. In this way, INFL may assume the role of the head of the construction in the way INFL governs the subject in the tensed clause as head of S. However, Reuland's main aim is to show that the ACC-ING construction fits well into the complicated mechanism of GB theory presented by Chomsky (1981), reinforcing it a little with a convention such as (23).

(23) *-ing* can be nominal only if it is in a Case position.

(23) is supposed to distinguish ACC-ING constructions with the nominal properties from participial *-ing* clauses that modify NP or VP, i.e., adjectival and adverbial *-ing* constructions. Reuland avoids systematic analysis of the participial *-ing* construction and of the exact nature of the morpheme *-ing* in the participial construction.

Reuland posits an identical structural configuration (26) for both (24) and (25).

(24) the architects favored [PRO being placed upon the investigations committee]

(25) the architects favored [them being placed upon the investigations committee]

(26) [_S* ... [_{VP} ... V [_S, [_S NP* [INFL *-ing*] [_{VP} V NP]]]]]
[N]

He tries to explain the difference between the two *-ing* constructions by making use of the mechanism that Chomsky (1981) suggests as a way of explaining the nonoccurrence of the subject in "pro-drop languages." In such languages as Spanish and Italian, which Chomsky calls "pro-drop languages," not only weather verbs such as *rain* and *snow* but also verbs that have subjects with a definite θ -role may appear in surface structure with no NP subject.

Within the common structural configuration, (24) is realized with the subject of the embedded sentence — the ACC-ING construction— in the form of PRO, whereas (25) is realized with the overt pronoun *them* as subject. However, PRO can occur only in ungoverned position. Thus the occurrence of *them* in the same position as PRO raises a problem that could be solved adopting one of the following alternatives. That is, either the two constructions should be assigned different structures in some way or the conditions governing the occurrence of PRO and pronouns with the Case appropriately assigned should

be modified so as to be acceptable in a structural configuration like (26). The second alternative seems implausible. For the theories of government, binding, and Case which govern the occurrence of PRO and Case-marked pronouns in various other structural configurations are so well established and Reuland's position is to lend support to such theories by applying them to the NP-ING construction.

In order to explain the contrast between PRO and the accusative NP realized in the same environment, as in (24) and (25), Reuland assumes that Affix Hopping applies either in the syntax or in the PF-component. This rule, equivalent to the rule R in Chomsky (1981), assigns the elements of INFL to the initial verbal element of the VP. The application of Affix Hopping in syntax was proposed by Chomsky to explain the occurrence of the PRO subject in the finite clause in "pro-drop languages." PRO, which should be ungoverned, can remain ungoverned by INFL after the elements of INFL, specifically, AGR, have moved to the affix position in the head V of the VP. The same rule of Affix Hopping is assumed to apply in the PF-component in the case of (25), in which the subject nominal is realized in accusative form. In this case, the affix *-ing* is assumed to act like AGR, thus allowing its Case to be assigned to the NP it governs. That is, the NP* in (26) can be lexical just in Case V assigns Case to the head of S, viz. *-ing*, which in turn assigns this Case to NP*.

We can point out several problems with the analysis of the relationship between PRO-ING and ACC-ING constructions presented by Reuland. First, it is dubious to assume that the Affix Hopping rule applies twice, once in the syntax, i.e., in the S-structure, and again in the PF-component. The possibility of Affix Hopping applying in the syntax was proposed by Chomsky (1981) as a parametric option for "pro-drop languages." This possibility thus cannot be accepted in a non-pro-drop language like English. If it is correct that Affix Hopping applies only in the PF-component in English, then the subject is always governed by AGR at S-structure and at LF. Moreover, Reuland does not show clearly under what conditions the Affix Hopping rule applies in the S-structure or in the PF-component.

Second, if Affix Hopping leaves a trace when it applies in the S-structure, this trace technically becomes a governor and establishes a governing category for the subject NP* in (26), thus excluding PRO. This is contrary to what Reuland intends. On the other hand, if the rule does not leave a trace, the resulting structure becomes (27), in which the NP* is to be governed by the matrix verb, as in the case of (28), in which the subject of the infinitival complement receives Case from the matrix verb.

(27) ... V [_S [_S NP* [_{VP} V *-ing* NP]]]

(28) a. I expect [him to leave]

b. I believe [him to be incompetent]

In order to explain the assignment of the objective Case to the subject of the infinitival complement by matrix verbs such as *expect*, *believe*, and *consider*, Chomsky postulates a marked rule of S'-deletion for complements of verbs of the *believe*-category. This rule permits the verb to govern the subject of the embedded complement, thus excluding PRO and permitting the phonetically-realized NP. The structure (27) is parallel to that for the examples in (28) in that the embedded clause does not have a complementizer, thus incurring S'-deletion. Admittedly, many complicated problems remain to be solved before we can offer any consistent explanation in terms of some general principles. However, at least the case of (24-25) is not parallel to that containing the control verb *try*. With *try* as control verb, the NP* should be realized only as PRO as subject of the infinitival complement because *try* behaves like an intransitive verb and does not assign Case to the adjacent NP* that it governs.

Reuland's analysis of the ACC-ING construction is problematic on grounds more serious than just the one that the operation of the proposed Affix Hopping rule is not clearly characterized. That is, the structural configuration suggested for the ACC-ING construction entails serious problems in explaining the behavior of the elements in the construction and their interrelationships. The most problematic example, given a structure for the ACC-ING construction like (26), is the following:

(29) *Rudy didn't remember [what [PRO doing t]]

This example cannot be explained if its structure is assumed to be (26); given that structural configuration, *Wh*-movement must be possible, as is the case in (30).

(30) Rudy didn't remember [what [PRO to do t]]

Reuland tries to solve this problem by assuming a principle requiring that a nominal *-ing* be governed by a Case marker. That is, *what* in (29) is represented as +WH COMP at D-structure; hence, neither at D-structure nor at S-structure

can *remember* govern the INFL of its complement. If the principle were legitimate, there should be no reason to reserve a position for S' and COMP at all. We can make the construction meet the principle just by removing the intervening elements that may interfere with the nominal *-ing* governed by a Case marker, that is, the matrix verb in (29).

To recapitulate, Reuland's analysis of the ACC-ING construction seems to be inappropriate in three major ways. First, he tries to relate to the optionality of the Affix Hopping rule the realization of the subject NP of the construction either in PRO or the accusative form of the NP—excluding the possessive NP in the parallel construction from consideration. However, English, which is a non-pro-drop language, does not show any other phenomena resulting from the optional application of the Affix Hopping rule. In other words, such behavior of Affix Hopping cannot be shown to be true on independent grounds.

Second, in assigning a sentential structure to the ACC-ING construction, there is no justification for the position of COMP and INFL. We cannot find any evidence for the existence of COMP. On the contrary, we find evidence against its existence. As we have seen, the construction resists WH-Movement. Now, the dubitable status of COMP in turn makes the status of INFL doubtful. As the existence of COMP is the basic requirement of an ordinary clause, the construction lacking COMP can no longer be analyzed as an ordinary clause. Where there is no COMP that guarantees the clausal status of the following constituent, we cannot justify the existence of INFL for the construction.⁷

While Reuland tries to find structural parallels of the ACC-ING construction in other sentential complement constructions, he overlooks the irreconcilable peculiarities of the ACC-ING construction. It is more appropriate and truer to the real nature of the construction to try to find properties that it shares with other parallel constructions containing *-ing* like true gerunds (POSS-ING constructions), *-ing* participle constructions, and even *-ing* as an indicator of progressive aspect. In the following section, we will present our analysis of the ACC-ING construction along this line of reasoning.

The third problem with Reuland's analysis is that the mechanism of Case

⁷ Reuland's postulation of INFL for *-ing* is arbitrary in another respect. That is, he assumes that the affix *-ing* is an INFL carrying [-Tense, +AGR], which is incongruous with the basic assumption of GB theory concerning the matter. Chomsky (1981: 52) makes it clear that the element AGR, carrying the features *person*, *gender*, and *number*, can be realized only if the INFL is [+Tense]. And it cannot be denied that only finite clauses can have such agreement features as *person*, *number*, and *gender*. In this regard, Reuland's revision of the INFL system combining the feature [-Tense] with [+AGR] cannot be accepted.

assignment for the subject NP of the construction is incongruous with the general Case theory of Chomsky (1981) and arbitrary in nature. To assume that the morpheme *-ing* receives Case from the governing Case assigner cannot be justified under the general theorem that Case is assigned to NPs. Moreover, the assumption of the process of Case transmission⁸ is unwarranted as it is nothing but a hypothetical process without any empirical support.

Now we will attempt to present an analysis of the ACC-ING construction that may also comprise the POSS-ING construction as well as the PRO-ING construction in a unified theoretical framework.

4. As we have seen in our discussion of Reuland's analysis, the nominal *-ing* construction does not show any sign of either COMP or INFL, which may be the two most crucial elements of a clause. In that respect, the nominal *-ing* construction is identical to the instances of "small clause" exemplified below:

- (31) a. I consider [John [very stupid]]
 b. I expect [the sailor [off my ship] (by midnight)]
 c. We feared [John [killed by the enemy]]

According to Stowell (1981), small clauses shown in (31) differ from infinitival S' complement constructions in always being transparent to government from the matrix, as the following pattern illustrates:

- (32) a. *John considers [PRO foolish]
 b. John is considered [t foolish]
 c. They consider [each other foolish]

On the basis of these examples, Chomsky (1981:105) argues that the small clause is of the same category as its predicate and that it cannot be a maximal projection since what is selected by the matrix verb is the predicate of the small

⁸ In the following structural configuration, Reuland postulates that NP* can be lexical just in case V assigns Case to the head of S, viz. *-ing*, and *-ing* in turn assigns this Case to NP*.

$$[_S \dots [_{VP} \dots V [_S [_S NP^* [_{INFL} \text{-ing}] [_{VP} V NP]]]]]]$$

The process in which the Case that *-ing* receives from V is assigned to NP* is called 'Case transmission.' This process is highly arbitrary and unwarranted.

clause. Thus small clauses of (31) are categorized as A*, P*, and PR* for (a), (b), and (c) respectively. Here the superscript "*" indicates that they are not maximal projections of Adjective, Preposition, or Participle. In this way, X-bar theory is supposed to be generalized so that all maximal projections as well as small clauses have subjects, PRO or phonetically-realized under the usual conditions.

Now, we could extend such a notion of small clause to the *-ing* construction. Since the nominal *-ing* construction does not carry INFL and the copula, which is the main property of the small clause, we may categorize the construction in the manner we categorize the small clause construction.

We may find in the following examples, in which the *-ing* clause is in conjunction with other small clause, an incontrovertible piece of evidence that the *-ing* clause should be analyzed as a kind of small clause.

- (33) a. But it wasn't no good, [_{SC} [the two of us] [[together in this house], [always so close] and [knowing everything the other one did]]]. (GN: 17)
- b. I said, [_{SC} [smiling] but [ironical in spite of myself]]. (GN: 331)
- c. She lay there in the bed of the two little girls, [_{SC} [her new hearing aid turned full], [listening to the sound of the children going to sleep]]. (TR: 83)

Considering that the connectives *and* or *but* demand some structural similarity between the coordinated parts, it is evident that the *-ing* clauses in (33a) and (33b) are of a structural category identical to the other coordinated constituents. (33c) may be regarded as the same kind of evidence if we assume that there is a connective deleted between the two coordinated constituents.

Thus the ACC-ING constructions analyzed by Reuland and Horn as containing a full sentential structure may be represented as follows:

- (34) the architects favored [_{PRP*} them [_{PRPP} [_{PRP} being] placed t upon the investigations committee]]

This structural configuration, which is radically different from that suggested by Reuland for the same sentence in (26), has the same pattern of structure as that of a small clause. Thus PRP*, which is an abbreviation for Present Participle small clause, consists of a subject NP and a predicate, i.e. PRPP. PRPP, which is an abbreviation for Present Participle Phrase, is the head of PRP*.

PRPP in turn is headed by PRP, i.e. Present Participle.⁹ PRP is a lexical category designating *V-ing*. Though PRP retains the verbal characteristics in that it carries its subcategorizational features the same as those of the stem verb, it should be distinguished from the ordinary verb. The crucial property that distinguishes PRP from V is that while PRP does not receive any inflectional element from the dominating INFL, which is not present from the first, V gets an inflectional element attached in the PF-component. Thus the surface *V-ing* is realized through a process distinct from Affix Hopping which is assumed to attach regular inflectional endings designating Tense and Agreement features to the verb stem.

The assignment of a separate categorial status to the *V-ing* is a natural consequence of the fact that INFL does not exist to get *-ing* attached to the verb stem in the *-ing* construction. If we posit an INFL and, as a consequence thereof, we categorize the *-ing* construction as an S, a maximal projection that bars the government from a superordinate governor, the Case assignment of the subject NP of the ACC-ING construction cannot be accounted for consistently within the GB framework.

The suggested categories can eliminate all the problems raised by the attempt to include *-ing* as an element realized through the postulation of INFL. We may specify the suggested categories in terms of a feature system. Thus by establishing a [\pm PRP] feature,¹⁰ we may designate the *V-ing* as [+V, +PRP]. In this way, we may show that *V-ing* retains its verbal characteristics.

We suggest the structural representation (35) for the PRO-ING and POSS-ING constructions.

(35) the architects favored [_{NP} [_{PRP*} PRO/their [_{PRPP} [_{PRP} being] placed upon the investigations committee]]]'

(35) differs from (34), the structural representation for the ACC-ING construction, only by the additional category NP dominating PRP*. Thus the subject PRO, which should be ungoverned, can be explained in the same manner as the PRO subject in the infinitival complement of *try* can be legitimized by the postulation of an S' that acts as a barrier to the government of the matrix

⁹ As a counterpart of PRP, we might postulate a PSP, i.e. Past Participle. Considering the relative irregularity of passive constructions, the postulation of a separate category PSP seems quite plausible.

¹⁰ The idea of the feature [\pm PRP] is due to Park Byung-Soo (personal communication).

verb, as can be seen in (36) below:

(36) John tries [_S [_S PRO to win]]

Thus we can see that a structure such as (35) is not so innovative or out of order.

Apart from the dominating node NP for PRO-ING and POSS-ING constructions, the internal structure for the ACC-ING construction is the same as that for PRO-ING and POSS-ING constructions. The fact that the three different variants of the *-ing* construction can be represented basically by the same structural configuration may be regarded as a most significant improvement of the analysis of the *-ing* construction.

5. In this study we have shown that all occurrences of the inflectional *-ing* can be treated as instances of the general small clause containing PRPP as its head. We have shown that three different types of nominal *-ing* construction can be differentiated depending on whether or not we have the intervening NP boundary and the overt subject. Such an analysis can overcome all the problems of the analyses by Horn and Reuland.

The remaining problem is to show what classes of verb take what types of nominal *-ing* clause as subcategorized complement. The systematic classification of verbs and other types of predicates according to their subcategorization properties may have to be relegated from autonomous syntax to morphology, lexicology, or semantics. On the other hand, the characterization of morphological, lexical, and semantic properties affecting the subcategorization features of each lexical item is bound to affect syntactic rules and principles significantly. In this connection, the subcategorization properties of verbs and other types of predicates that require *-ing* constructions as their complements need further research in terms of their morphological, lexical, and semantic regularities.

REFERENCES

- Akmajian, A. 1977. The Complement Structure of Perception Verbs in an Autonomous Syntactic Framework. *Formal Syntax*, ed. by A. Akmajian, P. Culicover, and T. Wasow. New York: Academic Press. 427-460.

- Bolinger, Dwight. 1977. *Meaning and Form*, New York: Longman.
- Bouchard, Denis. 1983. *On the Content of Empty Categories*. Dordrecht: Foris.
- Bowers, J.S. 1968. Some Adjectival Nominalizations in English. *Lingua* 37. 341-361.
- Bresnan, J.W. 1972. *The Theory of Complementation in English Syntax*. Ph.D. Dissertation, MIT.
- Chomsky, N. 1970. Remarks on Nominalization. *Readings in English Transformational Grammar*, ed. by R. Jacobs and P. Rosenbaum. Mass: Ginn. 184-221.
- _____. 1977. On Wh-Movement. *Formal Syntax*, ed. by A. Akmajian, P. Culicover, and T. Wasow. New York: Academic Press. 71-132.
- _____. 1980. On Binding. *Linguistic Inquiry* 11. 1-46.
- _____. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
- _____. 1982. Some Concepts and Consequences of the Theory of Government and Binding. *Linguistic Inquiry Monograph* 6. Cambridge, Mass: The MIT Press.
- _____. 1985. *Knowledge of Language: Its Nature, Origins and Use*. Cambridge, Mass: The MIT Press.
- _____. 1986. *Barriers*. Cambridge, Mass: The MIT Press.
- Emonds, J.E. 1976. *A Transformational Approach to English Syntax*. New York: Academic Press.
- Fabb, N.A.J. 1984. *Syntactic Affixation*. Ph.D. Dissertation, MIT.
- Grimshaw, J. 1979. Complement Selection and Lexicon. *Linguistic Inquiry* 10:2.
- Horn, G.M. 1975. On the Nonsentential Nature of the Poss-Ing Construction. *Linguistic Analysis* 1:4. 333-388.
- Jackendoff, R. 1972. *Semantic Interpretation in Generative Grammar*. Cambridge, Mass: The MIT Press.
- _____. 1977. X-Syntax: A Study of Phrase Structure. *Linguistic Inquiry Monograph* 2. Cambridge, Mass: The MIT Press.
- Lee, Young-Ok. 1987. *Small Clause and -Ing Constructions*. Ph.D. Dissertation, Seoul National University.
- Menzel, P. 1975. *Semantics and Syntax in Complementation*. The Hague: Mouton.
- Milsark, G. 1972. Re: Doubl-ing. *Linguistic Inquiry* 3. 542-549.
- Newmeyer, F.J. 1971. The Source of Derived Nominals in English. *Language* 47:4. 786-796.
- Poutama, H. 1929. *A Grammar of Late Modern English*. 2nd Edition. Groningen: Noordhoff.
- Quirk, R., et al. 1972. *A Grammar of Contemporary English*. London: Longman.
- _____. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.
- Reuland, E. 1983. Governing -ing. *Linguistic Inquiry*. 14:1. 101-136.
- Riemsdijk, H. and E. Williams. 1980. NP-structure. *The Linguistic Review*. 1:3. 171-217.

- Ross, J.R. 1972. Doubl-ing. *Linguistic Inquiry* 3. 61-86.
- _____. 1974. Nouniness. *Three Dimensions of Linguistic Theory*, ed. by O'Fujimura. Tokyo: TEL CO. 137-257.
- Rothstein, S.D. 1983. *The Syntactic Forms of Predication*. Ph.D. Dissertation, MIT.
- Schachter, P. 1976. A Nontransformational Account of Gerundive Nominals in English, *Linguistic Inquiry*. 7:2. 205-241.
- Selkirk, E.O. 1977. Some Remarks on Noun Phrase Structure. *Formal Syntax*, ed. by A. Akmajian, P. Culicover, and T. Wasow. New York: Academic Press. 285-316.
- _____. 1982. The Syntax of Words. *Linguistic Monograph* 7. The MIT Press.
- Siegel, S. 1974. *Topics in English Morphology*. Ph. D. Dissertation, MIT.
- Stowell, T.A. 1981. *Origins of Phrase Structure*. Ph. D. Dissertation, MIT.
- Wasow, T. and T. Roeper. 1972. On the Subject of Gerunds. *Foundations of Language*. 8:1. 44-61.
- Williams, E. 1975. Small Clauses in English. *Syntax and Semantics* 4, ed. by J. Kimball. New York: Academic Press.
- _____. 1980. Predication. *Linguistic Inquiry*. 11. 203-238.
- _____. 1983. Against Small Clauses. *Linguistic Inquiry*. 14. 287-308.

Books Quoted From

- Bellow, Saul. 1956. *Seize the Day*. New York: Avon Books. (SD).
- Gardner, John. 1963. *Nickel Mountain*. New York: Ballantine Books. (NM)
- Lessing, Dorris. 1962. *The Golden Notebook*. Toronto: Bantam Books. (GN)
- Mailer, Norman. 1979. *The Executioner's Song*. London: Arrow Books. (ES)
- Morrison, Toni. 1970. *The Bluest Eye*. New York: Washington Square Press. (BE)
- Olsen, Tillie. 1956. *Tell Me a Riddle*. New York: A Dell Book. (TR)
- Pynchon, Thomas. 1966. *The Crying of Lot 49*. Toronto: Bantam Books. (CL)
- Steel, Danielle. 1982. *Once in a Lifetime*. New York: A Dell Book. (OL)
- Vonnegut, Jr., Kurt. 1965. *God Bless You, Mr. Rosewater*. New York: A Dell Book. (GBY).

Department of English
 College of Liberal Arts and Sciences
 Kyung Hee University