

An Analysis of NP-*ing* Constructions without Abstract Case Features*

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1. Introduction

This paper is an attempt to give a detailed analysis of NP-*ing* constructions in English within the framework of Pesetsky and Torrego 2001, 2004 (P&T 2001, 2004 henceforth). They advocate *relativized extreme functionalism*, in which every grammatical feature must have some semantic value in *some* environment. Cf. P&T 2001: 364, Newmeyer 1998¹. Since the most obvious exception to this contention is abstract case features, such as *nominative*, *accusative*, and *genitive*, P&T 2001, 2004 try to dispense with these case features and attempt to construct a more restrictive grammatical framework.

It will be shown in this paper that NP-*ing* constructions can be analyzed without using abstract case feature, that is, in the spirit of *relativized extreme functionalism* of P&T 2001, 2004. Furthermore, the analysis utilized for the gerundive construction will be suggested to be applied for some otherwise intractable English constructions. Overall, this paper will be a contribution to the framework of P&T 2001, 2004, and may be one stepping stone to the grammatical theory conducive to the Minimalist Program of Chomsky 1995.

In the next section, Section 2, we will be setting the stage and give a brief introduction of P&T 2001, 2004. Section 3 is an application of their framework to NP-*ing* constructions. The analysis will be extended to other expressions and some consequences and residual problems will be discussed in the last section, Section 4.

2. Setting the Stage: The Problem and the Framework

2.1 The Problem: Peculiarity of Acc-*ing*

Descriptively, English gerunds are classified according to the cases assigned to their subjects.² Those gerunds without overt subjects are called PRO-*ing*; Overt subjects of gerunds can be marked either genitive case or accusative case. If the subject is assigned genitive case, we have a Poss-*ing*. If the subject is in accusative, the gerund is an Acc-*ing*.

(1) a. PRO calling the girl would be a good idea. (PRO-*ing*)

- b. His calling the girl bothers me. (Poss-*ing*)
- c. Him calling the girl bothers me. (Acc-*ing*)

All of these three kinds of gerunds give us a challenging problem concerning their structures and/or case assignment to their subjects. We will be concerned in this paper, however, firstly with the structure and subject case assignment of Acc-*ing*'s, since their syntactic behaviors are certain to give us a new insight to our framework, and their analysis will be a basis to the other gerundive constructions.

Acc-*ing*'s peculiarity will be clearest when we compare it with the infinitival clause with an accusative subject. While the gerund with an accusative subject (1c) is allowed in the subject position of tensed clauses, the infinitive with an accusative subject is never permitted as the subject of tensed clauses. The overt subject of infinitives in subject positions must always be accompanied by *for*.

(2) For-omission asymmetry (P&T 2001: 394)

- a. *[Sue to buy the book] would be preferable.
- b. [For Sue to buy the book] would be preferable.

(3) [John reading a book] was preferred. (Pires 2006: 16)

Of course, Acc-*ing*'s will require some special mechanism in any theoretical framework to be allowed to show itself in the subject position. As we will see in the following discussion, we also have to make use of additional assumptions ("default case") in the analysis of the construction. If all we have to say in this paper is that some peculiar construction, like Acc-*ing* in the subject position, is analyzed by some special device which will not be utilized for any other expressions, then the proposed analysis will be of no theoretical importance.

On the other hand, if we can show the device is in fact utilized in other constructions, it will be the proof that we will be on the right track.³

2.2. The Framework: P&T 2001, 2004

Our main concern in this paper is to give a structural analysis to the NP-*ing* constructions like the Acc-*ing* in the subject position of the tensed clause like (3). Before tackling this problem, however, I have to give a brief review of P&T 2001, 2004 as a basis of our discussion.

In English, clausal elements can appear as the subject of tensed clauses. We have seen the infinitive subjects in (2b); Tensed clauses can also be the subject of other tensed clauses, as is seen in (4).

(4) *That-omission asymmetry*

- a. [That Sue left] is obvious.
- b. *[Sue left] is obvious.

What is special about these clausal subjects, compared with clausal complements, is that they have to be accompanied by overt complementizers, such as *that* and *for*. These overt complementizers are optional for clausal elements in the complement position.

- (5) a. Mary thinks [that Sue left]
- b. Mary thinks [Sue left]
- (6) a. Mary would prefer [for Sue to leave]
- b. Mary would prefer [Sue to leave]

P&T 2001, 2004 give a detailed analysis of these asymmetries in the Minimalist framework of Chomsky 1995.⁴

First, they make the assumption in (7). They tackle structural case and try to dispense with it, because structural case features are among “features that have no semantic value on any lexical item.” (P&T 2004: 496)⁵

(7) *Nature of English that* (P&T 2004: 499)

That is not C, but a particular realization of T moved to C.

(7) might seem a rather ad hoc stipulation concerning the complementizer. This proposal, however, has a wider explanatory value for other constructions such as *That*-trace effect. Let us adopt this seemingly radical, but theoretically desirable assumption as it is.

With the assumption we can offer an analysis of the optionality of *That* in declarative complement clauses as follows.

(8) *Apparent optionality of that in complement CP* (ibid.)

- a. Mary expects [_{CP} [_T that]_i]+[C, *uF*] [_{TP} Sue will buy the book]].
- b. Mary expects [_{CP} [Sue, *uF*]_j] [C, *uF*] [_{TP} *t*-Sue_j [_T will]_j] buy the book]].

The head C in the complement clause contains *uT*, which can and must be eliminated either by T-to-C

movement or subject movement to Spec,CP. When T-to-C movement occurs, we have a *that*-clause in accordance with the assumption (7). If the subject itself moves to Spec,CP, on the other hand, there will be a *that*-less clause. Thus both (8a) and (8b) are acceptable.⁶

Now let us see how their analysis deals with the asymmetry in (4). The contrast between (4a) and (4b) can be explained in the following way. Clausal subjects must be in “nominative,” which means, in P&T’s (2001, 2004) framework, that they have to contain some instance of T in their head.⁷ The clausal subject in (4a) has *that* in its head, so it can count as “nominative.” The subject clause in (4b), however, contains as its head no T moved to C, hence it is not in nominative and correctly ruled out. In this way, their analysis succeeds in giving a Minimalist account of *that*-omission asymmetry.

Infinitival clausal subjects can be given almost the same analysis as we have seen in the preceding paragraph. *For* in *for-to* infinitives is an obvious counterpart of *that* in declarative finite clauses. If we can analyze *that* as T moved to C, then *for* in infinitive clauses can also be taken as an instance of T moved to C. That this analysis will be on the right track can be seen by the existence of the *for*-omission asymmetry, which corresponds to the *that*-omission asymmetry.

(9) *Nature of English for*

For is not C, but a particular realization of T moved to C.

(10) *For-omission asymmetry* (P&T 2004: 500)

- a. [For Sue to leave] would be desirable.
- b. *[Sue to leave] would be desirable.

If *for* is another instance of T moved to C, the above phenomena can be explained in exactly the same way as the *that*-omission asymmetry. C head of the CP in the subject position of (10) contains *uT*, which must be checked off if the derivation should converge. This checking can be accomplished either by infinitive T or by the subject of the infinitive (*Sue*). If the latter means is adopted and we check the uninterpretable feature by the subject, the subject infinitival clause does not contain any T on its head. Thus the ungrammaticality of (10c) follows.

3. Analysis of NP-*ing* in the Framework of P&T 2001, 2004

Having laid the basic assumptions and theoretical devices in the preceding section, we will now turn to our main concern, that is, NP-*ing* constructions like *Acc-ing* in the subject position of tensed clauses, such as (3), to be repeated here.

(3) [John reading a book] was preferred. (Pires 2006: 16)

As we have seen in section 2.2, English allows clausal subjects in tensed sentences, but they usually have to accompany overt complementizers like *that* and *for*. To put it differently, subjects of clausal subjects cannot appear without complementizers. Then how could sentences like (3) in which the gerundive subject has no overt complementizer be allowed?

Several proposals have been made concerning the structure of English gerunds. Since we are developing our analysis in the general framework of the Minimalist Program, we cannot adopt the proposals made in the GB theory as they are, such as Abney 1987, Reuland 1984, Milsark 1988. We have to resort to some minimalist analyses of these NP-*ing* constructions, such as Miller 2002, Pires 2006.

Both Miller 2002 and Pires 2006 argue that those Acc-*ing*'s like the subject of (3) are TP's with the internal structures shown in (11).⁸ (11) is not, of course, exactly theirs, but the representation based on the assumptions of P&T 2001, 2004.

(11) [_{TP} [John, $\bar{u}F$, $i\phi$]_j [_T, iT , $\bar{u}\phi$]] [_{vP} t -John_j [_{vP} reading a book]]]

The subject *John* first merges at Spec, vP, then raises to Spec, TP, deleting $u\phi$ on T. $\bar{u}T$ on the subject is deleted at the same time. Notice that this structure contains iT on its head, so it can act as an argument. See note 5 for "Argument Tense Condition." Furthermore, as we have seen before (cf. note 4), checked *uninterpretable* features can act like checked *interpretable* features. Consequently, the TP as a whole, that is, Acc-*ing* can be a subject of tensed clauses.

Some comments on the case realization will be in order here. Though we have been talking informally about various case features, we do not in fact have *nominative* case feature, *accusative* case feature, and so on, but only one undifferentiated case feature. In the Minimalist Program, syntactic case features are assumed to be of just one kind, that is, "a single undifferentiated feature." (Chomsky 2000: 124) Chomsky 2000 says that "(m)anifestations of structural Case depends on interpretable features of the probe: finite T (nominative), ν (accusative), control T (null)." (p. 123) The morphological form of any DP is determined by the nature of the probe checking the DP. A DP with a case feature checked by T of the ordinary tensed clause will have morphological nominative case (e.g. 'he'). If the DP is checked by ν , then it will be in accusative (e.g. 'him').

Now remember that P&T 2001, 2004 develop the grammatical system without abstract case features. In their framework, morphological case realization is not so straightforward as that of other frameworks with abstract case features.

The so-called case features are totally dispensed with in this system, and now every DP has an

uninterpretable Tense feature (*uT*) instead. As for the subjects of tensed clauses, we can say that they will have morphological nominative case whenever they have *uT* checked by the T of the ordinary tensed clause.

Things are not so simple for the subjects of infinitives. We cannot say that they will have morphological accusative case if their *uT*'s are checked by the infinitive Tense. Raising to the TP Spec position is not enough for the infinitive subjects to get the appropriate morphological case. The Tense head itself must go up to the head of CP; T-to-C movement must follow in order for the subject of infinitive to get the accusative case. Alternatively, the subject, rather than T, can move to Spec,CP, and delete *uT* on C. In this case, the subject cannot appear with any morphological case. This is a very complex situation, but somehow we have to ensure that the case realization of infinitive subjects be as I have just said.

With this background knowledge in mind, let us return to the case realization of the subject of *Acc-ing*. The *uT* feature on the subject DP of *Acc-ing* in (11) is already checked by the Tense of this gerund. This checking is not enough for the subject to get the appropriate morphological case. If it were, the subject of infinitives would not require the complementizer *for* to get the morphological accusative case. This is contrary to the fact.

If checked *uT* is not enough to get the morphological case, we have to resort to some special mechanism for the case realization of the subjects of *Acc-ing*. Assuming some device like “default case” proposed by Schütze 1997 will deal with this problem.⁹

There are some linguists, including Abney 1987, Schueler 2004, Yamada 2005, 2007a, who argue that *Acc-ing*'s are in fact DP's, rather than TP's. There are a lot of similarities concerning their syntactic behaviors between *Acc-ing*'s and *Poss-ing*'s. As it is obvious that the latter are DP's, it should be only natural that we assume *Acc-ing*'s are also DP's.

I have rejected this idea (*Acc-ing* = DP), however, mainly because we have no compelling reason that we should posit dominating DP's over TP's for *Acc-ing*'s, except the necessity of explaining their distribution. It is true that *Acc-ing*'s have similar syntactic distribution as *Poss-ing*'s. They can appear in so-called case-marked positions, such as subject and object positions, but may not show themselves in non-case-marked position, such as extraposed position. It would be much in the spirit of relativized extreme functionalism, however, if we can do away with dominating DP's for *Acc-ing*'s.

Notice that the head or Spec of DP will never be occupied by overt lexical element in this construction. Now we can explain their distribution without positing dominating DP's, Minimalist way of thinking forces us to adopt as bare structure for *Acc-ing*'s as possible.

If we pursue the similarities between *Poss-ing*'s and *Acc-ing*'s under the framework of P&T 2001,

2004, there is a possibility that we assume the following structure (12) for *Acc-ing*'s. As we will see, though, (12) cannot be a correct analysis of *Acc-ing*'s.

(12) [_{DP} [John, #F]_j [_D, #F] [_{TP} *t*-John_i [_T] reading a book]]

(13) [_{DP} [_T]+[_D, #F] [_{TP} [John, #F] *t* reading a book]]

Poss-ing's will have the structure shown in (13).¹⁰ In (12), the uninterpretable feature on the head D is checked by the subject *John*, the resulting structure being almost comparable to (8b). Just as the *that*-less tensed clause in (8b) cannot appear as subject of other tensed clauses, so (12) will not be able to be a subject of tensed clauses, contrary to the fact. *Poss-ing* in (13), on the other hand, retains *i*T feature on its head. So *Poss-ing* can appear as subject of tensed sentences, as expected.

4. Conclusion and Consequences

We have tried to give an analysis of NP-*ing* constructions without utilizing abstract case features, and we have found that *Acc-ing* will be best analyzed as bare TP structures from the perspective of *relativized extreme functionalism*, while *Poss-ing* should be given the DP structure as has been proposed by many researchers. Our analysis has shown that P&T's 2001, 2004 proposal can be maintained for the gerundive construction.

If the structural analysis for tensed clauses and infinitives by P&T 2001, 2004 is on the right track, these clausal elements cannot appear without dominating CPs. Such being the case, bare TP analysis of *Acc-ing*'s might seem a rather ad hoc proposal.

In fact, bare TP analysis must be used in other constructions than *Acc-ing*'s. To cite a few examples, consider (14) and (15). Sentences in (14) are the examples of "locative inversion" constructions, while those in (15) contain "bare NP adverbs." (Cf. Larson 1985)

(14) a. [Down the hill] will roll the ball

b. [In the center of the room] sat a frog. (P&T 2001: 407)

(15) a. John arrived [that day].

b. You pronounced my name [that way].

As for locative inversion sentences, their apparent "subjects" are prepositional phrases, which cannot appear in the subject position in the P&T's framework, since "an argument must bear T." (P&T 2004: 501, "Argument Tense Condition") If we can analyze these prepositional phrases as TP's, we can

easily account for their appearance in this position.¹¹

(14a) will have the following underlying structure before the application of the locative inversion.

(16) [_{TP} [T, u ϕ] [_{VP} [_{VP} [_{DP} the ball] [_{V'} V [_{PP} down the hill]]]]]

The *vP* has merged with T, and the uninterpretable feature of this T (u ϕ) must be checked off by some appropriate element. At this point, notice that both the subject DP and the PP are in the minimal domain of the same head (V), and hence can be the goal of the probe T. If the PP is selected and raised to the TP Spec position, we will have a “locative inversion” construction.

Bare-NP adverbs will be a serious problem for any theory, if they are just DP’s. If we can posit a phonologically empty T dominating bare-NP adverbs, then they are not DP’s but TP’s.

(17) John arrived [_{TP} T(empty) [_{DP} that day]]

Notice that we may proceed in this way and dispense with prepositional phrases entirely from our framework.

Space limitations do not allow us to deal with related constructions such as PRO-*ing*’s and perception verb complements. Furthermore, we should make clear how to implement “default case” in our system. These residual problems will be dealt with at other occasions.

Notes

*This is a slightly extended version of Yamada 2007b, which deals mainly with the structure of *Acc-ing* constructions.

1. ‘extreme functionalism’ is defined as follows: “all of grammar can be derived from semantics and discourse factors—the only ‘arbitrariness’ in language exists in the lexicon.” (Newmeyer 1998: 17) Newmeyer himself is against such a radical approach, but an advocate of the ‘autonomy of syntax’ which runs as follows: “Human cognition embodies a system whose primitive terms are nonsemantic and nondiscourse-derived syntactic elements and whose principles of combination make no reference to system-external factors.” (ibid.: 23) P&T’s relativized extreme functionalism will be of theoretical significance if it proves correct.

2. We don’t deal with so-called nominal gerunds as in the following in this paper.

- (i) a. His calling of the girl bothers me.
- b. The calling of the girl bothers me.

3. In fact, there are 12 environments which Schütze 1997 calls “default case” environments. He does not maintain that all of the 12 environments should be dealt with by this “default case,” but he says it is clearly desirable to supply the default Accusative case to the nominal elements in question.

- (i) “nominal elements lacking a case feature when they come out of the syntax are supplied with a default feature, ACC in English, by the morphology.” (Schütze 1997: 61)

- (ii) some examples of default case environments (ibid.: 53)
- a. *What?* Her/*She cheat on you? Never!
 - b. Her/*She in New York is what we must avoid.
 - c. Him/*He tired, they decided to camp for the night.
 - d. Him/*He liking beans surprised them. Him/*He liking beans, they bought some.
 - e. It was us/*we. There's me/*I. The murderer is her/*she.
 - f. Me/*I, I like beans. Judy thinks that the best student, her/*she, should be president.
 - g. Me/*I too. Me/*I neither. Me/*I next!
 - h. Everyone but them/*they gets on John's nerves. Students smarter than her/*she get no scholarship. The Jets did that, not us/*we.
 - i. Who did it?—Me/*I.
 - j. We can't eat caviar and him/*he (eat) beans.
 - k. Us and them/*We and they are gonna rumble tonight.
 - l. The real me/*I is/*am finally emerging. Lucky me/*I gets/*get to apply for a Green Card. How much would us/*we with insurance have to pay?

4. GB account of these phenomena makes use of the concept 'government,' which cannot be used in the Minimalist framework.

5. This kind of reductionist view of features is also adopted in Zeijlstra 2006, who argues that in L1 acquisition there should be no formal features at first, but only semantic features. Semantic features can be changed to so-called "formal" features only after there is some overt evidence to the contrary.

6. Note that P&T 2001, 2004 tacitly assume that checked $\bar{u}T$ can act like $\bar{i}T$ in the derivation of (8b). The subject *Sue* originates in Spec,vP, and raises to Spec,TP in order check the uninterpretable feature on T ($u\phi$). Then *Sue* further goes up to Spec,CP and deletes $\bar{u}T$ on C. The assumption that checked uninterpretable features can act like interpretable features may be considered a radical one, but as far as I can see it does no harm on their analysis. In fact, this assumption will be made use of later in our analysis of gerundive constructions.

7. The condition that clausal subjects must bear "case" is generalized to other arguments. They call this condition Argument Tense Condition, which is their counterpart of "Case Filter" of Government-Binding Theory (Chomsky 1981).

(i) *Argument Tense Condition*: An argument must bear T($\bar{u}T$ or $\bar{i}T$.) (Cf. P&T 2004: 501)

8. Of course there are some minor differences between their analyses, but they do not affect our discussion as a whole, so we abstract away their analyses. In addition, we have given the analysis using P&T's 2001, 2004 special devices.

9. Default case feature assignment is formalized as follows: "nominal elements lacking a case feature when they come out of the syntax are supplied with a default feature, ACC in English, by the morphology." (Schütze 1997: 61)

10. (13) is a rather simplified structure, which is slightly different from what P&T 2001 propose.

11. In fact, P&T 2004 give an analysis of prepositional phrases as TP's. They suggest that "the category P is actually a kind of T." (P&T 2004: 506)

12. Ordinary PPs have the following TP structure in the P&T's framework.

(i) [_{TP} [T, $\bar{i}T$, $\bar{u}\phi$] [_{DP} [D, #F, $i\phi$] [_{TP} t_i NP]]]

This TP has a checked $u\phi$ on its head, and as we have seen before "checked uninterpretable features can act like interpretable features" in their framework. See note 6.

References

- Abney, Steven. 1987. The English noun phrase in its sentential aspect. Doctoral dissertation, MIT.
- Chomsky, Noam. 1981. *Lectures on government and binding*. Foris: Dordrecht.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.
- Collins, Chris. 1997. *Local Economy*. Cambridge, Mass.: MIT Press.
- Larson, R. 1985. Bare-NP adverbs. *Linguistic Inquiry* 16, 595-621.
- Miller, D. Gary. 2002. *Nonfinite structures in theory and change*. Oxford: Oxford University Press
- Milsark, G. L. 1988. Singl-*ing*. *Linguistic Inquiry* 19, 611-634.
- Newmeyer, Frederick J. 1998. *Language form and language function*. Cambridge, Mass.: MIT Press.
- Pesetsky, David and Esther Torrego. 2001. T-to-C movement: Causes and consequences. In Kenstowicz, Michael. ed. *Ken Hale: A life in language*. Cambridge, Mass.: MIT Press, 355-426.
- Pesetsky, David and Esther Torrego. 2004. Tense, case, and the nature of syntactic categories. In Guéron, J. and J. Lecarme. eds. *The Syntax of Time*. Cambridge, Mass.: MIT Press, 495-537.
- Pires, Acrisio. 2006. *The Minimalist Syntax of Defective Domains: Gerunds and infinitives*. Amsterdam: John Benjamins.
- Reuland, Eric. 1983. Governing -*ing*. *Linguistic Inquiry* 14, 101-136.
- Schueler, David. 2004. Extended-projection, categorization, and the English morpheme -*ing*. Paper presented at WECOL 2004.
- Schütze, Carson Theodore Robert. 1997. INFL in child and adult language: agreement, case and licensing. Doctoral dissertation, MIT.
- Yamada, Makoto. 2005. An analysis of English Gerund in the Minimalist Framework. *Journal of the Graduate School of International Cultural Studies*. vol. 13. 73-86.
- Yamada, Makoto. 2007a. A unified analysis of English Gerund. In Mizokoshi, Akira, et al. eds. *English and Grammar: A Festschrift for Prof. Hidekazu Suzuki on the Occasion of His Sixtieth Birthday*. Tokyo: Kaitakusha, 353-364.
- Yamada, Makoto. 2007b. An analysis of English Acc-*ing* without abstract case system, ms. Tohoku University.
- Zeijlstra, Hedde. 2006. Formal features as a consequence of doubling effects. *NELS* 36, 695-706.