

# **C-Selection, S-Selection and Case Assignment**

Noriko Ue

## 要約

### 範疇的選択, 意味的選択, 格付与について

Noriko Ue

主要部である動詞とその補部間の依存関係を捕えるメカニズムとして, 範疇的選択, 意味的選択, 格付与がある。主要部 V の語彙記載項に, これらに関する情報はすべて独立的に記述しておかねばならないのであろうか。あるいは, それらのうちのあるものは規定せずとも他のものから自動的に予測出来る可能性があるものであろうか。

格標示されない節 CP が主題標示に対して可視的になれる事は, 可視性条件に反して, 少なくとも主題付与と格付与が文法理論において独立した位置づけを持つことを示している。

主題役割とその統語範疇の具現化の関係も, 意味範疇 C の標準的構造具現化の概念により予測可能とは言えない。更に, 再帰代名詞の目的語, 虚辞の *it* の目的語は, 下位範疇化されてはいるが非主題位置であることから, 意味的選択と統語的選択が自律した概念である事が支持される。

結果構文と同様, 同族目的語構文も, 他動詞タイプと自動詞タイプに分けられる。後者においては, 自動詞に続く名詞句は, 主要部 V により主題標示はされないが格を付与されるのは, Burzio の一般化による。

## I. Introduction

Verbs are traditionally divided into transitive verbs and intransitive verbs depending on whether they occur with an object or without an object. However, the dichotomy is by no means clear and absolute because there are verbs which can occur either with or without an object. Besides, the definition of "object" is not clear, either. It can be defined configurationally or semantically. The matter is more complicated with the appearance of the Unaccusative Hypothesis which was first formulated by Perlmutter (1978) and later adopted by Burzio (1986). It is claimed that there are two classes of intransitive verbs, each of which is associated with a different syntactic configuration. Under this hypothesis, the subjects of one type of intransitive verbs have similar properties with the direct objects of transitive verbs. Moreover, the study of resultative constructions has shown that even intransitive verbs can be immediately followed by NPs.

The major mechanisms proposed in the recent theories of grammar to account for the verb system in English involve c-selection (or subcategorization), s-selection (or theta-role assignment) and Case assignment. There has been considerable debate about their relationship with one another as well as their status in the grammar. The questions I am concerned with in this paper are : ( i ) Are both c-selection and s-selection required as autonomous mechanisms in the grammar or can either of them be reduced from the other? ( ii ) What is the relation between Case assignment on the one hand and c-selection or s-selection on the other? Are they separate phenomena from one another or can either of them be reducible to the other? We will examine a number of proposals given so far on these matters and will argue that c-selection is necessary as a mechanism of the grammar and that theta-role assignment is autonomous from Case assignment.

## II. Case assignment and theta-role assignment

Let us first examine whether there is parallelism between Case assignment and theta-role assignment or not. Chomsky (1986) proposes Visibility Condition in order to capture the link between Case and a theta-role. According to the Visibility Condition, an element is visible for theta-marking only if it is assigned Case (94). In other words, a category must be Case-marked if it is to be theta-marked. Under this view, the Case Filter is no longer an independent property of the grammar ; rather it follows from the Visibility Condition. This proposal, however, is clearly inadequate in that it cannot account for the licensing of clausal complements. First, consider the following examples.

- (1) a. I hope that you will come and see us.  
b. He complained that the room was too hot.  
c. He reminded me that I hadn't written to Father.  
d. We persuaded him that he should see the doctor.

The verbs *hope* and *complain* s-select a propositional theta-role and *remind* and *persuade* s-select a propositional theta-role and a goal theta-role.<sup>1</sup> Therefore, the propositional theta-roles are assigned to the *that*-clauses, but that the clauses are not in Case-marked

positions is shown by the ungrammaticality of the following sentences.

- (2) a. \*I hope your visit.
- b. \*He complained the heat.
- c. \*He reminded me the letter.
- d. \*We persuaded him the need to see the doctor.

The examples in (1) and (2) show that clauses are syntactic constituents which are not Case-marked. Thus, they suggest that the clauses in (1) are assigned theta-roles even if they are not Case-marked, contrary to the assumption that Case assignment is a necessary condition for theta-role assignment.

Similarly, examples like the following also pose a problem for the Visibility Condition.

- (3) a. John was aware that he had drunk too much beer.
- b. John feels fairly sure that the work can be done in a week.
- c. John was afraid that I might get into trouble.
- (4) a. the teacher's advice that John take the job
- b. John's certainty that she will come
- c. John's proposal that we all go

*That*-clauses in (3) and (4) have theta-roles. However, since adjectives and nouns are not Case assigners, they cannot Case-mark their clausal complements. According to the Visibility Condition, the clausal complements are not visible for theta-marking and the sentences are predicted to be ungrammatical. The fact that the sentences are grammatical suggests that Case assignment and theta-role assignment are independent mechanisms.

### III. C-selection and s-selection

The two types of lexical properties which are assumed to capture a syntactic dependency between heads and complements are c-selection and s-selection. The nature of the relationship between them, however, is not clear. Are both c-selection and s-selection necessary or is either of them redundant? There have been attempts to derive the syntactic properties of heads from their semantic properties. Chomsky (1986 : 86) suggests that categorial selection (c-selection) can be eliminated in favor of semantic selection (s-selection) and implies the possibility of the lexicon being reduced to s-selection. He claims that the elimination of c-selection is possible with the assumption that if a verb (or other head) s-selects a semantic category C, then it c-selects a syntactic category that is the "canonical structural realization of C" (CSR (C)) (87). For instance, the verb *hit* s-selects a patient and, given that the CSR of patient is NP, we no longer need to say that it c-selects an NP.

Chomsky's proposal based on the idea of CSR is challenged by Grimshaw (1979) and Rothstein (1992). In what follows, we will review and argue for their discussion of c-selection and then present the view on the relationship between c-selection and s-selection adding some modification to Rothstein's view.

CSR is supposed to indicate what syntactic category each semantic category will be

realized by. However, the parallelism between argument types and their CSRs is not as absolute as is claimed to be. Grimshaw claims that not all predicates that s-select Q and/or E occur with NP complements in the so-called “concealed” question forms as is demonstrated in (5) and (6).

- (5) a. John asked what height the building was.
- b. John asked the height of the building.
- (6) a. John inquired what the number of students in the class was.
- b. \*John inquired the number of students in the class.

Since the CRS of Q is CP, (5a) and (6a) are grammatical as expected. However, the contrast between (5b) and (6b) shows that it is necessary to specify the c-selection properties in the lexical entries of the two verbs to account for the contrast. The contrast in the following examples also demonstrates that we cannot eliminate c-selection information from the lexical entries completely.

- (6) a. I doubt whether the report is true.
- b. I doubt the truth of the report.
- c. I wonder whether the report is true.
- d. \*I wonder the truth of the report.
- (7) a. He said that I was not the person he was looking for.
- b. He said many things.
- c. He hinted that I was not the person he was looking for.
- d. \*He hinted many things. (Authier 1991)

*Doubt* and *say* c-select an NP while *wonder* and *hint* do not. Both *say* and *hint*, which are synonymous to some extent, take a proposition whose CRS is CP, but unless we appeal to the c-selection mechanism, we cannot capture the contrast shown in (7b) and (7d).

Now observe the following examples.

- (8) a. He informed the officer that a prompt arrival was important.
- b. He informed the officer of the importance of a prompt arrival.
- (Rothstein 1992)
- c. He advised me that I was promoted.
- d. He advised me of my promotion.
- e. He instructed the officer that a prompt arrival was important.
- f. \*He instructed the officer of the importance of a prompt arrival.
- (Rothstein 1992)

*Inform*, *advise* (used in informal speech with the meaning of “inform”) and *instruct*, which are nearly synonymous, take three arguments. The goal argument is realized by an NP, given that its CRS is NP. Assuming that *of* is inserted as a Case-marker,<sup>2</sup> the ungrammaticality of (8f) cannot be attributed to the violation of Case filter, as Rothstein claims. The only way to account for (8f) is by appealing to the c-selection property of the head *instruct*. Hence we claim that both s-selection and c-selection are necessary.

Given that heads exercise categorial constraints on their complements as well as semantic constraints, we would now like to consider the following question : Are

subcategorized positions always theta-marked? If a head  $c$ -selects an NP, does it mean that the head assigns a theta-role to the NP? Chomsky (1981) assumes that subcategorization entails theta-marking, namely, if  $\alpha$  subcategorizes the position  $\beta$ , then  $\alpha$  theta-marks  $\beta$  (37). This is exactly the claim made by the Projection Principle : every position that is strictly subcategorized by a lexical head is theta-marked by that lexical head. Rothstein (1992 : 133, note7) states that failure by a head to  $c$ -select an NP will mean that the head cannot assign an internal theta-role to an NP. She gives the following examples :

- (9) a. John is uncertain where the meeting is to be.  
 b. John is uncertain of the place of the meeting.  
 c. John is sure what the time is.  
 d. John is sure of the time.
- (10) a. John is undecided what time to arrive.  
 b. \*John is undecided of the time of his arrival.  
 c. John is clear what time the meeting is.  
 d. \*John is clear of the time of the meeting.

and argues that the unacceptability of (10b) and (10d) is explained by the fact that *undecided* and *clear* do not subcategorize for an NP and thus cannot assign their internal theta-role to an NP complement (132). According to her argument, the difference between *uncertain/sure* and *undecided/clear* is that the former  $c$ -select an NP and therefore assign a theta-role but the latter do not. Here arises a question, however. Does it mean that *undecided/clear* in (10a, c) have a theta-role to assign but those in (10b, d) do not? If so, are *undecided/clear* separate lexical items in the two cases? In what follows, we will argue that if a head  $c$ -selects an NP, it does not necessarily mean that the head assigns a theta-role to the NP.

First, there are verbs that always require a reflexive object.

- (11) a. She always prides herself on her academic background.  
 (Quirk et al. 1985 : 358)
- b. You can't expect me to perjure myself in the witness-box. (COBUILD)  
 c. I haven't felt inclined to avail myself of your kind offer. (COBUILD)  
 d. John absented himself from school yesterday.

A reflexive pronoun is obligatory and the verbs cannot take any other NPs. Therefore, the following sentences are ungrammatical.

- (12) a. \*John prides Mary.  
 b. \*John perjured Bill.

This fact implies that the reflexive pronouns have no clear semantic content. The object reflexive pronouns do not seem to bear any thematic relations with the verbs. The object position in this construction is likely to be a non-theta-role position. In the following cases, the reflexive pronoun may be omitted with little or no change of meaning.

- (13) a. Behave yourself now!  
 Behave now  
 b. He has to shave himself twice a day.

He has to shave twice a day.

(Quirk et al. 1985 : 358)

This fact gives support for the reflexive pronoun's lack of semantic role in the examples in (11). It follows, then, that, since the reflexive object position in (11) is obligatory, it is syntactically present but not semantically present. The verbs in (11) c-select an NP but they do not assign a theta-role to the NP. Therefore, the existence of these obligatory reflexive constructions provides evidence for the view that a c-selected NP position can be a non-theta marked position.

A second evidence for a possible non-thematic subcategorized NP position comes from object expletives as argued in Postal and Pullum (1988). There are cases of unlinked expletives in object positions as shown below (Examples are from Postal and Pullum) :

- (14) dish it out ; does it (*That does it*) ; fight it out ; give it to NP (*She really gave it to him*) ; have it out with NP ; had it (up to here) ; keep it up ; live it up ; overdo it ; pour it on ; push it (*Don't push it*—don't press unspecified matters beyond a tolerable level) ; rush it (rush things) ; take it (*The wimp couldn't take it*—couldn't endure unspecified stress) ; tough it out

Postal and Pullum argue that *it* of these examples is an expletive and that it fills a subcategorized slot. *It* does not refer to anything ; the sentences could plainly have the same cognitive import without *it* (653). Quirk et al. also give the following examples as those of a completely empty or 'nonreferring' *it* (349).

- (15) At last we've made it. ['achieved success']  
stick it out ['to hold out, to persevere']

In some cases, the expletive *it* can be omitted without causing any change in meaning or grammaticality.

- (16) a. Get those things out of there ; c'mon—move it!  
(*move it* = move = make haste)  
b. Keep it up with the sarcasm and I'll belt you.  
(*keep it up with* = keep up = continue) (Postal and Pullum)

Object expletives as in (14) provide counterevidence to the claim that if a head subcategorizes for an NP, it necessarily theta-marks the NP.

An additional support for our claim concerns the sentences involving object expletives and clausal complements.

- (17) a. He can't understand it that you dislike him.  
b. He wouldn't believe it that I am better than he is.  
c. I resent it that you take that attitude. (Bolinger 1977)

In contrast with the verbs as in (17), there are verbs which cannot occur with object expletive *it* and clausal complements as shown in Authier (1991).

- (18) a. I think (\*it) that John had an accident.  
b. I wondered (\*it) how he did on the test.  
c. I certainly hope (\*it) that he passed the test.

Both *understand/believe/resent* and *think/wonder/hope* take a proposition, whose CSR is CP ; yet they differ as to whether or not they can take an expletive *it* along with a clausal

complement. The key to this answer is, as Authier suggests, related to the contrast illustrated below.

- (19) a. He can't understand your opinion.  
b. He wouldn't believe anything.  
c. I resent your attitude.
- (20) a. \*I think John's accident.  
b. \*I wondered the result of the test.  
c. \*I certainly hope good results.

The difference between (19) and (20) shows that whether a verb can take an expletive *it* preceding its clausal complement is correlated with whether it can take an NP object. These facts lead us to argue, therefore, that *understand/believe/resent*, not *think/wonder/hope*, c-select an NP and this makes it possible for a non-thematic expletive *it* to occur so long as the theta-role which the verbs have (i. e., a propositional theta-role) is assigned properly. This is exactly the situation that we obtain in the *it* plus a clausal complement configuration. *It* is not available when preceded by an NP because of the Case filter violation.

- (21) a. \*He can't understand it your opinion.  
b. \*He wouldn't believe it anything.  
c. \*I resent it your attitude.

By assuming that verbs such as *understand/believe/resent* are subcategorized for an NP and that a subcategorized NP position can be a non-thematic position, we can account for the facts shown in (17). Recall the difference between *say* and *hint* discussed in (7). Our claim correctly predicts the possibility of the verb *say* occurring with *it* and a clausal complement as well as only with a clausal complement in contrast with the nearly synonymous verb *hint*.

- (22) a. Would you say it that I am to blame?  
b. \*Would you hint it that I am to blame?

Thus we may safely conclude that a verb exercises both c-selection requirements and s-selection requirements and we further support the view that there are cases in which a verb c-selects an NP but takes a non-thematic argument.

#### IV. Case assignment and theta-role assignment revisited

In this section, we will further examine the relationship between Case assignment and theta-role assignment by paying close attention to the postverbal NPs in resultative constructions and cognate object constructions. Resultative constructions are widely observed and have been the subject of considerable debate in terms of the interaction of GB principles. There are two types of resultative construction: transitive resultatives and intransitive resultatives.

- (23) a. We swept the floor clean.  
b. Shall I boil the eggs soft?
- (24) a. The joggers ran themselves sweaty.  
b. He sneezed his handkerchief completely soggy. (Carrier and Randall 1992)

Despite their surface similarities, transitive resultatives and intransitive resultatives differ in the status of the postverbal NPs. Carrier and Randall (1992), for example, argue for the Ternary Analysis for both transitive and intransitive resultatives, as shown in (25), and claim that the postverbal NPs *themselves* and *his handkerchief* in (24) cannot be the arguments of the verbs by demonstrating that intransitive resultatives do not partake in middle formation, nominal formation and adjectival passive formation, all of which depend on the direct internal argument condition.

- (25) a. We [swept [<sub>vp</sub> the floor] [clean]]  
b. The joggers [<sub>vp</sub> ran [themselves] [sweaty]]

The postverbal NPs in intransitive resultatives are not theta-marked by the verbs whereas those in transitive resultatives are. Carrier and Randall assume that, although a postverbal NP in intransitive resultatives is not an argument of the verb, it is an argument of the result predicate. Therefore, it receives a theta-role from the result predicate.

A problem that faces us now is how the postverbal NPs are Case-marked. The Case assignment to postverbal NPs in transitive resultatives is straightforward. As for intransitive resultatives, Case assignment to the postverbal NP has drawn much debate. That the NP must be indeed assigned Case is shown by the evidence that the following sentences are ill-formed.

- (26) a. \*The joggers ran very hard themselves sweaty.  
b. \*He sneezed repeatedly his handkerchief completely soggy,

We can assume that a verb can assign an accusative Case either as a lexical property of the verb or as a correlation between accusative Case assignment and external theta-role assignment as proposed in Burzio's Generalization. The former is suggested by Pesetsky (1982) and argued against by Rothstein (1992)<sup>3</sup>, and the latter is convincingly argued for by Rothstein (1992). Since the intransitive verbs that appear in resultative constructions are typically those in the unergative class, not in the unaccusative class, Case assignment to the postverbal NP of resultative constructions can be reduced to the property of theta-marking of an external theta-role.

Intransitive resultatives present a piece of evidence that there are Case-marked NPs which are not theta-marked by the verbs which Case-mark them. The same line of argument holds in the case of cognate object constructions. Consider the following examples.

- (27) a. He dreamed a strange dream.  
b. He will sing a beautiful song for us.  
c. He lived a happy life.  
d. He slept a sound sleep last night.  
e. They fought a clean fight.  
f. They smiled a bright smile.  
g. He laughed a merry laugh.

Cognate object constructions are generally defined as those in which a verb which is originally intransitive takes as an object the noun head which is semantically and often

morphologically related to the verb. They are semantically related to intransitive constructions. Although the sentences in (27) look similar on the surface, however, we claim that they can be divided into two types, just as we have seen there are two types of resultative construction.<sup>4</sup> We would like to suggest that there are transitive cognate object constructions and intransitive cognate object constructions. The former is exemplified in (20a, b, c) and the latter in (27d, e, f, g). In the transitive cognate object constructions, the postverbal NPs are direct internal arguments of the verbs and therefore they are theta-marked by the verbs; however, the postverbal NPs in the intransitive counterparts are not direct internal arguments of the verbs and are not theta-marked by the verbs. The evidence for this comes from the difference in behavior as illustrated below.

- (28) a. A strange dream was dreamed by John last night.  
 b. What John dreamed was a strange dream.  
 c. He dreamed a strange dream. Did she dream one, too?
- (29) a. \*A sound sleep was slept by John last night.  
 b. \*What John slept was a sound sleep.  
 c. \*He slept a sound sleep. Did she sleep one, too?

The contrast between (28) and (29) argues for the difference in status of the postverbal NPs in the two types of cognate object construction.

The postverbal NPs in transitive cognate object constructions are assigned Case straightforwardly. Those in corresponding intransitives, we assume, are assigned Case in the same manner as in intransitive resultatives. Note that the verbs that appear in intransitive cognate object constructions are canonically those in the unergative class: other examples are *weep happy tears*, *run a race*, *breathe one's last breath*.<sup>5</sup> Since unergative verbs theta-mark their subject positions, they are potential accusative Case assigners. Thus, they are able to Case-mark the postverbal NPs which are not theta-marked by the verbs that Case-mark them.

As we have seen above, resultative constructions and cognate object constructions show that Case assignment ensures the projection of a syntactic position even in the absence of theta-marking by a lexical head.

## V. Concluding remarks

The main concern in this paper was to examine the three mechanisms which are assumed to express the dependency relations between a head and its complement: c-selection, s-selection and Case assignment. We have tried to examine the nature of the relationship between them. I first discussed the distribution of clausal arguments and pointed out that theta-marking and Case-marking are independent of each other. Subsequently, I supported Grimshaw's and Rothstein's view that we need to explicitly represent anything other than unmarked c-selection properties in a lexical entry. We argued, therefore, that both theta-marking and subcategorization are required as autonomous mechanisms in the grammar. In addition, it was shown that a subcategorized position can be a non-theta-role position. Finally, it was pointed out that resultative construc-

tions and cognate object constructions are parallel in that they both have transitive types and intransitive types. The intransitive constructions were shown to have an NP position which is not assigned a theta-role but is Case-marked by a head verb. On the basis of the arguments given in this paper we can say that distribution and other properties of various constructions can be accounted for in terms of the interaction of theta-marking, subcategorization and Case-marking.

#### Notes

1. Terms such as "proposition" and "goal" are employed here for expository purposes. We will need to represent s-selectional properties in a more elaborate way as is proposed in Jackendoff (1990).
2. Chomsky (1986 : 191-94, and note 130) states that *persuade* must assign genitive to its "second object" as an inherent Case in ( i ).

( i ) I persuaded John [of the importance of going to college].

This means that the verbs *inform* and *advise* must be considered to be inherent Case assigners as well.

3. This treatment is also implied in Authier (1991). He takes the view that each V has its own Case frame ; therefore, whether an accusative Case is present in the Case frame of a verb depends on a verb. Rothstein (1992) argues that Pesetsky's account in terms of a verb's Case-assigning lexical property is inadequate because he has to say that *complain*, for example, has both the feature [+Case] and [-Case] in order to account for its behavior in concealed NP construction and resultative construction.
4. Rothstein (1992 : 137, note 11) states that Mittwoch (1990) distinguishes between two kinds of cognate objects. I have not been able to obtain his article, however
5. As Rothstein points out, *die* poses a problem for Burzio's Generalization (note 11).

( i ) John died a miserable death.

According to Perlmutter (1978), *die* is an unaccusative verb. However, Rosen (1984) claims that although *die* in Italian behaves like an unaccusative verb, *die* in Choctaw is an unergative verb. This may suggest that *die* in English could be an unergative verb. A better understanding of the semantics of the verb *die* will be needed.

#### References

- Authier, J. -Marc. 1991. V-governed expletives, case theory, and projection principle. LI 22. 721-40.
- Bolinger, Dwight. 1977. Meaning and form. London : Longman.
- Burzio, Luigi. 1986. Italian syntax : A government-binding approach. Dordrecht : Reidel.
- Carrier, Jill and Janet Randall. 1992. The argument structure and syntactic structure of resultatives. LI 23. 173-234.
- Chomsky, Noam. 1981. Lectures on government and binding. Dordrecht : Foris.
- \_\_\_\_\_. 1986. Knowledge of language : Its nature, origin and use. New York : Praeger.
- Grimshaw, Jane. 1979. Complement selection and the lexicon. LI 10. 279-326.
- Jackendoff, Ray. 1990. Semantic structures. (Current studies in linguistics, 18.) Cambridge, MA : MIT Press.
- Perlmutter, David M. 1978. Impersonal passives and the unaccusative hypothesis. BLS 4. 157-89.
- Pesetsky, David. 1982. Paths and categories. Ph. D. dissertation, MIT.
- Postal, Paul M. and Geoffrey K-Pullum. 1988. Expletive noun phrases in subcategorized positions. LI 19. 635-70.

- Quirk, Randolph, Sydney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1985. A comprehensive grammar of the English language. London and New York : Longman.
- Rosen, Carol G. 1984. The interface between semantic roles and initial grammatical relations. *Studies in relational grammar 2*, ed. by D. M. Perlmutter and C. Rosen, 38-77. Chicago, IL ; University of Chicago Press.
- Rothstein, Susan D. 1992. Case and NP licensing. *Natural Language and Linguistic Theory* 10. 119-39.

(Received December 10, 1993)