

## Grammatical Relations, Case, and Semantic Roles: with Special Reference to Subject<sup>†</sup>

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Grammatical relations, case, and semantic roles have been discussed by many grammarians (see especially Aristar 1997, Blake 1977, 1994, Blansit 1988, Croft 1990, 1991, Frawley 1992: Chap. 5, Genetti 1986, 1991, Heine 1988, 1997, Heine and Reh 1984, Heine, Claudi and Hunnemeyer 1991, Janda 1993, Kunihiro 1967, Luraghi 1987, 1991, Ohori 1996, Schlesinger 1979, 1995, Stolz 1997, Svorou 1986, 1994, Sweetser 1988, Quirk, Greenbaum, Leech, Svartvik 1985, Yamanashi 1993, 1995, Yamaguchi 1999a, b, c, d; 2000 a, b, c, d; 2001 among others). Among many issues concerning this topic, this paper considers the relationship between Subject and its semantic roles. More specifically, after reviewing the previous studies on their relationship (e.g. Chafe 1970, Fillmore 1968, Givon 1976), this paper argues that Langacker's cognitive grammar (1987, 1990, 1991) will give us much more natural explanation of why Subject expresses certain semantic roles, and not others, and why these semantic roles show different degrees of being preferred as Subject.

**Key words:** Grammatical relations, Case, Semantic roles, Subject, Cognitive grammar

### 0. Introduction

The aim of this paper is (a) to provide a brief synopsis of the important issues regarding grammatical relations, case and semantic roles, and (b) to discuss how a semantically or conceptually driven view of grammar, represented by Langacker's cognitive grammar, accounts for issues concerning grammatical relations. Section One will briefly introduce the issue of how grammatical relations (Subject and Object), case (e.g. Nominative, Accusative), and semantic roles (e.g. Agent, Patient) have been determined. In Section Two, among many issues concerning interrelations among these concepts, we will choose the specific issue of how the relationship between Subject and semantic roles has been discussed. This decision is made because this issue has attracted many grammarians. And we will show that the previous approaches to this issue have tended to fail to give a persuasive explanation of why Subject expresses certain semantic roles, and not others, and why these semantic roles show different degrees of being preferred as Subject. As a better approach to this issue, in Section Three, we will suggest Langacker's cognitive grammar (1987, 1990, 1991) and will show how this framework provides a natural explanation to account for the issue of how Subject

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is related to certain semantic roles, which the previous approaches seem to have missed.

## 1. Grammatical relations, case, and semantic roles

The aim of this section is to discuss briefly the issues of how grammatical relations, case, and semantic roles have traditionally been treated. Although almost every syntactic theory operates with these categories, there seems to have been no agreement as to how they should be defined. In the following subsections, we will attempt to classify into several groups criteria or assumptions (either implicitly or explicitly made in the past) for determining grammatical relations, case, and semantic roles.

### 1.1. Grammatical relations

As for grammatical relations (Subject, Object, and arguably Indirect Object), different criteria or principles, based on which grammatical roles are determined, have been (explicitly or implicitly) assumed by grammarians, and they seem to be classified into three groups (or possibly more).

The first criterion for determining grammatical relations is to equate grammatical relations with case markers. This assumption may be made especially by those examining what is called 'case languages' such as Turkish and Japanese. Consider the following Turkish example<sup>(1)</sup>.

- (1) *Mehmet*            *adam-a* *elma-lar-i*    *ver-di*  
 Mehemt nom.    man-dat. apple-pl.-acc.    give-past 3sg.

(Blake 1994: 1)

The above sentence indicates that in Turkish, the zero-morpheme with a noun expresses the nominative case marker, *-a*, the dative case marker, and *-i*, the accusative case marker. And for those assuming the first criterion, *Mehmet*, *adam-a*, and *lmalar-i* are Subject, Indirect Object, and Direct Object respectively, because they are nominative, dative, and accusative case markers. The following explanations of Japanese Subject show that there are indeed grammarians who assume this criterion.

“the [nominative: K. Y.] particle *ga* shows the subject.” (Martin 1964: 44)

“In the Japanese example *ga* [nominative case marker: K. Y.] marks the subject, ... (Blake 1994: 9)

The same assumption, although in a different way, seems to be taken by those working under Chomsky's Government and Binding theory. Roughly speaking, for them, case is assigned to noun phrases based on their position in a structural configuration, and the NP receives the nominative case from the abstract element INFL (inflection), and the NP marked by nominative case is considered as Subject of the sentence.

The second criterion for determination of grammatical relations is based on functional and cognitive factors. For example, Givon (1984) argues that the noun phrase in Subject position must be construed as more topical than any other noun phrases in the sentence. And Langacker (1991: 554), accepting the importance of figure-ground organization for linguistic structures, defines Subject as “a nominal that elaborates the trajectory of a process profiled at the clausal level of organization. Its profile is thus the primary clausal figure”<sup>(2)</sup>.

The third criterion is to use what may be called ‘universal list of properties of Subject’. Li and Thompson (1976) suggest that Subjects in many languages “play a prominent role in such processes as reflexivization, equi-NP deletion, verb serialization, and imperativization.” Another property a native speaker of English can easily consider is the notion of agreement. In English, if the subject is third person singular, then the verb must agree with its subject. Of course, we are not suggesting that, for noun phrases in a language to be Subject, they must show every property in this list; rather, a noun phrase can be considered a candidate for Subject if it has some of the properties. This position seems to be taken by Comrie also (1981: 60):

“... in assigning the same name to grammatical relations..., it must be the case that the relations in the two languages have *a reasonable degree of overlap*...” (emphasis, K. Y.)

## 1.2. Case

Traditionally, it seems to have been assumed that case markers are the inflectional categories that mark function (the term ‘function’ either refers to grammatical relations such as Subject or semantic roles like Agent). Turkish is an ideal language for this explanation, for this language shows a perfect one-to-one correspondence between form and function, as seen in (1) (even the Latin case system, while appearing more complicated, operates with the same principle as the Turkish case system does; for a fuller discussion of case in traditional sense, see Blake 1994, Comrie 1986, 1991). In modern syntactic theories, however, the term ‘case’ has been used in a different way from the traditional one. This may be partly because of more interest in typological study; in English, for example, nouns do not inflect when they are Subject or Object, and in Japanese, Subject and Object are expressed by postpositions. This points out that the traditional definition of case is too restricted for typological study. In what follows, two points are mentioned regarding the modern interpretation of this term.

First, as discussed in the previous subsection, the category of case seems to have been equated with grammatical relations such as Subject or Object, especially by those looking at case languages. For those with this assumption, case markers are nothing but visible indications of grammatical relations.

Second, for some grammarians, case can be equated with case functions or semantic roles. This new understanding of case category may be influenced by Fillmore (1968). The following quotation from Givon (1983: 88) implies no clear distinction between case and what we call semantic roles.

“Patient [semantic role: K. Y.]: Also referred to as ‘accusative’ [case marker: K. Y.]”

These views in which case does not show clear distinctions from grammatical relations, and semantic roles seem to be assumed by many grammarians, but this view has been recently criticized by Shibatani (1977, 1978), Tsunoda (1991), Comrie (1981), and Palmer (1994). They argue that there is enough evidence for case to enjoy independent status. Two of the arguments among many are as follows:

First, there is no perfect one-to-one relation between grammatical relations and case markers. For the purpose of showing this, let us consider how Subject is related to Nominative. In Japanese, for example, Nominative can be used for Object and in many languages, Dative is used for Subject. This seems to demonstrate that grammatical roles cannot be equated with case markers.

Second, it is obvious that there is no perfect correspondence between case markers and semantic roles, although certain tendencies can be easily found. It is true that Subject tends to be Agent, but as shown in (3) below, other semantic roles can act as Subject.

### 1.3. Semantic roles

Similar to grammatical relations, there are no agreed criteria to determine semantic roles. Nevertheless, it may be possible to classify the criteria of the previous works into three different groups.

The first criterion is that based on verb type. Chafe (1970), for example, suggests that Agent, and Patient are determined based on the four basic verb types: State (e.g. ‘be broken’, ‘be dead’), Action (e.g. ‘break’, ‘die’), Process (e.g. ‘laugh’, ‘run’), and Action-Process (e.g. ‘break’, ‘dry’), and besides this, the other peripheral semantic roles such as Experiencer, Beneficiary can be determined based on the specific verb types, which are independent of his basic verb types, in the following way.

(2) *Experiencer* is the case required by an experiential verb.

*Beneficiary* is the case required by a benefactive verb.

*Location* is the case required by a locative verb.

Role and Reference Grammar (henceforth RRG; for more details of this syntactic theory, see especially Foley and Van Valin 1993) offers somewhat similar, but different criteria for how semantic roles should be determined. Accepting the verb classification proposed by Vendler (1957), and Dowty (1979), RRG categorizes verbs into the following four types: status, activities, achievements, and accomplishment, and decomposes these verbs into what is called their Logical Structures (for example, achievement verbs are decomposed into BECOME+[STATE Logical Structure]). In RRG, semantic roles are determined based on argument position in the predicate’s Logical Structure (for example, the semantic role, Recipient, can be defined as the first argument in LS configuration of ‘... BECOME **have**’ (x,

y)').

The second major criterion is what I would call 'the intuition-based criterion'. Fillmore (1968) seems to assume this criterion for semantic role determination. As the universal list of semantic roles, he proposed the eight semantic roles of Agentive, Instrument, Dative, Benefactive, Comitative, Factive, Locative and Objective. Based on his assumption that a finite number of universal semantic roles exists somewhere in our mind, we may conclude that Fillmore believes that our intuition (without any syntactic tests) tells which roles exist in our minds. This criterion is also found in many formal syntacticians. For example, for those working under Chomsky's Government and Binding theory, the information of semantic roles is stored in the lexicon, so that when they discuss these notions, they take certain semantic roles for granted.

The third criterion is based on the action model (Langacker 1991) or the causal chain model (Croft 1991). Their accounts of how semantic roles can be determined are very similar, partly because they are influenced by Talmy (1985). For this reason, our discussion here will be limited to Langacker's. Langacker proposed the action chain as follows:



**Fig. 1** (Langacker 1991: 283)

The initial entity (that is, the leftmost object) is called 'head', and the final entity, 'tail'. Based on this model, certain semantic roles can be determined: Agent is head; Patient is tail, and Instrument is, according to Langacker, an intermediate entity. This model may be in harmony with our intuition. Agent is typically a human who sends out some energy, and Patient is typically an object which absorbs or is affected. And Instrument is typically the device which "serves as an intermediary in the transmission of energy" (Langacker 1991: 285).

## 2. The Relationship between Subject and semantic roles

In Section One, we discussed the issue of grammatical relations, case, and semantic roles independently, and this may imply that they belong to different domains, and should be considered differently, although many grammarians have mistakenly confused them, and have made no clear distinctions between them. This section will consider the issue concerning their interrelations. More specifically, we will discuss how Subject is related to certain semantic roles.

It is true that Subject expresses the Agent sense in many cases, but a more careful observation easily reveals that this is not the whole story.

- (3) (a) *Colin* killed the taipan. (Agent)
- (b) *The rock* shattered the mirror. (Instrument)
- (c) *The lawyer* received the mirror. (Recipient/Goal)

- (d) *The dog* sensed the earthquake. (Experiencer)
- (e) *The sun* emits radiation. (Source)

(Foley and Van Valin 1984: 30)

Confronting this problem, Fillmore (1968: 33) proposed a subject selection hierarchy, as follows:

“If there is an A (gent), it becomes the subject; otherwise, if there is an I (nstrument), it becomes the subject; otherwise the subject is the O (bjective).”

This hierarchy seems to be supported by the following examples.

- (4) (a) Taro opened the entrance door.
- (b) The key opened the entrance door.
- (c) The entrance door opened.

Givon (1984: 139) argues that a noun in the Subject slot is more topical than other noun phrases in the sentence, and suggests that the semantic roles which are more topical become Subject more often than the semantic roles which are less topical. His topic hierarchy of the major semantic roles is as follows:

- (5) Agent < Benefactive < Patient < Locative < Instrument < Manner

Chafe (1970: 244), establishing his Subject choice hierarchy on the basis of the distribution of new and old information, suggests the following Subject choice hierarchy.

“an Agent or Experiencer noun takes priority in becoming subject, . . . a Beneficiary noun has the next priority, . . . otherwise, a Patient noun becomes the subject”

To sum up, this section has discussed one specific issue concerning how the relationship between Subject and semantic roles should be considered. We have seen Fillmore’s (1968), Givon’s (1976) and Chafe’s (1970) proposals. One problem common to their explanations is that their hierarchies do not give or show a natural motivation of why one semantic role is preferred to another for Subject. In the next section, we will suggest that this can be answered by using the framework of Cognitive Grammar.

### **3. How does Cognitive Grammar reveal the relationship between grammatical relations and semantic roles?**

This section suggests that Cognitive Grammar, first proposed by Langacker (see especially 1987, 1990, 1991), offers a more natural explanation for the issue of how Subject is

related to certain semantic roles. One of Langacker's basic assumptions is that linguistic structure and meanings are motivated, in some sense, by our experience (the term, 'experience' is used here following Lakoff 1987). One of the repeatedly occurring experiences we encounter is that of interaction with other entities (or that of *force relationships*, to use the term in Johnson (1987): as Johnson (1987: 42) mentions, "force is *everywhere*", and "(we easily forget that) our bodies are clusters of force and that *every* event of which we are a part consists, minimally, of force in interaction". The billiard-ball model, or the action-chain model, introduced as Fig. 1 previously, emerges from this everyday interaction, as do the other Idealized Cognitive Models such as the PATH and CONTAINER schemata (for a fuller discussion of ICMs, see Lakoff 1987).

Now we are in a position to discuss how this action chain can offer an explanation for the issue of how the different degrees of preference as Subject among semantic roles can be explained. Consider how grammatical relations and semantic roles in the following examples are represented by the action chain model.

- (6) (a) John broke the glass with a hammer.
- (b) A hammer broke the glass.
- (c) The glass broke.

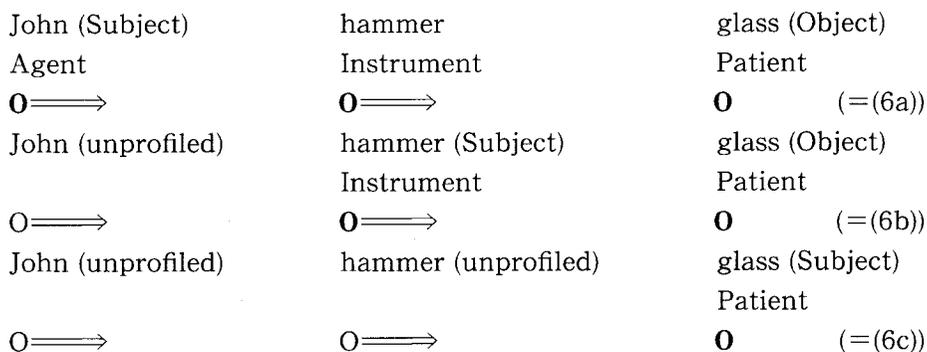


Fig. 2

In Figure 2, the entities in bold letters are profiled, that is, they are explicitly described. For example, in (6c), the only entity profiled is 'glass', which is reflected in the sentence, 'The glass broke.' As discussed in Section Two, it has been recognized that Subject represents not only Agent, but also other semantic roles such as Instrument and Patient, and several proposals were made concerning this issue. There, we pointed out that their subject selection hierarchies do not provide a reason why Agent is more preferable to Instrument, or Instrument to Patient. This issue seems to be solved by Langacker's approach. Based on his approach, we can define subject as the leftmost entity in the action chain. This approach is also in perfect harmony with our intuition for what Subject should be. Our intuition provides the following linguistic knowledge concerning subject.

- (7) (a) Agent is the most prototypical role.  
 (b) Patient is the least prototypical role.

Langacker's model gives a clear underlying reason for why our intuition indicates (7a) and (7b). Based on the action chain, it can be said that Agent is the leftmost entity, so that this is the most prototypical role, and Patient is the rightmost entity, so that this is the least prototypical role. Furthermore, based on this model, it can be said in a natural way that Instrument is preferable to Patient as Subject, because the former is to the left of the latter.

As a final remark, let me mention the fact that this explanation is applicable not only to Accusative languages, but also Ergative languages (for a discussion of ergative languages on the basis of the same cognitive model, see Langacker 1991: Chap. 7).

#### 4. Conclusion

The main purpose of this paper has been:

- (8) (a) to provide a brief synopsis of the important issues regarding grammatical relations, case, and semantic roles.  
 (b) to discuss how a semantically or conceptually driven view of grammar, represented by Langacker's cognitive grammar, accounts for grammatical relations.

For (8a), Section One discussed how the important issues concerning grammatical relations, case, and semantic roles have been determined. Section Two focused on the interrelationship between Subject and semantic roles. After introducing several approaches to this issue, we pointed out that they tend to fail to give natural reasons for why Subject represents certain semantic roles and why these semantic roles show different degrees of being preferred as Subject. In Section Three, we suggested that Langacker's approach is a better candidate as a solution to this issue and attempted to show how his model can give a better explanation for the relationship between Subject and certain semantic roles.

#### Note

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- (1) The following abbreviations are used in this paper.  
 acc. (Accusative) dat. (Dative) nom. (Nominative) pl. (plural) sg. (singular)
- (2) For the technical terms, 'trajector', 'process', and 'profile', see especially Langacker (1987).

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