

# Case in Deep Structure

Teruhiro Ishiguro

## I

In traditional grammatical analyses of the English language, the study of the Case system was one of the most popular subjects both from morphological and syntactic points of view. Such representative traditional grammarians as Otto Jespersen, C. O. Curme, Henry Sweet, E. A. Sonnenschein, Hendrik Poutsma and others described the English Case system giving much space in their grammars.<sup>1</sup> This fact well reflected their attitude toward classical languages as Greek and Latin where the Case system was the most essential part in the discussion of the inflection of nouns and pronouns

The American structural grammarians did not pay much attention to the analysis of the Case system in the English language. Charles C. Fries, for example, did not mention anything about the Case system of English in his *Structure of English*<sup>2</sup>

Also in generative-transformational grammar in the line of the Chomskian model, the analysis of the Case system has been very much neglected. Chomsky writes in *Aspects of the Theory of Syntax*:<sup>3</sup>

. . . Case is usually determined by the position of the Noun in surface structure rather than in deep structure . . .

Even in the recent development of generative-transformational the-

ories represented by  $\theta$ -theory, government, binding, bounding and so forth, Chomsky and his followers maintain their old position as represented by the following remark by the authors of *Introduction to the Theory of Grammar*:<sup>4</sup>

Since case can only be assigned to a position that is governed by a case-assigner, PRO will therefore never appear in a position to which case is assigned and will never receive case.

In their treatment, Case is only a subject of movement and Subjacency. In other words, as long as they confine their analysis typically to a syntax-centered standpoint and do not accept a more semantic consideration regarding this essential subject in the grammar of English, their perspective is destined to be narrow and prejudiced.

What I aim to clarify in this brief paper is to support Case Grammar theory as presented by Charles J. Fillmore as a more effective model to explain the reality of the Case system in English, although the original idea goes back to the 60s and some people have discarded it as outdated. However, the recent revival of the general attitude, especially that of computational linguists and engineers being engaged in such electronic projects as machine translation and so on in evaluating the merits of Case Grammar concepts, it is significant to review its relevance in some aspects of interest such as universal theory and the amalgamation of syntaco-semantic concepts.

## II

Case is generally known as a grammatical category that indicates the function of a noun or a noun phrase (NP) in a sentence. Namely, to

show the different functions or Cases, the form of the noun or the noun phrase is changed by inflection. From the view point of Case in classical languages such as Greek and Latin in which morphological changes feature as the most significant part in their grammar, their morphology and syntax cannot be discussed without consideration of their Case system.

In the above mentioned classical languages, there were six distinct Noun cases, but most modern languages including English have lost their formal differences and the number of cases has considerably decreased.<sup>5</sup> In the history of the English language, although Old English had five distinctive Noun cases, in the late Middle English period, its Case system retained only four. In Modern English there exist just two:<sup>6</sup> Common Case (Subjective and Objective) and Possessive (Genitive) Case.<sup>7</sup> Modern German has four Cases; Accusative, Nominative, Dative and Genitive. Some languages have more or a fewer number of Case forms.<sup>8</sup>

English adjectives have no Case endings. Consider the so-called group-genitive as in:

1. all the other people's opinion
2. an hour and a half's delay
3. in a quarter of one kilometer's distance

When we examine these examples, we notice that the apostrophe 's is not an inflective ending but can be a phrasal suffix, or a syntactic bound form, then we must deny the existence of the Genitive Case in English. Here we could have a greatly simplified English Case system, if we applied such a structural treatment. According to this analysis,

however, it turns out that there exists no Case system in Modern English.

### III

On the other hand, in the Japanese language, the Case relation is always indicated by a particle which is always agglutinated after each noun or noun phrase. According to modern Japanese traditional grammarians, there are eleven kinds of Case particles.<sup>9</sup> A functional feature of these particles or postpositions is that they can follow both a noun, sometimes a noun phrase, and a pronoun. Accordingly, as either a noun or a pronoun does not go through any morphological changes, there is no inflection system as is observed in English.

### IV

From the generative grammarians' point of view represented by Noam Chomsky, the observations I have made so far only deal with the so-called surface structures. However, if I proceed with my analysis and attempt a deep structure analysis, many interesting issues concerning Case systems of both English and Japanese languages can be observed.

Out of the various grammars where the syntaco-semantic features of deep structure are most seriously accounted for, I would like to pick up Charles J. Fillmore's Case Grammar theory. In accordance with Fillmore's theory, the relationship between meaning and deep structure is paid much more serious attention to than in the Chomskian model. However, although their structures on their surface level differ as in English and Japanese, there exists a common distinctive

Case marker *Kasus*<sup>10</sup> in their deep structures. This *Kasus* is an abstract universal feature of every language in the world, whether it is a classical language or a modern language. In Fillmore's model, the predicate verb is the core of each sentence and to this predicate verb one or more nouns or noun phrases with the above mentioned abstract Case marker is attached to construct the complete meaning of a sentence. These Noun+*Kasus* groups decide their grammatical relationship to the predicate verb. Undoubtedly, transformation plays the most important role to introduce the relationship, and consequently the meaning of the sentence. Transformations applied to these preliminary structures vary according to the difference of structures of each target language. That is, in inflectional languages such as Greek, Latin and Old English, this is performed by means of Case inflections attached mainly to the tail of each noun; in agglutinative languages such as Hungarian, Swahili and Japanese, postpositions serve this role and in isolating languages such as Chinese and English, the roles of the rigid word order system and uses of prepositions are indispensable to do the job.

The particles such as postpositions in Japanese and prepositions in English appear in the surface structure to signal and clarify the grammatical relationships within a sentence. In other words, the abstract notion of Case contained in *Kasus* is embodied in the form of these particles.

## V

Comparing this formulation of Case Grammar with that of the Standard Theory proposed by Chomsky, there are many startling differences.

In the Chomskian model, a basic sentence consists of a noun phrase (NP) which serves as the Subject of the sentence and a verb phrase (VP) with a predicate verb as its core and one or more auxiliaries to attach some items of additional information such as Tense, Voice, Aspect and so on. This structure is formalized in a Phrase Structure Rule as:

$$(1) S \longrightarrow NP + VP^{11}$$

Although a slightly revised version was proposed by Robert B. Lees in 1960<sup>12</sup> as:

$$(2) S \longrightarrow \text{Nom} + VP$$

this is practically identical with Chomsky's.

In the so-called "Aspects model" by Chomsky, the formulation of this rule was revised as:

$$(3) S \longrightarrow NP / \text{Predicate-Phrase}$$

Though Chomskian theories have been recognized as innovative in numerous points, it is fundamentally quite close to traditional grammarians' idea of the basic sentence structure that a sentence must always have a formal Subject. It may not be mistaken to argue that in this point at least Chomsky and his followers have taken over traditional grammarians' attitude.

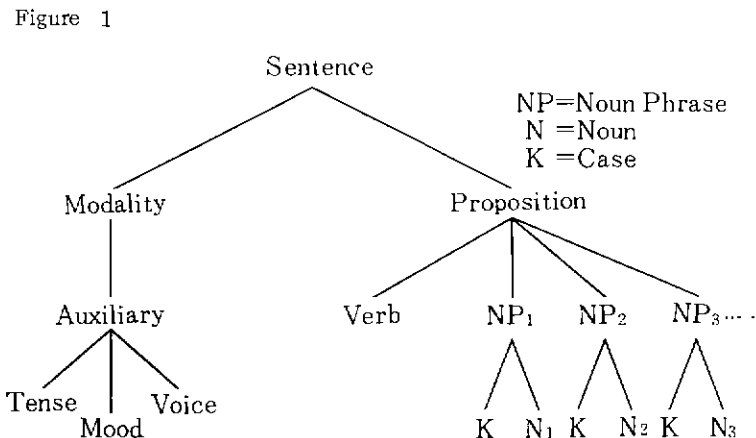
On the other hand, in Fillmore's Case Grammar<sup>13</sup>, the central part of a sentence is a verbal element and the Subject NP is not necessarily specified as in the Chomskian model.<sup>14</sup> Namely, other NPs serving as Object without a preposition or prepositional phrase (Prep.+N)

operate on an equal status in their relation with the verbal element. In the deep structure of a sentence, these are arranged on a equal footing as shown in the diagram on Page 9 (Figure 1). Each sentence consists of Modality and Proposition; Modality supplies additional information such as Tense, Voice, Aspect and Negation to the verbal element; Proposition consists of Verb and one more K (*Kasus*) + NP arranged horizontally in deep structure. This is formalized in Phrase Structure Rules as:<sup>15</sup>

(4)

1.  $S \rightarrow \text{Modality} + \text{Proposition}$
2.  $\text{Proposition} \rightarrow V + C_1 + C_2 \dots C_n$
3.  $C \rightarrow K + \text{NP}$

This can be diagrammed as:



Fillmore proposed some typical kinds of Case category as the following:<sup>16</sup>

- (A) Agentive: an animate noun that operates as Subject of an action.
- (D) Dative: any noun that operates as Indirect Object of a dative verb.
- (O) Objective: an inanimate noun that operates as Object of a transitive verb.
- (I) Instrumental: any noun that refers to the means by which the action of the verb is performed.
- (L) Locative: any noun that refers to the location of the action of the verb.
- (B) Benefactive: any noun that refers to the person or animal that benefits, or is meant to benefit, from the action of the verb.
- (T) Time: any noun that refers to time of the action of the verb.
- (Com) Comitative: any noun that refers to the co-performer of the action.

In the deep structure of English, the marker of Case category, namely *Kasus*, is supposed to be accompanied by several prepositions, some of which disappear in the surface structure.<sup>17</sup> For example:

- (A) is accompanied by BY as in:
  - (5) The door was opened by John.
- (D) is accompanied by TO as in:
  - (6) John gave the key to Bill.
- (O) is not accompanied by any preposition.
- (I) is accompanied by BY when it cooccurs with (A); otherwise by WITH as in:
  - (7) The door was opened by the key.
  - (8) The door was opened by John with the key.
- (B) is accompanied by FOR as in:
  - (9) John bought the camera for Bill.



(Com) is accompanied by WITH as is.

(10) John came with Betty.

As for (L) and (T), a proper preposition such as ON, IN or AT is selected out of lexical items; otherwise the features of the NP that follows decide what preposition is to be selected. Some examples for (L) and (T) are:

(11) John met Bill at the Co-op.

(12) John arrived in the afternoon.

## VI

The kinds of particles that accompany an NP in the deep structure of a Japanese sentence to make a relational phrase<sup>18</sup> are roughly sketched as follows:

(A) Agentive: *GA*

(13) *Taroo ga kita.* (Taroo came.)

(D) Dative: *NI, E*

(14) *Taroo ga Ziroo ni (hon o) ageta.* (Taroo gave a book to Ziroo.)

(15) *Taroo ga Hanako e (tegami o) kaita.* (Taroo wrote a letter to Hanako.)

(O) Objective: *O*

(16) *Taroo ga hon o katta.* (Taroo bought a book.)

(I) Instrumental: *DE*

(17) *Taroo ga mannenhitu de (tegami o) kaita.* (Taroo wrote a letter with a fountain pen.)

(L) Locative: *DE, NI*

(18) *Taroo ga Tokyo de (Hanako ni) atta.* (Taroo met Hanako

in Tokyo.)

(19) *Hanako wa Kyoto ni sundeiru.* (Hanako lives in Kyoto.)

(T) Time: *NI*

(20) *Taroo wa suiyooobi ni tuita.* (Taroo arrived on Wednesday.)

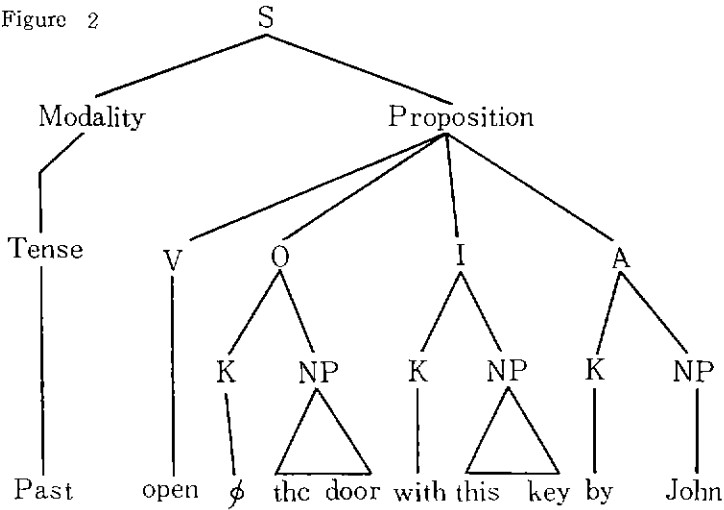
As for the treatment of Case particles in Japanese, there are several different arguments. For instance, S-Y. Kuroda<sup>19</sup> introduces Case particles in the process of transformation, while Susumu Kuno<sup>20</sup> insists they should be introduced from some features of the noun in question.

## VII

Case Grammar bases its fundamental principle on its idea of idiosyncratic deep structure, which is in a sense much deeper than one in the Chomskian model; the semantic structure of a sentence is of more significance than in any former model of transformational grammar. Since its deep structure is a hypothetical realization of the reality of the linguistic competence in an abstract configuration, it is still unprocessed even when the situation is arranged on its tree structure diagram. On the other hand, the Chomskian model bases its fundamental notion on a structure which is in a sense too shallow and underdeveloped. It may be said that the so-called deep structure in the Chomskian model is just an intermediate structure on which some transformations were operated on an underlying structure in Case Grammar model. Next, I would like to demonstrate the formation of deep structure in Standard theory using the wellknown example introduced by Fillmore.<sup>21</sup>

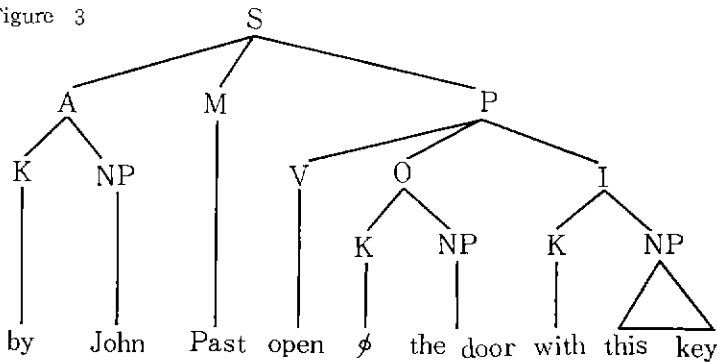
The diagrammed structure in Figure 2 shows the starting point of the transformation.

Figure 2



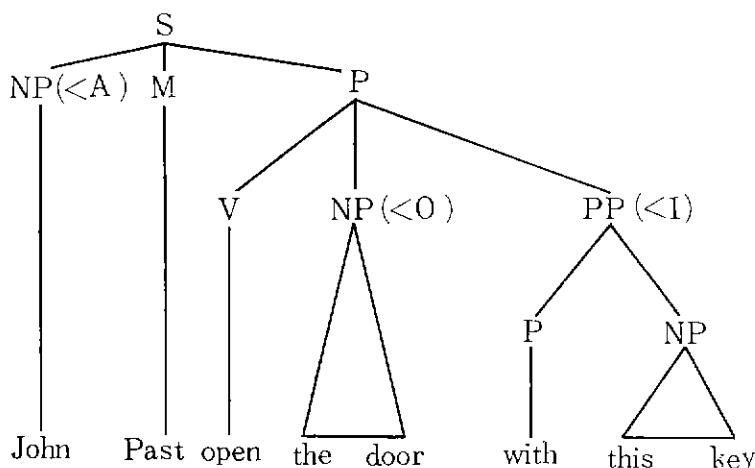
Then on this structure, an obligatory subjectivization transformation is applied, producing the following intermediate structure:

Figure 3



Finally, on the structure in Figure 3, subject-preposition deletion and object-preposition deletion rules being applied, the prepositions *by* and  $\phi$  are deleted to result the following structure shown in Figure 4:

Figure 4



The above is the intermediate structure from which the so-called underlying structure in Standard Theory is started.

### VIII

In such a language as English where formally a sentence always requires to have a surface subject and rigid word order in its surface structure, the explanation and description as manifested in the Chomskian model of grammatical theory may be more appropriate than in an agglutinative language as Japanese and in an inflective language as Greek and Latin. In spite of the exhaustive efforts of generative grammarians both in English and Japanese, an ultimately adequate description of numerous syntactic and semantic phenomena has not been reached yet. The Chomskian model and other similar models in the interfaces of the same ground have fallen in this respect. In my opinion, therefore, Fillmore's model of Case Grammar may be more

persuasive to explain the generation of a sentence structure in more strict case languages. It has been proven to be true that the traditional grammarians of modern European languages had made fatal mistakes in their analyses of linguistic structures of many natural languages as they relied too much on general logic and classical grammars. Some grammarians<sup>22</sup> have pointed out that generative transformational grammarians as Chomsky and his followers have committed the same mistake basing their concept too heavily on English grammar in their search for a universal theory of syntax. In order to avoid repeating the similar kind of mistakes, and before we start to consider a truly universal theory in grammar, it might be necessary to prepare the most appropriate explanation for its true underlying structure of each language.

It is an urgent assignment for modern grammarians to have a much broader perspective to comprehend the most proper way of explaining essential linguistic systems, and Case is, in my opinion, undoubtedly one of the most relevant subjects. It is also an urgent duty of linguists to set up a synthetic scope in which syntax and semantics can cooperate. In such a synthetic scope it is indispensable to prepare and investigate a set of underlying rules which can simplify the description of each target language.

In this sense, such theories as Case Grammar, Generative Semantics, Stratificational Grammar, Generalized Phrase Structure Grammar, Generative Structural Grammar, and even some pedagogical theories such as Expectancy Grammar<sup>23</sup> will certainly contribute to this goal.

## Notes

- 1 For instance, although Otto Jespersen did not admit the Case system of Modern English to be worthy of discussion because of its poor formal variation, he used many pages to describe the Case system in English. Cf. *A Modern English Grammar on Historical Principles* (London: George Allen and Company, 1909-49) *The Philosophy of Grammar* (London: George Allen and Company, 1924) *Essentials of English Grammar* (London: George Allen and Company, 1933)
- 2 Charles c. Fries, *The Structure of English, An Introduction to the Construction of English Sentences* (London: Longman, Green and Company, 1957)
- 3 Noam Chomsky, *Aspects of the Theory of Syntax* (Cambridge: MIT Press, 1965) pp. 221-22.
- 4 Henk van Riemsdijk and Edwin Williams, *Introduction to the Theory of Grammar* (Cambridge: MIT Press, 1986) p. 256.
- 5 The cause of such a decrease is usually ascribed to the strengthening tendency in the fixing of rigid word order in modern languages.
- 6 This change in the word order system from loose to rigid is the most distinctive feature of the shift of the English language from an inflectional language to an analytic language.
- 7 Some traditional grammarians of the English language such as C. T. Onions and E. A. Sonnenschein argued that there were a larger number of Cases in English. Cf. C. T. Onions, *An Advanced English Syntax* (London: Kegan Paul, 1904) and E. A. Sonnenschein. *A New English Grammar* (London: Oxford University Press, 1916) Also Otto Jespersen and Henry Sweet both rejected the term Possessive Case in their grammars, because the Case in question does not necessarily indicate only possession but other grammatical relations as well. They insisted that this Case should be called Genitive Case instead of Possessive Case. Cf. Otto Jespersen, *The System of Grammar* (London: George Allen and Company, 1933) pp. 255-6 and Henry Sweet. *New English Grammar* (London: Oxford University Press. 1891) pp. 140-1.
- 8 I do not discuss the pronoun cases here. The case system of English pronouns is extremely complicated and the description of which necessitates much more space not permitted for this paper.
- 9 Kotoki Tokieda lists eleven Case particles in Japanese. Cf. Kotoki Tokieda, *Nihon Bunpoo, Koogo-hen* (The Colloquial Japanese Grammar) (Tokyo: Iwanami-

- Syoten, 1950) pp. 219-21.
- 10 Charles J. Fillmore, "The Case for Case" in Emmon Bach and Robert Harms (eds.) *Universals in Linguistic Theory* (New York: Holt, Rinehart and Winston, 1968) p. 33. According to Fillmore, this concept was hinted by Lucien Tesniere. Cf. Lucien Tesniere, *Elements de Syntaxe Structurale* (Paris: Editions Klincksieck, 1982) pp. 105-15. Fillmore introduced this in his class lectures at The Ohio State University, Winter Quarter, 1965.
  - 11 Noam Chomsky, *Syntactic Structures*. Janua Linua Linguarum, Series Minor, Number 4 (The Hague: Mouton, 1957) p. 26
  - 12 Robert B. Lees, *The Grammar of English Nominalizations* (The Hague: Mouton 1961) p. 5.
  - 13 On the notion of Subject in Case Grammar, refer to Teruhiro Ishiguro, "The Notion of Subject Selection in Case Grammar" *Doshisha Studies in English*, Nos 44 & 45, March, 1988. 260-77.
  - 14 *Ibid.*
  - 15 Charles J. Fillmore, *op. cit.*
  - 16 Fillmore revised these categories in his later analysis. Cf. Charles J. Fillmore "The Case for Case Reopened." in Peter Cole and J. M. Sadock (eds.) *Syntax and Semantics*, Vol. 8. *Grammatical Relations* (New York: Academic Press, 1977)
  - 17 The following description is taken from "The Case for Case." pp. 24, 25, 32, 81, 82 and 83.
  - 18 Bernard Bloch, "Studies in Colloquial Japanese." Part II, "Syntax." *Language*. Vol. 22, 1946. pp. 200-48.
  - 19 Shige-yuki Kuroda, "Generative Grammatical Studies on the Japanese Language (Unpublished Dissertation, MIT. 1965).
  - 20 Susumu Kuno, *Nihon Bunpoo Kenkyuu* (Studies in Japanese Grammar) (Tokyo: Taisyukan, 1973) pp. 25-64.
  - 21 Fillmore, "The Case for Case."
  - 22 For instance, George Lakoff, *Irregularities in Syntax* (New York: Holt, Rinehart and Winston, 1970) and D. M. Perlmutter, *Deep and Surface Structure Constraints in Syntax*. (New York: Holt, Rinehart and Winston, 1971) and many other books and papers.
  - 23 John W Oller, Jr. and Kyle Perkins, *Language in Education: Testing the Tests*. Rowley: Newbury House Publishers, Inc., 1978.