ORIGIN AND DEVELOPMENT OF CASE GRAMMAR

In this Chapter, the origin and development of Case Grammar is discussed. First, a short sketch of how Traditional Grammarians and Descriptive Grammarians treated case is given. Then the treatment of case in Transformational Generative Grammar is discussed which gives an idea of how Chomsky and his followers treated case in the grammar. After that a detailed sketch of the main ideas of Fillmore's 'Case Grammar' and the recent revisions both by Fillmore and other grammarians is given. The last part of this Chapter deals with a short review of some of the works done in Indian languages utilising the framework of Case Grammar. Altogether, this Chapter gives a clear picture of Fillmore's theory of 'Case Grammar'.

Case is a very significant feature of every language. From Pāṇini's time onwards many grammarians have done consistent work on case.
Among Transformationalists Fillmore's work is notable. Fillmore (1968a) has suggested that the concept of case shall be incorporated into the theory of Transformational Grammar. He points out that, "the grammatical notion 'Case' deserves a place in the base component of the grammar of every language" (p. 2). The grammar thus modified by Fillmore is called 'Case Grammar'.

The Traditional Grammarians regard case as semantic relations which hold between nouns and other parts of sentences and which are manifested as inflectional affixes on nouns. This means the study of case is equivalent to the study of semantic functions of inflectional affixes on nouns, thus the concept of case has been reduced to the morphophonemic reflexes of syntactic relations. Fillmore argues that they confused case relations and case forms. Case relations, according to him, are basic and semantic while the surface case forms are representable by affixes and derivable from case relations.
by the rules of the grammar. The case relations have a lot in common between one language and another, no matter how they are expressed. Because of this apparent commonality across languages, it seemed to Fillmore that case relations should be posited for all languages. The same sorts of underlying semantic functions could be seen in the form of case ending in one language, as prepositions or postpositions in another or in a different way in a third. Fillmore points out that significant insights on the nature of case relations are being missed in all the earlier studies. Instead of the Traditionalists' concept, the term 'case' can be used to denote the underlying syntactic-semantic relationships. These relationships can be called case relations.

The Descriptive Grammarians have concentrated more on the description and distribution of the various grammatical units. They are interested in providing the discovery of case suffixes with statements of their distribution.
Earlier Generative Grammarians have viewed case markers as surface structure reflexes introduced by rules of various kinds of deep and surface structure relations. Lyons (1966) has stated that "'case' is not present in deep structure at all, but is merely the inflectional 'realisation' of particular syntactic relationship" (p. 218). The syntactic relationships may be relationships that are defined only in the surface structure.

For Chomsky as well as for structural linguists 'case' is a superficial inflectional category of nouns. The distribution of cases can be handled by late rules in a Generative Grammar of such a language. This view is quite surprising because one of the goals of Generative Grammar is to formalize the insights of Traditional Grammar. The fact that a category, which had such an important role in Traditional Grammar, plays only a very minor role in Generative Syntax focus us to one of two conclusions: either case is missing something by giving it such an insignificant part or case was not a true insight in Chomskyan Generative Grammar.
Chomsky (1965) argues that case forms are determined largely by surface structure positions.

"Case is usually determined by the position of the noun in surface structure rather than in deep structure" (Footnote of Chapter II, p. 221).

He mentions about syntactic functions also. That is, the notion 'subject of' can be identified as the relation between an NP and the sentence which immediately dominates it. The notion 'direct object of' can be identified as the relation between an NP and the VP which immediately dominates it.

"It is necessary only to make explicit the relational character of these notions by defining 'subject of' for English as the relation holding between the NP and the sentence of the form NP Aux VP and the whole sentence, 'Object of' as the relation between the NP of a VP of the form V VP and the whole VP etc." (1965, p. 69).

Fillmore argues that no semantically constant value is associated with the notion 'subject of' and no semantically relevant relation resides in the
surface structure relation. All semantically relevant relations between NPs and the structures which contain them are present in the deep structure in the form of a restricted set of semantic primitives called 'cases'. Consider the following examples:

(1) The door opened
(2) The Janitor opened the door

According to Chomsky (1965) these two sentences have different deep structures. For Fillmore the semantically relevant relation common to the two sentences is that between the subject of the intransitive verb and the object of the transitive verb, not between the subjects of the two sentences.

Fillmore (1966) questions the validity of the notions 'subject' and 'object' in the deep structure and raises doubts about the adequacy of Chomsky's proposal for formally reconstructing the distinction between relational and categorial grammatical concepts.

"The notion 'subject' as distinct from the notion 'NP' designates a grammatical function rather than a grammatical category. It is, in otherwords, an inherently relational notion. Functional notions like 'subject' and 'predicate' are to be sharply di-
stinguished from categorial notions like "Noun Phrase", "Verb", a distinction that is not to be obscured by the occasional use of the same term for the notions of both kind" (Chomsky 1965, p. 68).

The distinction between grammatical functions and grammatical categories can be captured in formal grammars, according to Chomsky, by introducing category symbols as constituent labels in the phrase structure rules of the base component and by defining the grammatical relations as in fact relations among symbols within the underlying phrase markers provided by the base. Thus sentence, noun phrase, verb phrase, for example, are provided as category symbols within the underlying phrase markers provided by the base, while the notion 'subject' is defined as the relation between a noun phrase and an immediately dominating sentence, the term 'object' as the relation between a noun phrase and an immediately dominating verb phrase.

In Fillmore's grammar there is no differentiation between 'subject' as one immediate constituent
and predicate as the other. That is, grammatical subject is a purely surface concept which may neutralise a number of different case relations while the logical or deep subject, object etc. have been replaced in Fillmore's system by case relations. Order also plays a very minor role here. In Fillmore's framework, deep structure order has been utilized arbitrarily as a convenient way to represent the subject choice hierarchy. Chomsky makes the strong claim that all functions such as 'subject of', 'object of' and 'predicate of' are purely relational. By this he means that they are configurational and can be characterized purely in terms of dominance relations between the categories in a tree.

\[ \sim NP, S \uparrow \quad \text{'subject of'} \]
\[ \sim NP, VP \uparrow \quad \text{'direct object of'} \]
\[ \sim VP, S \uparrow \quad \text{'predicate of'} \]

The set of possible relations defined in this way (all the relations corresponding to a line joining two categories in a tree) does not correspond to a significant natural class. This system fails to allow for such crucial relations as those holding between subject and verb or verb and object. That is, there is no single line running between the N and the V, yet we know this is an important
relation. So also there is a relation between the main verb and the direct object or between the main verb and the object of the preposition. Selection proves that some sort of grammatical relation exists, but it cannot be defined configurationally by a single branch in a tree.

Thus we must conclude that Chomsky's claim is not acceptable - grammatical functions are not naturally representable in terms of configurations of nodes, at least at the surface level.

The problem, then, is to modify the grammar, to allow it to represent grammatical relations in a way that it is not dependent on tree configurations and which allows us to identify grammatical relations in different sentences as being the same.

To overcome the defects of Chomsky's Generative Grammar, Fillmore sets up a new type of grammar - 'Case Grammar'. Fillmore's system solves several problems with regard to Chomsky's syntactic model. It provides consistent and adequate means of grammatical relations.
Generative Semantics and Case Grammar

After Chomsky (1965) a number of grammarians argued that the deep structure proposed by Chomsky is inadequate to represent fully the meaning of sentences. If the grammatical relations specified in the deep structure of sentences uniquely determine semantic interpretation, it is necessary in a number of cases to set up much deeper deep structures than envisaged in the standard theory of Chomsky. Such deep deep structures strongly resemble abstract representations of the meaning of sentences. This means that underlying structures and semantic representations are identical. This theory is called Generative Semantics. The base component of Generative Semantics is no longer conceived as a mechanism to generate the syntactic base phrase markers underlying sentences but as one for generating the semantic representations of sentences. In eliminating the deep syntax of Chomsky (1965), the Generative Semantics model changes the function of the semantic component from that of interpretation to one of generation.

The structure of a sentence according to Generative Semantics position is as follows:
Proponents of Generative Semantics are Scholars like McCawley, Lakoff, Fillmore, Ross, Boyd, Thorne etc.

The Case Grammar has much in common with Generative Semantics. It too results in more abstract deep structures than those postulated by Chomsky.

Case Grammar

The theory of 'Case Grammar' formulated by Fillmore is based on the semantically relevant syntactic relationships involving the nouns and the structures which contain them. These relationships are universal and they form a specific finite set. They are discoverable empirically and are called case relationships. They are not always overtly manifested but are sometimes covert. According to this theory concepts like subject, direct object etc. are relevant only to the surface structure of sentences and not to their deep structures. The deep structure of a sentence is defined in terms of case relationships.
Fillmore's model of grammar centres round the distinction between surface syntactic relations between NPs and verbs. He argues that no semantically constant value is associated with the notion 'subject of' and no semantically relevant relation resides in the surface structure relation. All semantically relevant relations between NPs and the structures which contain them are present in the deep structure in the form of a restricted set of semantic primitives called 'Cases'. Consider these sentences:

(3) The door opened
(4) John opened the door
(5) The door opened with the key
(6) The key opened the door
(7) John opened the door with the key

This set of sentences have semantic relationships which are not accountable for by the Standard Theory of Chomsky.

Fillmore argues that valid insights on case relationships are being missed in all the earlier studies. He proposes a base structure in which case relationships are primitive terms and in which such terms as subject and object do not occur. They are found only in the surface structure of some languages. In other-wards, case relationships are deep structure relations and the notions subject and object are surface structure phenomena.
A designated set of case categories are provided for every language. They include Agentive, Comitative, Instrumental, Experiencer, Objective, Locative, Time, Source and Goal, with specific syntactic, Lexical and semantic consequences. These are deep structure notions and the attempt to restrict the notion of case to the surface structure must fail.

Fillmore (1968a) defines case relationships as, "the semantically relevant syntactic relationships involving nouns and the structures that contain them" (p. 5).

Fillmore (1971) modified this definition as, "the propositional core of a simple sentence consists of a predicador (verb, adjective or noun) in construction with one or more entities, each of these related to the predicador in one of the semantic functions known as (deep structure cases)" (p. 37).

Fillmore (1968a) defines each case as follows:

1. **Agentive**

"The case of the typically animate perceived instigator of the action identified by the verb" (p. 24).

(8) John ran

Agentive is the most important case in all the languages. It should be animate and it must be a "perceived instigator", that is, an actor who does an action knowingly.
2. **Instrumental**

"The case of the inanimate force or object causally involved in the action or state identified by the verb" (p. 24).

(9) John killed a snake with the stick.

Fillmore (1971) identifies five kinds of Instrumental cases.

a. A thing which the animal manipulates.

(10) I cut the leaf with the knife

b. A physical object which is the cause of an action.

(11) The rock hit the tree

c. Natural events which bring about some consequences.

(12) The rain destroyed the flower.

d. For psychological verbs, the Instrumental identifies the stimulus.

(13) He reminded me of his father

e. An Instrumental case can also be an event itself.

(14) His arrival in the room surprised me
3. **Dative**

"The case of the animate being affected by the state or action identified by the verb" (p. 24).

Fillmore (1969) used the term 'Experiencer' instead of Dative. The Experiencer case is defined by Fillmore as, "the entity which receives or accepts or experiences or undergoes the effect of the action" (p. 116).

(16) He receives it  
(17) Mary is sad  
(18) Rama died

4. **Factive**  

"The case of the object or being resulting from the action or state identified by the verb" (p. 25).

(19) She sang a song  
(20) He ran a run

5. **Locative**

"The case which identifies the location or spacial orientation of the state or action identified by the verb" (p. 25).

(21) I saw him in the street
6. **Objective**

"The semantically most neutral case, the case of anything representable by a noun whose role in the state or action identified by the verb is identified by the semantic interpretation of the verb itself. The term is not to be confused with direct object or with the name of the surface case synonymous with Accusative" (p. 25).

(22) The pot broke

7. **Source**

"Source is the starting point of the movement of an object, in the case of the verbs of movement and it is the starting state of the object which undergoes the change in the case of verbs which show change of state" (p. 259).

(23) He threw the stone from the top of the building

8. **Goal**

"Goal is the endpoint of the movement of an object in the case of the movement verbs and it identifies the final stage into which an object develops in the case of verbs which show the physical transformation of an object" (p. 259)
(24) He jumped towards the river

9. **Comitative**

It is a case which occurs in association with the Agentive. This also can become Agentive.

(25) Rama talks with Rajan

Additional cases may be needed to characterise fully the syntactic and semantic relationships occurring in languages.

A sentence in its base structure consists of a verb and one or more noun phrases, each associated with the verb in a particular case relationship. Each case relationship occurs only once in a simple sentence. Whenever a case appears twice or more times in the surface structure of a sentence, either more than one deep structure case is involved or the sentence is complex.

Fillmore formulates a base component whose branching rules differ from those of the standard theory of Chomsky. The major constituents of a sentence are no longer NP and VP, but Modality (M) and Proposition (P). Proposition is a tenseless set of relationship involving verbs and nouns and embedded sentences if there are
any. Modality consists of such modalities on the sentence as a whole such as negation, tense, mood and aspect.

The first base rule according to Fillmore is as follows:

\[
\text{Sentence} \quad \longrightarrow \quad \text{Modality} \quad + \quad \text{Proposition}
\]

\[
S \quad \longrightarrow \quad M \quad + \quad P
\]

A proposition constituent is expanded as a verb and one or more noun phrases.

\[
P \quad \longrightarrow \quad V \quad + \quad C_1 \quad + \quad C_2 \quad + \quad \ldots \quad + \quad C_n
\]

\[
P \quad \text{may be} \quad V \quad + \quad A, \quad V \quad + \quad O \quad + \quad A, \quad V \quad + \quad D, \quad V \quad + \quad O \quad + \quad D \quad + \quad A \quad \text{etc.}
\]

More than one case category can be taken, but in a particular sentence a particular case category occurs only once. The case notions comprise a set of universal concepts about such matters as who did it, who it happened to and what got changed.

Two or more deep cases can have the same surface realization. For example, the deep cases Agentive, Objective, Instrumental, Dative and Locative can all appear as subject of the sentence in a given context.

(26) Rama gave the books to Vinu
(27) The books were given to Vinu
(28) Vinu was given the books
Similarly, both the deep case categories D and O may appear as Accusative case in the surface structure.

(29) Raju beat Rama
(30) Raju called Rama

Verbs are selected according to the case environment provided by the sentence. The array of cases attached to the verb is called the case frame. We can classify the whole verbs of a particular language, according to the case frame in which they are inserted. For example, the verbs run, cry, walk, jump, move, bark, sit, stand, go etc. will have the case frame 

\[ + \text{----} \text{A} \text{J} \text{.} \]

(31) I ran
(32) Vinu cried
(33) The dog barks

Verbs like sad, astonish, amuse, die and happy will have the frame feature 

\[ + \text{----} \text{D} \text{J} \text{.} \]

(34) She is sad
(35) He died

The case frame for cook, open, read, write, learn, sing, play, bring, remove, break etc. is 

\[ + \text{----} \text{O} + \text{A} \text{J} \text{.} \]

(36) Mother cooked the rice
(37) John opened the door

For verbs like murder, kill, disturb, irritate, beat and slap the frame feature is 

\[ + \text{----} \text{O} + \text{A} \text{J} \text{.} \]
(38) The thief murdered him
(39) She disturbed me

The verbs give, show, teach etc. will be inserted into the case frame \[ \langle \_ \_ \_ \_ \_ \_ \_ \_ > 0 + D + A \_ \_ \_ \_ \_ \_ \_ \_ \].

(40) Rama gave me the books
(41) The teacher taught me Hindi

For see, hear, know, want, receive, like, please etc. the case frame is \[ \langle \_ \_ \_ \_ \_ \_ \_ \_ > 0 + D \_ \_ \_ \_ \_ \_ \_ \_ \_ \].

(42) I know him
(43) I liked the sari

In lexical entries for verbs, the frame features will indicate the set of case frames into which the given verbs may be inserted. This type of classification of the verb is complex not only because of the variety of case environments possible within P but also because many verbs are capable of occurring in more than one distinct case environment. For example, the verb open occur in \[ \langle \_ \_ \_ \_ \_ \_ \_ \_ > 0 + A \_ \_ \_ \_ \_ \_ \_ \_ \_ \] in \[ \langle \_ \_ \_ \_ \_ \_ \_ \_ > 0 + A + I \_ \_ \_ \_ \_ \_ \_ \_ \_ \] and in \[ \langle \_ \_ \_ \_ \_ \_ \_ \_ > 0 + I + A \_ \_ \_ \_ \_ \_ \_ \_ \_ \].

(44) John opened the door
(45) The key opened the door
(46) John opened the door with the key
The frame feature for open may be represented as $\langle\cdot\cdot\cdot\cdot\cdot 0 (I) (A) \rangle$, where parenthesis enclose optional elements. So also, if L, O, I etc. are optional elements in a sentence they are put in parentheses.

If there is an embedded sentence or if the sentence is complex, it is added under the case category O. So verbs are also subclassified in terms of whether the O element is a sentence or not. For example, for true, interesting etc. the frame feature is $\langle\cdot\cdot\cdot\cdot\cdot S\rangle$.

(47) It is interesting to hear his speech.

Verbs like want, expect and believe will have the frame feature $\langle\cdot\cdot\cdot\cdot\cdot S + D\rangle$.

(48) I wanted to know the full details.
(49) Rama believed that he would pass.

Verbs like say, cause and predict will have the frame feature $\langle\cdot\cdot\cdot\cdot\cdot S + A\rangle$.

(50) Rama said that he won't come tomorrow.

Force, persuade etc. will have the case frame $\langle\cdot\cdot\cdot\cdot\cdot S + D + A\rangle$.

(51) I forced her to do that work
Some syntactically different words are in fact semantically identical. Take the examples like and please. Each of these has the frame feature $+\[\leftarrow\rightarrow 0 + D\]$.  

(52) I liked the music  
(53) The music pleased me

Another set is see and show. The case frame for see is $+\[\leftarrow\rightarrow 0 + D\]$ and for show is $+\[\leftarrow\rightarrow 0 + A\]$. The only difference is that the verb show need an Agentive. 

(54) He saw me  
(55) He showed me a pen

Another set is kill and die. Die has the case frame $+\[\leftarrow\rightarrow D\]$ and kill has the case frame $+\[\leftarrow\rightarrow D + A\]$.  

(56) John died  
(57) Rama killed John

Now consider hear and listen. The frame feature for hear is $+\[\leftarrow\rightarrow 0 + D\]$ and that of listen is $+\[\leftarrow\rightarrow 0 + A\]$.  

(58) I heard the music  
(59) I listened the music

In listening we are doing some covert action and in hearing no such action. Other similar sets are see and look at and know and learn.
The case categories will be expanded into K (Kasus) which stands for the case marker and NP which stands in the place of the particular case relation to the verb.

\[
C \longrightarrow K + NP \\
NP \longrightarrow (\text{det}) + N + (s)
\]

See the sentence (60) and its deep structure (61).

(60) The door opened

(61)

Fillmore mentions about hierarchy of cases.

"The cases exist in a hierarchy, and this hierarchy serves to guide the operation of certain syntactic processes in particular that of subject selection. It figures in subject selection by determining which noun phrase is to become the subject of the sentence in the "unmarked" instance. That case, in the hierarchy of cases, outranks the others is the one which has the noun phrase it is associated with selected as the subject of the sentence" (1971, p. 37).
The case hierarchy is determined by the selection of the subject in the surface structure. In certain types of sentences there is no choice in the selection of the subject. In passive sentences, for example, the deep structure object will be the subject in the surface structure. Therefore, the case hierarchy is relevant only in the "unmarked" instance, that is, in instances in which the types of sentence do not determine the selection of the subject. Fillmore says, "If there is an A it becomes the subject, otherwise if there is an I it becomes the subject, otherwise the subject is 0". (1968a, p. 33).

Fillmore's latest list of cases in the case hierarchy of English is this: Agentive, Experiencer, Instrumental, Objective, Source, Goal, Locative and Time (A E I O S G L T ).

We thus see that the concept of case hierarchy is advocated in Fillmore's Case Grammar in order to relate deep and surface grammatical functions.

Now consider the following sentences:

(62) Rama cut the tree
An axe cut the tree
Rama cut the tree with an axe
*An axe cut the tree with an axe
An axe cut the tree

In sentence (62), the subject is in Agent relation to the verb and in (63) the subject is in Instrumental relation to the verb. In (64) both Agent and Instrument are present, but the Agent and not the Instrument appears as subject. In (62) and (63) there is grammatical difference between the subjects and therefore the combined meaning of the two sentences is not produced by combining their subjects as in (65). NPs representing the same case only may be combined as is seen in (64). Sentence (65) is ungrammatical since both 'axe' and 'knife' are in Instrumental relationship to the verb. Only one representative of a given case relationship can appear in the same simple sentence.

Thus we see that the case elements associated with specific verbs and the rules for subject formation together explain co-occurrence restrictions. The different arrays of cases occurring in simple sentences define various sentence types of a language. This
automatically imposes a classification of the verbs in the language. It is possible that many aspects of this classification are universally valid.

We see that in Case Grammar, there are two problems of lexical selection, that of nouns and that of verbs. Particular cases require particular features for the nouns attached to them. For example, Agentive and Dative cases require the feature \( ^+ animate \) for the noun attached to it. Those features of nouns required by particular case are specified by the rules such as,

\[
N \rightarrow + animate / A, \ D \left[ x \rightarrow y \right]
\]

The rules assert that any \( N \) in an \( A \) or \( D \) phrase must have the feature \( ^+ animate \). There are also rules which associate with each noun the label of the case relation it holds with the rest of the sentence. For example every noun under \( L \) will be given the feature \( ^+ Locative \). Since abstract nouns cannot come under \( L \) phrase, they will be marked \( ^- Locative \).

The deep structures are converted into surface structures, that is, the deep structure relations namely Agentive, Experiencer, Objective etc. are turned into subject and object by applying various transformational rules like Subjectivization, Obje-
ctivization. Selection of overt case forms, Registration of particular elements in the verb, Nominalization, Topicalization etc.

Subjectivization is an obligatory rule for English since every sentence has at least a formal subject. This process selects the subject, that is, it is a process in which one of the cases in the deep structure is selected as the subject of the sentence. This process determines which case is to become the subject. Subject is generally (that is, in the unmarked instance) selected according to the hierarchy of cases. There are various processes for subject selection. They include (a) Subject fronting and (b) subject preposition deletion.

In Subject fronting, the subject case must be detached from the P-node and moved to the front of the sentence and attached to the S-node. In Subject preposition deletion the case marker of the fronted subject is deleted along with the case label. For example, see the deep structure (67). If we wish to make John the subject, first apply Subject fronting rule and as a result (67) changes to (68). By applying Subject preposition deletion rule, (68) becomes (69).
(67) past tell \( \emptyset \) the secret to his friend by John

(68) by John past tell \( \emptyset \) the secret to his friend
Objectiveivization is applied only to transitive verbs, that is, to sentences which have an object and only if the deep structural Objective or Experiencer is selected as the object in the surface structure. In Objectivization, there are three stages. (1) The object must be chosen, (2) the object must be moved to a position directly behind the verb and (3) the preposition or K marker must be deleted from the case chosen as object.

So after Objectivization, the deep structure (69) will be converted into (70), if the secret is chosen as the object.
Tense incorporation is the third process required to complete the formation of sentence string. It involves the following steps. (a) The tense of the verb which is under the Modality node (M) must be incorporated under the verb node (V) and the (M) node must be deleted, (b) the tense becomes an affix which follows the verb, and it is bound to that verb by subsequent morphophonemic rules.

Thus, by tense incorporation rule, deep structure (70) will be converted into (71) which is the surface structure of the sentence (72).
(71) 

```
  S
   /\        
  NP   P
     /    |
    V  NP  
   /  /|
  N  Det  N
 |  /  |
John  the secret to
     |
     Det
     |
      N
     |
      friend
```

(72) John told the secret to his friend

The Passive Transformation

The preceding derivation deals with the "normal" choice of subjects in active sentences. For the "non-normal" choice of subjects in a passive sentence the subject feature is added to the verb with the following results; (a) the subject selection hierarchy changes, (b) there is no direct object and therefore no object preposition deletion rule, (c) a verb marked $[-,+ \text{ passive}]$ is incorporated into the tense. A new rule called 'be' incorporation introduces 'be' into the modality constituent, and the verb marked with the feature $[-,+ \text{ passive}]$ must assume a passive form. So the deep structure (67) becomes (73) by the above processes.
Then by Subject preposition deletion and tense incorporation rule (73) becomes (74) and it is the surface structure of the sentence (75).

(74)

(75) The secret was told to his friend by John
Extraposed Subjects

A further transformation is required to produce sentences with extraposed subjects; whose surface structure has as subject the pronouns *it* and *there*. The process of extraposition in Fillmore involves (a) Subject copying, which produces a copy of the case chosen as subject in the subject fronted position which is then attached directly to the S - node, (b) first copy pro-replacement, which replaces the subject just copied, by the proper pronominal form. The pronominal form is generally *it*, but unstressed *there* is used to replace locationals in verbless sentences.

The *that* clause is one example for subject extraposition.

For example, see the deep structure (76).

(76)
By subject copying (76) becomes (77).

(77)

```
  S
 /\  |
O M P
```

that John loves Mary pres. be true that John loves Mary

The above deep structure undergoes either second copy deletion (78) or first copy proreplacement (79).

(78)

```
  S
 /\  |
O M P
```

that John loves Mary pres. be true

(79)

```
  S
 /\  |
O M P
```

it pres. be true that John loves Mary
(78) is the deep structure of the sentence (80) and (79) that of (81).

(80) That John loves Mary is true
(81) It is true that John loves Mary.

These are the main transformations proposed in Fillmore (1968a).

Recent modifications of Case Grammar

A number of authors have suggested several modifications to Fillmore's 'Case Grammar'. Some of them are given below.

Walter A. Cook wrote several articles related to Case Grammar. Cook (1970) argues that just as in Chomsky's grammar, the rules such as phrase structure rules, transformational rules and morphophonemic rules can be postulated for Fillmore's 'Case Grammar' also.

"The Fillmore Case Grammar roles can be reduced to a set of rules following the Chomsky (1957) model by a fairly straightforward process, which determines the phrase structure rules, both lexical and branching, the transformational rules and the morphophonemic rules" (p. 15).
He points out that Fillmore's deep structure roles are reduced to rules which convert deep structures into surface structures.

"The deep structure roles are not reduced to particular rules for mapping deep structures into surface structures although Fillmore's text and tree diagrams suggest how this might be done" (p. 14).

The author then selects some sentences from Fillmore (1968a) and tries to formulate rules for each sentence, following the Chomskyan transformational model. 17

Cook (1971) suggests that Case Grammar can provide a very good deep structure for tagmemic analysis.

"I would like to suggest that these two grammatical systems are compatible, and that Case Grammar can provide a readymade deep structure for tagmemic analysis" (p. 1).

"It is my opinion that the use of Case Grammar as a deep structure in tagmemic analysis would produce a tagmemic model with greater explanatory power" (p. 6).

Cruse (1973) criticizes Fillmore's definition of Agentive. He asks the questions, "Why Fillmore speaks of the perceived instigator? In what sense do we "perceive" fictional events? How we apply the definition to statements known to speaker or hearer to be false?" (pp. 11-12).
Cruse also questions the word instigator. He asks, "who is the instigator in the sentence,

Jim put Mary upto persuading Tom to make John
strangle the cat.

What exactly is the action identified by the
main verb? If it is the act of marching, then this
is performed by the prisoners; on the other hand,
if it is the act of making people march, then clearly
John is the performer (in this case, 'instigator'
gives an equivocal answer). We can, of course, recog-
nise two agents in the above sentence, but Fillmore's
definition does not seem to allow for this, unless the
sentence is recognized as syntactically complex" (p. 12).

Therefore, Cruse suggests to substitute perform for instigator.

Then, by showing examples, the author points out
that inanimate nouns like the natural objects and
some machines can act as agents.

"It seems, therefore, that inanimate objects can,
as it were, acquire a temporary 'agentivity' by virtue
of their kinetic (or other) energy. In effect, the
causation of some external effect seems to be nece-
ssary for this type of 'agentivity' to be detectable" (p. 16).
Due to the above reasons, Cruse modified the definition of Agentive as follows:

"This feature is present in any sentence referring to an action performed by an object which is regarded as using its own energy in carrying out the action. Included amongst these objects are living things, certain types of machines, and natural agents" (p. 21).

Sinha (1975) examines Fillmore's Case Hierarchy and argues that Fillmore fails in his attempt to relate one single surface subject position to his eight or more cases.

According to the author, the concept of case hierarchy plays no part in a grammar.

"A case hierarchy plays no part either in the semantic or in the phonological component of a generative grammar. It is hypothesised simply to account for surface word order with the help of transformations, only one of which, the Subject Selection Rule has been spelled out in detail" (p. 25).

According to the author, the concept of case
hierarchy is irrelevant to a generative grammar.

"The concept of case hierarchy is based on a few unclear facts and the general considerations against it are fairly strong. Therefore, in all likelihood, this concept is irrelevant to a generative grammar which deals with the speaker's competence rather than his performance" (p. 130).

Gruber (1967) modified Fillmore's definition of Agentive as follows:

"An agentive verb is one whose subject refers to an animate object which is thought of as the willful source or agent of the activity described in the sentence" (p. 943).

Gruber also mentions that an Agentive verb is substitutable in all circumstances by the phrase 'do something'.

As distinct from Fillmore's 'Case Grammar' Anderson proposes 'Localist Case Grammar'. He says that the Localist theory holds the view that the members of the category of case are opposed to each other in terms of directional uses, 'source', 'goal' and 'resting point'.

Anderson's main argument is that not only the concrete uses of the case markers are to be interpreted, but also the abstract uses. According to
him, cases can be syntactic and local. The local indicate location in space. The syntactic cases are nonlocal. They are Nominative and Ergative. Locative and Ablative are local cases. Anderson’s Ergative is similar to Fillmore’s Agentive. Fillmore’s Experiencer (Dative) and Objective are grouped together and termed as Nominative by Anderson.

Anderson argues that a more abstract view of case enables us to avoid some of the difficulties encountered by earlier studies.

For Anderson, there are only four CRs (Case Relations) - Ablative, Locative, Absolutive (Nominative) and Ergative. These four cases are universally distinguished in terms of the distribution of two directional components, - Place and Source. That is, Locative and Ablative are grouped together as place relations and Ergative and Ablative are sources respectively, the source of an action and the source of a social strategy. Absolutive and Locative are goals only in the presence of Ergative and Ablative respectively as the goal of the action and the spacial goal. The place CRs are not concrete only. An Ergative is simply an
Ablative which lacks an embedded locational. Thus only three fundamental CRs need be envisaged - Locational, Source and an Absolutive. When not associated with a Locational CR, Ergative indeed introduces an Agent.

Fillmore proposes that for each NP there can be only one CR, but Anderson's opinion is that a single NP can have more than one CR.

Anderson's Locative case is of a peculiar type. Along with the ordinary Locative case he includes Dative also. According to him, "the inflexion 'Dative' marks the variant of the Locative which is found with such affective verbs and is typically animate (The Dative is generally nothing less than an offshoot of the Locative used with personal nouns).

The distribution of Dative inflexion is not entirely haphazard, that is, the Dative is to a considerable extent a predicate variant of the Locative in their case also (Notice too that the animate subject in clauses with such verbs is derived from an underlying Locative)" (p. 103).

Ablative is the initial Location of the Nominative and Allative is the terminal Location of the Nominative with respect to the process involved.
Following are some of the examples given by Anderson and the case relations for each verb.

1. John died
   (Nom)
2. Egbert worked
   (Erg)
3. Egbert read the books
   (Erg)
4. Egbert was careful with the vase
   (Erg) (Nom)
5. The bag contained the money
   (Erg) (Nom)
6. He remained in London
   (Erg) (Loc)
7. Many people know part of the truth
   (Loc) (Nom)
8. The son loves his mother
   (Loc) (Nom)
9. He was surprised by my behaviour
   (Loc) (Nom)
10. I have a book
    (Loc) (Nom)
11. That company owns many stores
    (Loc) (Nom)
12. He was gone to London (from here)
    (Erg) (All) (Abl)
13. John sold the book to Mary
    (Erg) (Loc)
14. Mary bought the book from John
15. Sheela knows Hindi
   (Loc) (Nom)
16. I received the letter
   (Loc) (Nom)
17. I am afraid of Mary
   (Loc) (Abl)
18. Mary frightened me
   (Abl) (Loc)
19. John smeared the wall with paint
    (Erg) (Loc) (Nom)
20. He smalled the nose
    (Erg) (Abl) Loc

Huddleston (1970) criticizes some of the points of Fillmore.

Fillmore (1968a) has suggested that, "Each NP is associated with only one case label such that in any proposition there is a one-to-one matching of CRs and NPs" (p. 24).

Huddleston points out that it is semantically insufficient to contrast, say, see and look at simply (as far as the CRs are concerned) in terms of the opposing case frames in the following sentences.

see \(-\) + \(-\) 0 D_7 Jimmy saw the Lotus Elan
look at \(-\) + \(-\) 0 A_7 Jimmy lookes at the Lotus Elan
Jimmy is as much affected by the state or action identified by the verb and as such is apparently both A and D.

So Huddleston suggests that we can reanalyse the above statement of Fillmore - the number of relations per proposition is greater than the number of NPs.

The author also criticizes another argument of Fillmore (1968a) which is as follows:

"Only one (possibly co-ordinate) token of each case is permitted per proposition" (p. 24).

This allows only one token of each case in any one proposition in relation to certain sentences in which two NPs appear to differ only thematically rather than in terms of the CRs involved.

See these sentences:

John is similar to Paul
Paul is similar to John

Huddleston suggests that one superficially attractive solution to this instance is to derive both the sentences from underlying NP co-ordinations via conjunct movement. The two NPs would then share a
single underlying CR as far as the main proposition is concerned. Unfortunately, for such sentences, conjunct movement should almost be abandoned eliminating the possibility of such a derivation. And if this is so, the above sentences must contain two NPs with distinct underlying CRs, if Fillmore's argument is to be satisfied.

Therefore, Huddleston's argument is that in a single proposition, there can be two of one specific CR.

Work done in Indian Language utilizing the framework of Case Grammar


The book contains six Chapters. In the First Chapter she gives briefly an account of Fillmore's Case Theory.

Second Chapter illustrates the causative and Passive sentences in Hindi. In this Chapter she discusses in some detail, the structure of causative sentences.
She calls the first causative as Direct causative (which has no Intermediary Agent), and the second as Indirect causative (which has an Intermediary Agency) and the main root as Non-causative, (which has no causative feature) and she classified the verbs in Hindi according to the occurrence of causative suffixes and suggests that with regard to their participation in the causative constructions we can classify Hindi verbs into four classes.

1. Verbs which are inherently Noncausative and do not have causative sentences.
2. Verbs which have only Non-causative and Direct causative distinctions and not Indirect causative.
3. Verbs which have only Non-causative and Indirect causative and not Direct causative.
4. Verbs which have Non-causative, Direct causative and Indirect causatives.

Then the author explains the passive sentences. Passive sentences are classified into four types, that is, sentences with an Agent unspecified in the surface structure but present in the deep structure, sentences with an Agentive only, sentences with
Objective only and sentences with both Agentive and Objective.

In the Third Chapter, she gives the evidence for treating causative sentences as simple sentences. With sufficient examples and deep structures, the author proves that the causative sentences in Hindi do not have embeddings and have the structure of a simple sentence.

"We can conclude that the Non-causative, Direct causative and Indirect causative sentences are not related by a process of embedding. Rather they differ from each other in the number and types of case relations that are involved in them" (p. 44).

In the Fourth Chapter, she discusses the problem of defining the Agentive case for the causative sentences and its implications for the lexical representation of Hindi verbs. The author pointed out that the causative Agent of the causative sentence and the Agent of the Non-causative are Agents. She lists four characteristics of Agentive in a Non-causative sentence as follows:

(1) Only those sentences which have an Agentive can have
equivalent passive sentences.

(2) In a passive sentence which is not capabilitative the Agentive NP is unspecified and is not overtly realized.

(3) It is only for a sentence which has an Agentive that we can find another sentence which has the obligative model pāDnāa 'to be obliged to do something'.

Then she proves with examples that all the characteristics that are enumerated for an Agentive in a Non-causative sentence hold good for the 'Causative Agent' of the Causative sentence and not for what is thought to be the 'Real Agent' of the causative sentence.

So she argues that, " .......... even if on the semantic level we do make a distinction between the "causative Agent" and the "Real Agent" in a causative sentence, at a very early stage in our grammar, we do have to identify the "causative Agent" of a causative sentence and the "Agentive" of a Non-causative sentence as the "Agentive" and characterise the "Real Agent" of the causative sentence as not having the properties of an Agentive NP" (p. 49).

Lakshmi Bai concludes that the Hindi Direct and
Indirect Causative sentences are simplex sentences, each one of them permitting no more than one Agentive case and that an Agentive case which represents an action can either be an Instigator of a simplex action or a complex action.

In the Fifth Chapter the author discusses the lexical entries for Hindi verbs with regard to their case frames and a broad classification of Hindi verbs. She classified the verbs into eight main classes, with subclasses for each.

In the Sixth Chapter, she has tried to formulate the rules that are required for generating simple sentences in Hindi in the framework of Case Grammar as proposed by Fillmore with modifications that are found to be necessary to accommodate the facts of Hindi. An attempt is also made to formulate the Redundancy rules required for handling the case structure of Hindi Non-causative sentences, Direct causative sentences and Indirect causative sentences.

At the end of the book Lakshmi Bai briefly translated the above explained facts into Hindi.

The main concern of the book is to study the causative sentences in Hindi. The author gives us a good picture of the causative constructions in Hindi.
FOOTNOTES

1. A detailed description of the views of Traditional Grammarians and Descriptive Grammarians regarding case is given in Chapter I.

2. The logical structures of Generative Semantics is in the form of a labelled tree and the terminal nodes of the surface structure tree are lexical items. A derivation is a series of related trees showing the ordered trees by which logical structures are converted into surface structures.

3. The underlying structures are more abstract and very complicated in Generative Semantics.

4. McCawlay argues that tenses are not features, but are themselves underlying predicates. According to Lakoff, adjectives are verbs and adverbials of various types are really underlying predicates and quantifiers are verbs and so on. Ross points out that auxiliaries are main verbs. Bach claims that nouns derive from underlying predicates.
5. Both Case Grammar and Generative Semantics have a central verb-like element called the predicate and both have a series of noun-like elements related to that predicate. The underlying structure of Case Grammar is expressed in terms of case frame and that of Generative Semantics is expressed in terms of logical structure built around a central predicate.

6. Fillmore (1969) replaced Factitive with Resultative which is defined as, "the entity which comes into existence as a result of the action" (p.116). But Fillmore (1971) eliminated Factitive/Resultative. After that he had not mentioned about that.

7. Fillmore (1971) has mentioned about this case.

8. Goal case is also mentioned in Fillmore (1971).

9. Fillmore has not given any definition of Comitative case. He argues that the Comitative and conjunction of NPs are related.

For Fillmore 'Comitative means accompaniment and he says that in sentences with Agentive subject accompanied by Comitative, the -Comi-
tative, the Comitative case function as Agentive also since it occurs in association with Agentive.

10. Fillmore has suggested additional cases like Benefactive (1968a, p. 32), Time (1968a, p. 32), Essive (1968a, p. 84), Translative (1968a, p. 84), Path (1971, pp. 259–260) etc.

11. Fillmore (1970) has eliminated the modality Constituent (M) and the case marking element (K). As a result, the sentence is rewritten as a verb and a series of deep structure cases. Each case then directly dominates its own noun phrase.

\[ S \longrightarrow V + C_1 + C_2 + \ldots + C_n \]

\[ C_1 \longrightarrow NP, \ C_2 \longrightarrow NP \text{ etc.} \]

As the Modality node (M) is absent, tense, mood, aspect, negation etc. are directly adjoined to the verb and as the case marking element (K) is absent, the case suffixes are directly
adjointed to the NP by means of preposition selection rules.

12. Fillmore (1968a) points out that, "the essential features of the deep cases is the case frame" (p. 27).

13. In the revised deep structure of 1970 the sentence is rewritten as a verb and a series of cases which directly dominates its own NP. See the following deep structure of the sentence,

\[
S \rightarrow V \rightarrow NP \rightarrow O \rightarrow A \\
opened \rightarrow door \rightarrow John
\]

14. Cases are ordered based on this hierarchy in case frames and in tree diagrams.

15. Fillmore (1970) has suggested the following
transformations in English:

a. Subject raising
b. Required Coreference deletion
c. Experiencer shunting
d. Psych movement
e. Accusative marking
f. Nominative marking
g. Subject formation
h. Extraposition
i. Object formation
j. Preposition selection
k. Preposition extrusion
l. Preposition attachment
m. Particle extrusion
n. Particle movement

16. Fillmore (1977) says, "Criticism of the deep case proposals have come from many places and represents many points of view. Some of them are based on misunderstandings; some of them are valid but require "patching" rather than deep changes in my position; and a number of them very much worth worrying about" (p. 62).
17. At the end of the article, the author suggests, "Whatever the development of the theory, it should always be possible to reduce that theory to a set of rules which generate sentences. At any stage in the development of the grammar, it is useful to check the theory, as presented, against the development of concrete rules which branch, introduce lexical formatives, add, change, and delete sentences. Whatever the change in theory, a path must be marked out which leads the way from role to rule" (p. 29).