THE CASE FOR THE ADJECTIVE IN A CASE GRAMMAR

A thesis submitted in partial satisfaction of the requirements for the degree of Master of Arts in Linguistics

by

Teresa Urrutia Giancoli

June, 1977
The Thesis of Teresa Urrutia Giancoli is approved:

   Paul Kirk

   Iris Shah

   Jacqueline Lindenfeld, Chairperson

California State University, Northridge
ACKNOWLEDGEMENTS

I wish to thank my informants Vannaporn (Pao) Viravat of Thailand and Keiko Matsuoka of Japan for so generously giving their time for this study and for their patience with my efforts to understand Japanese.

I am also grateful for all the help, encouragement and criticism from my advisers Professors Paul Kirk, Iris Shah, and Jacqueline Lindenfeld. I appreciate their interest in my work and unfailing support. I will always be grateful to Professor Iris Shah who first encouraged my initial explorations in linguistics. I also want to express my deep gratitude to Jacqueline Lindenfeld who guided this material into its present form; its shortcomings, however, are all my own. I will always appreciate the advice, thoughtful criticism, and time she gave to this study.

My thanks go also to Donna Botash for a superb job of typing which I know was not an easy task. Most of all I wish to thank my husband for his continuing support, patience and understanding, and my daughters for their willingness to make do when I have been immersed in linguistics.
LIST OF SYMBOLS

The following symbols are used in the description of case grammar in this study. They are listed here with definitions for convenience, in addition to being clarified in the text when first introduced.

P: Proposition; the propositional core of a sentence.
M: Modality; the modality constituent of a sentence.
P/act: Action proposition; propositional core involving action.
V/act: Action verb; the central verbal element in an action proposition.
P/psych: Psychological proposition; a propositional core involving a psychological event or experience (i.e., think, love).
V/psych: Psychological verb; the central verbal element in a psychological proposition.
PER: Perceiver; the animate being which experiences or perceives a given psychological event.
AFF: Affector; that which induces the psychological event or experience in the Perceiver.
P/rcl: Relational proposition; verbless propositions involving existential relationships (e.g., identity, property assignment).
NOM: Nominative; that which is described or assigned a property, the noun which is the grammatical subject of a property assignment sentence.
ATT: Attribute; the property which is assigned to NOM.

The following set of five upper case letters is used to designate those nominal elements which co-occur with action verbs in action propositions:

A: Agent
O: Object
I: Instrument
D: Dative
B: Benefactive
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS.</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF SYMBOLS</td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRACT.</td>
<td>vii</td>
</tr>
<tr>
<td>CHAPTER 1 CASE GRAMMAR</td>
<td>1</td>
</tr>
<tr>
<td>1.1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.2. THE CURRENT CASE GRAMMAR MODEL</td>
<td>2</td>
</tr>
<tr>
<td>Footnotes.</td>
<td>13</td>
</tr>
<tr>
<td>CHAPTER 2 PROPOSED REVISIONS OF THE CURRENT CASE GRAMMAR MODEL</td>
<td>14</td>
</tr>
<tr>
<td>2.1. THE PROPOSITIONAL CORE IN CASE GRAMMAR.</td>
<td>14</td>
</tr>
<tr>
<td>2.2. MENTAL PROCESSES</td>
<td>17</td>
</tr>
<tr>
<td>2.3. RELATION CLAUSES</td>
<td>32</td>
</tr>
<tr>
<td>2.4. ATTRIBUTIVE SENTENCES</td>
<td>40</td>
</tr>
<tr>
<td>Footnotes.</td>
<td>45</td>
</tr>
<tr>
<td>CHAPTER 3 PROPERTY ASSIGNMENT SENTENCES IN THAI AND JAPANESE.</td>
<td>46</td>
</tr>
<tr>
<td>3.1. INTRODUCTION</td>
<td>46</td>
</tr>
<tr>
<td>3.2. PROPERTY ASSIGNMENT SENTENCES IN THAI AND ENGLISH</td>
<td>48</td>
</tr>
<tr>
<td>3.2.1. COLOR AS A PROPERTY ASSIGNMENT</td>
<td>59</td>
</tr>
<tr>
<td>3.3. PROPERTY ASSIGNMENT SENTENCES IN JAPANESE AND ENGLISH</td>
<td>60</td>
</tr>
<tr>
<td>3.3.1. KEIYŌSHI: DECLINEABLE ADJECTIVES AS ATTRIBUTES IN JAPANESE</td>
<td>61</td>
</tr>
<tr>
<td>3.3.2. DŌSHI: ADJECTIVAL VERBS AS ATTRIBUTES IN JAPANESE</td>
<td>77</td>
</tr>
<tr>
<td>3.3.3. MEISHI: ADJECTIVAL NOUNS AS ATTRIBUTES IN JAPANESE</td>
<td>77</td>
</tr>
<tr>
<td>3.3.4. INFORMAL VERSUS POLITE SPEECH STYLES IN JAPANESE</td>
<td>81</td>
</tr>
<tr>
<td>Footnotes.</td>
<td>85</td>
</tr>
<tr>
<td>CONCLUSION.</td>
<td>86</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td></td>
</tr>
<tr>
<td>APPENDIX I</td>
<td>Tables of Phonetic Symbols Used for Transcription of Thai in This Study</td>
</tr>
<tr>
<td>APPENDIX II</td>
<td>Tables of Phonetic Symbols Used for Transcription of Japanese in This Study</td>
</tr>
</tbody>
</table>
ABSTRACT

THE CASE FOR THE ADJECTIVE IN
CASE GRAMMAR

by

Teresa Urrutia Giancoli

Master of Arts in Linguistics

Simple predicate adjective sentences are examined in this study within a case grammar framework. Modifications of the current case grammar model are suggested as necessary for the analysis of such sentences. The proposed revisions are based on the writer's native understanding of English syntax. The revised theory is then tested against sentences in English, Thai and Japanese.

Case grammar as developed by Charles Fillmore and described in "The Case for Case" (1968) is described in Chapter 1, along with some of William Chafe's (1970) related views on a semantically-based linguistic model. Modifications in case theory are suggested in Chapter 2, regarding the treatment of adjectives.
Both Chafe and Fillmore analyze verbs as central in sentence formation, and sentences are assumed to consist of various noun-verb relationships. Adjectives are considered a sub-class of verbs. It is proposed in this study that, rather than being analyzed as members of a single category VERB, adjectives and verbs should be distinguished from one another according to the exact semantic role they play in a given sentence. It is also proposed that not all sentences be analyzed as having a central underlying verb, since certain kinds of sentences may not contain deep structure verbs.

Verbs are defined as conveying either an action or a psychological event. Sentences involving actions or psychological events (know, love) are assumed to have a central verb, and that verb determines the nature of the case relations occurring in the sentence. Sentences involving existential relationships, however, such as property assignment, ownership and identity, are analyzed as "verbless," since no action or psychological event occurs. Following this general discussion, one particular type of "verbless" sentence is examined, namely that involving property assignment. Case relations are defined for such sentences. In English they contain predicate adjective constructions in which the adjective has an attributive function.
In Chapter 3, property assignment sentences are examined in Thai and Japanese in contrast with English, as a test of the theoretical framework proposed in Chapter 2. Finally the results of these analyses are discussed in the Conclusion.
1.1. INTRODUCTION

The purpose of this study is to examine simple predicate adjective sentences within a case grammar framework. This particular type of sentence has been chosen for study, as it poses special problems in a case grammar analysis. Charles Fillmore (1968b) originally formulated case grammar, and its basic tenets are as follows: The base component is limited to nouns and verbs, the deep structure contains semantic representations, and all simple sentences are to be generated by the semantic relationships existing between a verb and one or more nouns. If adjectives are analyzed as verbs, then presumably simple sentences with predicate adjectives will pose no problems for analysis in such a grammar. This analysis of adjectives is not, however, correct in all cases. In fact, adjectives may be just as basic to natural languages as nouns and verbs. If adjectives and verbs are analyzed as belonging to separate categories, then it will be necessary to distinguish adjective and verb environments, that is, a distinction needs to be made as to the types of sentences adjectives occur in from those in which verbs occur. Since case grammar is semantically based, it is also necessary to define and
describe the separate kinds of semantic relations (entered into by) adjectives and verbs.

In the next section of this first chapter, I describe briefly the case grammar model as it was first formulated by Fillmore. Where pertinent I also refer to William Chafe's (1970) semantically based grammar which has many points in common with case grammar. In Chapter 2, I suggest how the current case grammar model might be revised in the light of theories developed by Emmon Bach (1967) and M.A.K. Halliday (1970). My revisions are described and discussed with particular reference to English. In Chapter 3, simple sentences with predicate adjectives in Thai and Japanese are analyzed according to this modified version of case grammar as presented in Chapter 2. Chapter 4 summarizes the conclusions reached by the analysis of these sentences and justifications for the modifications of case grammar theories proposed above.

1.2. THE CURRENT CASE GRAMMAR MODEL

In "The Case for Case" (1968), Charles Fillmore presents case grammar as a model for a universal grammar, and states that "the grammatical notion 'case' deserves a place in the base component of every language." (p. 2) Case grammar attempts to define the various semantic relationships existing between nouns and verbs in a sentence. It is assumed that the deep structure of a
simple sentence consists of a verb and one or more noun phrases "each associated with the verb in a particular case relationship." (21) The base is then restricted to nouns and verbs.

In case grammar, subject and predicate are not of necessity deep structure phenomena, but instead are viewed as somewhat arbitrary notions. Fillmore notes that Tesnière, a French linguist, in Éléments de Syntaxe Structurale had pointed out that the subject-predicate division of sentences borrowed from formal logic by grammarians does not necessarily correspond to the inherent relationships between the elements in a sentence. These 'case' relationships, as Fillmore terms them, comprise the proposition of a simple sentence. The proposition (P) does not include tense, aspect, mood, negation, etc.; these features form the modality (M) component of the sentence.

Although Fillmore states that syntax is central to case grammar, his definition of case relationships as "semantically relevant syntactic relationships" suggests that in his view semantics must play a very important role in the deep structure. William Chafe in Meaning and the Structure of Language (1970) develops a model similar to case grammar and acknowledges Fillmore's influence. Chafe clearly stresses the primary role of semantics in grammar and completely identifies deep structure with
semantic structure. In many ways Chafe's model seems to complement Fillmore's. He attempts to define more precisely the nature of the relationships existing between sentential elements. As in Tesnière and implicitly in Fillmore, the verb is the central element or axis of the sentence. Verbs then have inherent semantic properties or selectional units which determine the noun relations. Note that Chafe uses the term relation where Fillmore uses the word case.

Chomsky in Aspects of the Theory of Syntax (1965) analyzes verbs as having selectional features which are context sensitive; that is, the selectional features of verbs condition the choice of nouns in subject and (when applicable) object positions. The verb laugh, for example, would have as one of its features [+ animate subject] which means that an animate noun subject must co-occur with it for the formation of a non-deviant sentence. Nouns are analyzed in terms of context free features. Boy, for example, has the feature [+ animate] which means that it can co-occur with any verb requiring an animate subject or object. In the deviant sentence (1) below the condition specifying animate subject is violated and an inanimate noun incorrectly chosen as subject to co-occur with the verb laugh.

(1) * The chair laughed.

This property of verbs to determine which nouns occur
in a sentence becomes in Chafe, as well as Fillmore, central to their grammatical analysis. A verb, however, is not analyzed according to the type of subject it can take, as subject is considered purely a surface phenomenon in case grammar. Verbal contexts now involve specific substantive relationships (cases), such as Agent (A), Object (O) and Instrument (I). The Agent is the instigator of the verb's action, the Object undergoes or receives the action, and the Instrument is the noun instrumentally involved in the action, that is, it is something employed in the action and causally affected by the verb. Chafe and Fillmore both describe more than these three cases, but I have limited the discussion to these three for the sake of simplicity. The cases, A, O and I seem sufficient to illustrate the deep structure notion of case. The configuration (3) below demonstrates how these three cases would appear in the deep structure for the sentence (2); the configuration is similar to that used by Fillmore in his case grammar analyses of sentences.³

(2) Lydia opened the door with a key.

Although the verb open may take the three cases I, O,
A, it is possible for I and/or A to occur as zero in the deep structure. Sentence (4) would result if A were zero and (5) if both A and I were zero.

(4) The key opened the door.

(5) The door opened.

Although sentences (2), (4) and (5) all have the same deep structure (3), (i.e., each sentence has the deep cases A, O, I) each of them has a different case occurring as grammatical subject. Sentences (2), (4) and (5) thus demonstrate that subject is a surface structure phenomenon rather than an element specified by the deep structure.

Given a base structure configuration such as (3) a number of sentences may be realized with different subjects. Sentences (2), (4) and (5) are the result of what Fillmore calls "normal" subject choice for the verb open. A "non-normal" subject choice would occur in a passive sentence where the feature [+ passive] would have been registered in the verb, giving a sentence such as (6).

(6) The door was opened by Linda.

Although A (Linda) is specified in (6) (unlike (4) and (5) where no A is specified), O (door) occurs as the subject because the verb has the feature [+ passive]; when a passive transformation occurs, what had been the object of the verb assumes the position of sentence subject.

In their definition of a verb, Chafe and Fillmore include both the concepts of state and action, which makes
it possible to analyze not only verbs but presumably also adjectives. This apparently is to accommodate copular constructions. Fillmore does not analyze simple sentences with predicate adjectives per se, but in his discussion of the two-string sentence represented in (7) he considers true as a part of the verb in the independent clause.

(7) It is true that John likes Mary.

Be is not treated as a true deep structure verb, but is inserted into the surface structure through transformational rules. Since adjectives cannot be inflected in English, be is inserted within the modality constituent in order to carry the tense. The UCLA syntax project (Stockwell, et.al.:1970) adopts this same analysis of be + adjective in its integration of case grammar and Chomskyan transformational grammar.

Chafe's analysis does include simple sentences with predicate adjectives. Initially, verbs are separated into two categories: state and nonstate. Nonstate verbs are defined as "happenings" or events and "answer the question What happened? What's happening? and so on" (Chafe:1970, 98-99). A state verb presumably is then anything that can not be called an event. The following are some of the sentences Chafe uses to illustrate the different verb types:

(8) a. The wood is dry.
    b. The elephant is dead.
(9) a. The wood dried.
    b. The elephant died.

(10) a. Michael ran.
    b. The tiger pounced.

(11) a. Michael dried the wood.
    b. The tiger killed the elephant.

In (8 a,b) the verb would be specified as a state; sets (9), (10), and (11) contain verbs which are not specified as states, but instead involve some kind of action or happening. Chafe includes four sets (8, 9, 10, 11) in his illustration rather than two, as nonstate verbs are further divided into three subcategories. Since I wish only to concentrate on sentences with predicate adjectives, I will omit Chafe's discussion of nonstate verbs. According to Chafe, when a verb is specified as a state, it takes the case category labeled Patient. The Patient is that noun which is in the particular state described by the verb. Chafe also uses the label Patient to designate a noun which functions as the grammatical object of the verb, that is, the Patient undergoes the action of the verb. Chafe does not discuss the possible treatment of be in his analysis, except to affix it to the adjective in parentheses.

George Lakoff in *Irregularity in Syntax* (1970)\(^4\), demonstrates that striking similarities indeed exist between many adjectival and verbal constructions and for
this reason he suggests that they may share similar syntactic structures. The following pair of sentences shows that the differences between what he terms some adjectival and verbal structures may indeed be superficial.

(12) a. Eve feared the serpent.
   b. Eve was afraid of the serpent.

Lakoff argues that since adjectives and verbs are treated identically in at least ten cases, as his examples in Irregularity in Syntax demonstrate, a general category VERB should be postulated which includes both adjectives and verbs. Such a proposal then allows simplification of both the syntactic and semantic components. (133) Chafe may have been influenced by Lakoff's early version of this analysis when he developed his semantic analysis of verbs, as it provides justification for restricting the base component to nouns and verbs. It seems unlikely, however, that Fillmore could have been familiar with Lakoff's work when he was developing his theories in the early sixties although he seems to have been influenced by Tesnière who earlier analyzed adjectives as verbs in Éléments de Syntaxe Structurale (1959), and who also assigned a central role to the verb in sentence structures.

It is interesting to note that Tesnière, Lakoff, Chafe, and Fillmore separately reached similar hypotheses regarding the treatment of adjectives. Lakoff's argument that a single category verb would permit simplification of
the grammar entails the principle of economy, which obviously is related to the matter of universals. Economy appears to be an operating principle in case grammar too, as the base has been stripped down to the barest essentials (i.e., nouns and verbs). As for Tesnière and Chafe, they seem to have been guided primarily by semantic considerations which are reminiscent of the implicit principles of 'notional' grammar. A broad definition of verbs which includes the notions of both state and action, is certainly reminiscent of the grammar school definition of a verb as an "action or a state of being," which was no doubt formulated in order to accommodate be as well as true verbs. Adjectives and be seem to have posed a problem for students of language for a long time.

It may be difficult to determine a single category into which all adjectives can fit neatly. Ross (1969) has suggested that they be classified as NP's. He states that be should be considered a true deep structure verb. Adjectives are then treated as objects of the verb be. Adjectives are thus categorized as nouns. If Ross' analysis were incorporated into case grammar, be would fill in the verb category and would serve as the axis for sentences with predicate adjectives. Emmon Bach (1967), however, has pointed out that be is lexically empty; it does not have selectional or semantic features as do true verbs. With respect to case grammar, be as a lexically
empty unit could not determine the case relations of a sentence. Bach also notes that he does not occur in the surface structures of many languages, among them Russian and Arabic; instead, in these languages, nouns and predicate adjectives may be juxtaposed in sentences with predicate adjectives. The meaning of the sentence depends solely upon the linking of these two items; there seems to be no need for an intermediary be to determine the relationship between the noun and adjective. This is not the case in sentences with true verbs in which the verb does determine the relationships of the nominative elements in the sentence.

In summary, case grammar is based on the assumption that all sentences have deep structures in which nouns stand in certain semantic relationships to a central verb. The relationships, as has been demonstrated, seem relatively easy to define (Agent, Object, Instrument) for sentences with action verbs. I suggest, however, that this set is only one of three possible sets of deep structure relationships. In Chapter 1, I define and discuss three basic types of semantic relationships. This semantic analysis encompasses what Bach calls "verbless relationships," as well as the semantic relationships involving actions and events. I then demonstrate how Fillmore's model may be modified to include this tripartite analysis. Such revision entails
re-examination and redefinition of P (sentence proposition) according to a proposed classification of verbs and verbless relations. Attention is focused on simple sentences with predicate adjectives in English, as such sentences can better be described and analyzed using a modified form of the model than they can be if the current version is used for analysis.
Footnotes to Chapter 1

1. Tesnière's *Éléments de Syntaxe Structurale* was originally written in the 1930's but published posthumously in 1959.

2. The case which I have labeled Object is assumed to be that NP which will occur as the direct object of an action verb. Fillmore uses two terms for this case, Dative and Object. Dative is used exclusively for animate nouns. In the above analysis, I have not maintained this distinction between animate and inanimate nouns, as it does not seem necessary for the discussion here. Chafe employs the label Patient to designate the object of the verb. For the sake of simplicity I have used the label Object and it will henceforth refer to that NP which can clearly be classified as the grammatical object of the verb.

3. I have modified Fillmore's schematic diagram slightly, omitting the symbol for case markers, since case markers are not discussed in the above text. Their exclusion here does not seem to hinder the discussion.

4. Irregularity in Syntax is a relatively recent version of Lakoff's 1965 MIT dissertation, *The Nature of Syntactic Irregularity* which was originally circulated in preprints as early as 1966.

5. Irregularity in Syntax is mentioned in Fillmore's work in a footnote (1969) and the bibliography (1968). Fillmore's initial work, however, must have been developed before Lakoff's thesis was made available which would mean that Fillmore's ideas were formulated independently of Lakoff's.
CHAPTER 2

PROPOSED REVISION OF THE CURRENT
CASE GRAMMAR MODEL

2.1. THE PROPOSITIONAL CORE IN CASE GRAMMAR

In case grammar the most significant assumption is that all sentences have in their deep structure certain semantic relationships and that these relationships may be universal to all natural languages. What Fillmore calls "the propositional core" (1968b: 342) encompasses these relationships and is the starting point for sentence analysis. Indeed, his analysis is insightful for simple sentences with action verbs. The model, however, does not really go beyond the analysis of action sentences. Fillmore himself sees problems with the model as it stands, since he notes certain kinds of sentences, such as those with predicate adjectives, may pose problems for analysis (1969, 374-375). When he describes verbs as both actions and states in his discussion of the various cases verbs will take (in Bach and Harms 1968a, 24-25), he may have been trying to avoid the problem of actionless sentences, so that, for example, sentences like those in (13) could eventually be fitted into the model.

(13) The repast was splendid, the wine superb, and your company divine.
If the notion of 'verb' is stretched to include both action and state or non-activity then perhaps the 'propositional core' can accommodate such sentences. Such "verb-stretching" will not bring us any closer to understanding the 'propositional cores' of all simple sentences. It does mean, though, that the elements of the base can be restricted to nouns and verbs, but if our efforts are focused solely on limiting the base to nouns and verbs, we miss discovering the various semantic relationships inherent in all simple sentences. Our main concern should be the study of these relationships. When these relationships are re-examined, it seems clear that there are different kinds of propositions with different sets of relations depending on the type of verb occurring in the proposition. Action sentences, for example, would have a specific set of cases, namely, Agent, Objective, Dative, Benefactive, and Instrumental. I have composed a short story (14-18 below) to illustrate how these cases may occur and co-occur in various sentences.

(14) Wonder Woman rushed out. (Agent)
(15) She quickly apprehended the diabolical Mr. Fang. (Agent & Object)
(16) She tied him up with her golden lasso. (Agent & Object & Instrument)
(17) She then restored the little girl to her mother. (Agent & Object & Dative)
Thus she singlehandedly solved the case for the FBI. (Agent & Object & Benefactive)

Thus Agent may occur along (14), co-occur with Object (15), Object and Instrument (16), Object and Dative (17), or with Object and Benefactive (18).\(^1\) Other combinations may occur, sentences (14) – (18) demonstrate sufficiently the possible variety of combinations. I will not discuss these various case relations in any more detail, as my purpose in this study is to examine sentences with predicate adjectives.

M.A.K. Halliday (197) takes the position that there are actually three types of propositions, which he calls clauses: action clauses, mental process clauses, and relation clauses. Each contains a specific set of participant roles.\(^2\) Although Halliday does not use the expression 'case,' his model is clearly a type of case grammar. The participant roles could easily be called cases, and I have already referred to what he calls clauses as propositions. He does, however, restrict the number of participant roles for each clause to just two. I do not maintain this restriction, as the various cases first defined by Fillmore and illustrated in (14-18) (with certain emendations as already noted) are quite useful in the analysis of the relations of the various
nominal elements to the verb. I demonstrate in this section, however, how Halliday's notion of separate clause types might be incorporated within Fillmore's concept of case grammar, as I think such an incorporation would facilitate the analysis of actionless sentences. As stated earlier, even Fillmore (1969) has noted that certain kinds of sentences may pose problems in a case grammar analysis. The addition of Halliday's clause types may well solve the problems envisioned by Fillmore.

Halliday's concept of mental process and relation clauses can easily be used to expand Fillmore's view of the 'propositional core' of sentences. In the Propositional it could now be indicated whether the particular set of sentences would involve actions or non-actions. Halliday divides this second set (non-actions) into two categories which he terms mental process clauses and relation clauses. In the next two sections I discuss these two types of clauses. Mental process clauses are discussed first and relation clauses second.

2.2. MENTAL PROCESSES

Halliday (1970) suggests that surface subjects and objects may stand in different relations to the verb depending on whether the verb is an action or a mental process. In (19) and (20) below, Adam and Eve are clearly the agents of the action verbs bit and grab, while apple
and fig leaf are recipients of the action. In (21) and (22), however, the surface subjects and objects do not have quite the same roles. Swahili and the way are not acted upon in quite the same way as the objects apple and fig leaf are; rather, they almost act as a kind of stimulus to the understanding and knowing. Halliday says that in sentences like (21) and (22) these surface objects are "phenomena which impinge upon the consciousness of the mental processor" (1970: 153) (that is, the one who knows (22) and understands (21)). Note that the ambassador and Sacajawea perceive, or experience mental events rather than instigate any explicit action.

(19) Eve bit the apple.
(20) Adam grabbed a fig leaf.
(21) The ambassador understands Swahili.
(22) Sacajawea knew the way.

Mental process clauses, then, involve participant roles which differ from those roles or cases which are associated with action verbs.

Halliday includes both cognitive events (know, understand, realize) and affective events (fear, hate, love) in his mental process classification. In order to include this range of animate behavior, which seems to be predominantly human, I will label the propositions which include such mental processes as P/psych. The NP perceiving or experiencing this event I will designate as the
Perceiver (Per) and that which acts as the stimulus for the psychological event or the phenomenon which is experienced or perceived Affector (Aff). In P/psych there will then be a psychological process or experience (V/psych) which will involve the cases Per and Aff.

In sentences (21) and (22) above, Aff (Swahili, the way) occurs as surface object of an active voice verb although it might almost be construed as having an active role in the psychological events, since Aff is defined as acting as the stimulus for the psychological process. Per (the ambassador, Sacajawea) seems to play an almost passive role if the internalization of knowledge is considered a somewhat passive process. That is, if the mental faculties are conceived as being acted upon by whatever is "understood" or "known."

Indeed, for some psychological events passive constructions as in (23a)-(24a) seem to be the rule in English when Per is the subject. If an active voice construction is used, then Aff appears as surface subject, as in (23b)-(25b). The 'c' forms of (23)-(25) are discussed below.

(23) a. Hamlet was startled by the ghost.  
  b. The ghost startled Hamlet.  
  c. Hamlet was startled.  
(24) a. The diva was moved by the ovation.  
  b. The ovation moved the diva.
(25) a. The Florentines were enflamed by Savanarola's words.
    b. Savanarola's words enflamed the Florentines.
    c. The Florentines were enflamed.

This peculiar interchange of active and passive roles for Per and Aff may tend to occur with affective events. With cognitive events (know (22), understand (21)) Per seems naturally to occur as the subject of active voice verbs, while Aff seems to occur as the surface subject with affective events (startle (23), move (24), enflame (25)). When V/psych is a cognitive verb as in (21) and (22) the following strings will result when the verb has been marked respectively for active or passive voice.

(26) a. Per + V/psych + Aff
    [- passive]
    b. Aff + V/psych + Per
    [+ passive]

When V/psych is a cognitive verb.

When V/psych as in (23), (24), (25), however, is an affective verb the following strings will result when the verb has been marked for active and passive voice respectively.

(27) a. Aff + V/psych + Per
    [- passive]
b. Per + V/psych + Aff
   [+ passive]
When V/psych is an affective verb.
In each of the cases the resulting strings are conditioned by the classification of V/psych as either cognitive (26) or affective (27). (There may even be constructions involving cognitive and affective verbs which may yet be exceptions to this generalization.) This interesting syntactic behavior of psych verbs may warrant distinguishing them from act verbs, since in P/act, agent and object seem to observe regular patterns depending upon the use of the active or passive voice. When V/act is marked for the active or passive voice only the following strings will result.

(28) a. Agent + V/act + Object
   [- passive]

b. Object + V/act + Agent
   [+ passive]

Syntactically then, P/psych sentences seem to differ from P/act sentences, and consequently V/act's from V/psych's.

It seems reasonable to make a distinction then between V/act and V/psych, although in (29) and (30) below it appears that there is an interrelationship between the V/act (teach) and V/psych (learn). In sentence (29), teach may be analyzed as an action requiring Agent (Professor Higgins), Object (articulation) and Dative
(Eliza), while learn in (30) seems to be a mental process involving Per (Eliza) and Aff (articulation), as well as an Agent (Professor Higgins) who it may be assumed "taught" what was "learned" by Per.

(29) Professor Higgins taught Eliza precise articulation.

(30) Eliza learned precise articulation from Professor Higgins.

Sentence (30) may be considered to be a derivation of (29) which has resulted from a lexicalization process. Such a process would assume that the verb teach had the feature + passive, and that after the passive transformation a new lexical item, learn, could be inserted replacing the be + teach + en construction. Sentence (30) could also be analyzed as the result of combining and compressing two sentences ((31) below):

(31) (Professor Higgins taught Eliza

(   (Agt)   + (V/act)+ (Dat)
    articulation) + (Eliza learned
       (Obj))   + ((Per)+ (V/psych) +
    articulation).

   (Aff)).

In one sentence Per (Eliza) and Aff (articulation) would occur with the V/psych learn and in the other sentence Agent (Professor Higgins), Object (articulation) and Dative (Eliza) would occur with the V/act teach. The two
sentences would then be combined by compressing the V/act sentence into the V/psych sentence. In the learn sentence, the cases Per and Aff have the same identity or referents as Dative and Object, in the teach sentence. That is, Per and Dative both refer to Eliza and Aff and Object both refer to articulation. Because these various cases are co-referential it will be possible to compress the two sentences through an Equi-NP deletion rule. As Dative and Object are absorbed by Per and Aff the V/act verb teach may be absorbed by the V/psych learn which will leave Agent (which is not co-referential with any NP in the learn sentence) as a remnant element of the teach sentence. Whether sentence (30) is a result of lexicalization or "sentence compression" the verb learn in (30) seems to imply that Professor Higgins is the teacher (Agent) of an underlying verb teach. Despite the close relationship between teach and learn, these two verbs still seem to belong to different verb categories, as each takes a distinct set of cases. The cases Per and Aff will occur with learn, and Agent and Object with teach. Although learn seems to imply the existence of an underlying Agent or teacher and V/act teach, the Agent need not be specified as (32a) demonstrates or may be co-referential with Per as is illustrated by (32b).

(32) a. Eliza learned precise articulation.

b. Eliza learned precise articulation
by herself. Sentence (32a) is certainly a well-formed sentence and to assume that an unknown agent is lurking somewhere in the deep structure because one appears in (29) and (30) does not seem particularly pertinent. Sentences (29) through (32) do demonstrate, however, that assigning various nominal elements to specific cases or even classifying propositional types is not always an easy task and may involve many complex issues.

To return to the general discussion of P/psych, the cases Per and Aff may be expected to occur with V/psych. Although Aff is assumed to be a deep structure element, it need not, however, have a surface structure realization as the "c" forms of (23) through (25) demonstrate. These sentences are still grammatically well-formed, even though whatever caused the various reactions (startle, move, enflame) has not been specified in the surface structure.

The story of Little Red Riding Hood below (33-34) illustrates the two aspects of V/psych (cognitive and affective) which have been discussed so far.

(33) Little Red Riding Hood realized a stranger lay in grandma's bed.

(34) She panicked at the sight of the wolf's sharp teeth.

Sentences (35) through (37) below illustrate another set of verbs relating to animate behavior or psychology
which should be included in P/psych. These are related to physiological experiences; with their inclusion P/psych will now contain the three basic aspects of animate behavior or psychology: the cognitive, affective, and physiological.

(35) Dracula is alive and well in Argentina.

(36) The Big Bad Wolf was famished.

(37) Lady Macbeth sleeps no more.

In contrast with (23c) through (25c) above, no Aff is assumed even as a zero element in (35) through (37) unless somehow Dracula's and Lady Macbeth's metabolism and the Big Bad Wolf's gastric juices can be construed as the Aff (that is, the stimulant for the particular physical states). In sentences (35) through (37), then, the V/psych only takes the case Per. Sleep, extreme hunger, and a sense of being alive and well might be analyzed as states which Lady Macbeth, the Big Bad Wolf, and Dracula are experiencing. If these states can be experienced, which seems to be the case, the experiencers of these states may be designated Per. Sentences in which only one noun or case occurs are not unusual in either P/act or P/psych. When V/act refers to self-locomotion (e.g., run, crawl, hop) the Agent may be the only deep structure case and in certain P/psych sentences, such as those illustrated in (35) through (37), Per seems to be the sole deep structure case.
Physiological experiences seem particularly prone to adjective constructions in English and in some cases no verb exists which corresponds to the adjective construction as the starred 'b' forms illustrate in (38b) through (40b) below.

(38) a. The dying swan was frail and feeble.
   b.* The dying swan frailed and feebled.

(39) a. Mimi's hands were cold.
   b.* Mimi's hands colded.

(40) a. Rodolfo was nervous.
   b.* Rodolfo nervoused.

Predicate adjective constructions may be quite common representations of V/psych's in English and in some cases may be the only constructions available when a particular psychological event or experience is depicted.

Lakoff (1970) suggests that adjectives and verbs be considered members of a single category VERB. It does seem reasonable to analyze adjectives as verbs if they involve psychological events or experiences. Lakoff cites a number of semantically similar constructions a few of which are illustrated in (41) through (43) below. In each case, the verb could be analyzed as a V/psych in the 'a' and 'b' forms; although the surface constructions differ, the semantic content seems to be similar. One may either "regret" something or "be sorry" about it, and there may be little distinction between "liking" something and
"being fond of" it; of "knowing," "being aware" or "being cognizant of" a matter.

(41) a. I regret that.
   b. I am sorry about that.
(42) a. I like jazz.
   b. I am fond of jazz.
(43) a. I know about that.
   b. I am cognizant of that.
   c. I am aware of that.

These cases of synonomy may simply be a peculiarity of English. This synonomy, however, may indicate that the various surface representations should all be analyzed as P/psych sentences. It seems unnecessary to analyze the 'a' forms of (41) through (43) as verbal constructions and the 'b' forms as adjective constructions. It is clear that in each case a psychological event is experienced (regret, be sorry, like, be fond of, etc.). Even if the experiences in the 'b' forms of (41) through (43) were analyzed as predicate adjectives, it should be noted that they do not occur in NP's as attributive adjectives, as true adjectives do. Sentences (44 a,b) demonstrate how an attributive adjective construction may be derived from a relative construction with a predicate adjective. The same kind of interchange between predicate and attributive adjective position is not possible, in the case of fond, for example, as the sentences (45 a,b) illustrate.
(44) a. The dress which was red . . . .
    b. The red dress . . . .

(45) a. The man who was fond of . . . .
    b. *The fond man . . . .

When a V/psych, such as fond, cannot function as an attributive adjective it does not seem correct to analyze it as an adjective at all even though it occurs in a construction with the copular be. Therefore, I am going to call these 'sense' adjectives which take 'be' verbs and classify them as V/act and V/psych depending on whether they represent actions or psychological experiences.

Further distinctions can be made between adjectives and verbs. As illustrated above adjectives may occupy attributive and predicate positions but do not appear in absolute clauses as verbs do. When periphrastic constructions occur in progressively (-ing) absolute clauses, be will remain a part of the verb ((46b)).

(46) a. The man who is afraid . . . .
    b. Being afraid, the man . . . .

These progressive absolute clauses illustrate instances where be functions as an integral part of the verb. These periphrastic constructions differ from single word verbs in another respect. Regular verbs can, of course, be inflected for tense while verb constructions requiring 'be' cannot. In an absolute construction as occurs in
(47) below afraid may indicate a past state, or in a construction like (48) below a present state.

(47) Afraid, the man ran.

(48) Afraid of being seen, the man runs.

It seems then that these periphrastic constructions should be considered as true verbs, but that due to their special surface form (be + main verb) they will adhere to a set of syntactic constraints which differ from those for regular verbs.

In predicate adjective constructions such as (44b), be is deleted along with the relative pronoun when the adjective assumes an attributive position before a noun thus becoming a part of a NP. This may be an indication that be should not be analyzed as a part of the adjective.

In certain V/psych sentences such as those in (46b) above, however, the be seems to be a component of the V/psych. When these V/psych's occur in imperative constructions (49a) below or in corresponding modal constructions (49b) the be remains. Here be is an integral part of the verb.

(49) a. Be aware of that fact.

b. You should be aware of that fact.

When do is inserted in the formation of a negative imperative, (50) be still remains which seems a further indication that be should be considered a part of the V/pscy verb.
(50) Don't be sorry.

Be is not even deleted when modal auxiliaries are inserted (49b) and (51) below.

(51) You should be sorry.

When the V/psych is in either the past or present tense in a yes/no question or negative formations, the be may be separated from the other members of the V/psych, but it will not be supplanted by do.

(52) a. You aren't sorry.
    b. Are you sorry?
    c. Aren't you sorry?

(53) a. You don't know.
    b. Do you know?
    c. Don't you know?

It may also be noted that verbs containing be do not require the insertion of do for certain transformations (neg, yes/no questions) (52-53a,b,c) above, as do verbs which do not contain be.

These verbs containing be may be restricted almost exclusively to P/psych sentences and it seems correct to analyze them as true verbs rather than as special be + adjective constructions as they function syntactically and semantically like verbs rather than adjectives.

Lakoff also provides an example, (54) below, of a sentence with a V/act containing be.

(54) Cigarettes are harmful to people.
Cigarettes seem to play an agentive role, albeit figuratively, as they are inflicting harm on people. Fillmore restricts the designation of Agent to animate nouns, but Chafe notes that inanimate nouns which are assumed to have an inherent potency may have agentive roles in certain contexts. This seems to be the case for cigarettes in (54). It seems then that both V/psych's and V/act's may have verbs containing be.

In the case grammar analysis so far, verbs which have been classified as either V/psych or V/act do play central roles in the proposition as they determine the deep structure cases. As has been demonstrated, the deep structure of P/act and P/psych sentences consists of a verb and one or more noun phrases "each associated with the verb in a particular case relationship" (Fillmore 1968, 21). It is my opinion, however, that this definition will not hold true for all sentences and in the next section I will discuss sentences which I think should not be analyzed as having any kind of verb. Because verbs play a vital role in so many sentences does not necessarily mean they must have a role in all simple sentences. To assume all sentences are based on noun verb relations is oversimplification. In Relation Clauses I argue then that the definition of case grammar be amended and the notion of the proposition be modified so that sentences based on verbless relations as well as those based on
noun-verb relations may be generated by the base.

2.3. RELATION CLAUSES

Case grammar, as originally formulated by Charles Fillmore, is based on the assumption that noun-verb relations are basic to all sentences, and that verbs play a central role in the propositional core, as they determine the nature of the case relations (or as Halliday terms them, participant roles) of the various nouns in the sentence. In the discussion so far of what I have called P/act and P/psych, noun-verb relations do seem to be basic, but sentences like (55) through (57) below should not be analyzed as having an elemental noun-verb base.

(55) The water was a murky green, the sky a leaden grey.

(56) The rider was tall and lanky, the horse lean and angular.

(57) The wrestler was brawny and muscular.

In fact, sentences (55) through (57) seem to involve only nouns and certain properties and/or attributes which have been assigned to them. No underlying verb seems to be present, that is, not one that could be called either V/act or V/psych. It would seem difficult to analyze be or the various adjective phrases as inherently involving an action or psychological process. In sentences (55) through (57) the water, sky, and rider do not seem to take
part in any action or psychological process; they are simply described in terms of certain physical properties relating to their appearance (green, grey, tall). Indeed, Bach (1967) argues that sentences with copular be like (55) through (57) should be analyzed as verbless sentences. Although his argument is based on the assumption, characteristic of Chomskyan transformational grammar that syntax is central to a linguistic description, he notes that there are also semantic arguments in favor of such an analysis. He points out that be is lexically empty, as it has no inherent selectional properties as do true deep structure verbs and that the meaning of copular sentences is determined not by the copula, but by the linking of the items in question. The meaning of sentences (55) through (57) is dependent upon the association of the noun with a predicate adjective, not upon the presence of be.

If case grammar is viewed as a description of the basic types of semantic relations which form the propositional core of sentences, it may be irrelevant to insist that the 'core' always be formed around a central verb. That definition may be too narrow in scope. In sentences with predicate adjectives, Chafe and Fillmore both place the adjective in the verb slot. As has been demonstrated in P/act and P/psych, the verb does play a central role in the proposition, as the designation P/act
or P/psych is dependent upon the presence of a V/act or V/psych in the sentence. This view of the deep structure which has a verb at its center, however, should not necessarily be assumed to be the underlying structure for all sentences. The propositional core of what Halliday calls relation clauses and Bach "verbless sentences" are postulated as involving a verbless set of relations and are termed relational proposition (P/rel). In sentences (55) through (57) the relation is simply that which exists between a given noun (e.g., water) and a property (e.g., green) assigned to it. To assume that a predicate adjective always represents an underlying verb seems only to obscure the issue and ignores what may be important distinctions or differences between sentences with true deep structure verbs and those without them. In English it may not always be immediately clear in sentences with predicate adjectives whether or not there is an underlying verb, since they all share the same surface structure: NP be Adj. The inherent constraints, however, of P/act and P/psych respectively should provide some means for determining the deep structure nature of a given sentence. Each propositional type is assumed to define a finite set of relations: in P/act the participant roles are only those which can be associated with a V/act, in P/psych those which can be associated with a V/psych, but in P/rel the roles are not related to an underlying verb; the
relation instead involves a particular linking of elements. Bach (1967) illustrates some relations which may occur from the linking of various elements. I have composed sentences (58) through (64) to illustrate Bach's notion of the possible sets of relations (p. 477). The notation to the right of each sentence indicates the type of relation illustrated.

(58) Her eyes were a deep blue.  
Property assignment

(59) Diane de Poitiers was at Chenonceaux.  
Location in space

(60) Dinner is at six.  
Location in time

(61) The Duc de Berry has the Book of Hours.  
Ownership

(62) The book has priceless miniatures.  
Whole-part relationship

(63) Earnest was Algernon's long-lost brother.  
Kinship relationship

(64) Charles is the heir apparent.  
Identification

Sentences (58) through (64) indicate the possible scope of P/rel, but since this study is to be an examination of predicate adjective constructions, the discussion of P/rel will be confined to sentences relating to property assignment.

In English when P/rel involves property assignment,
the property assigned may be expressed as an adjective or
noun, as the 'a,b' forms of (65) demonstrate.

(65) a. Cinderella was beautiful, her stepsisters ugly.
    b. Cinderella was a beauty, her stepsisters crones.

The 'b' form appears to be a variant of the 'a' form;
although property assignment occurs in the 'a' form and
class membership in the 'b' form. In 'a' for example,
Cinderella is classed as a beauty, and described as
beautiful in 'b.' In the 'b' form the attribute has the
feature [+ class] so that the attribute is realized as a
noun instead of an adjective.

Sentence (64b) below has the same surface structure
form as sentence (64) above which is an identification
relation: NP be NP. There are important differences,
however, between these two sentence types. The nominal
elements of (64) can be reversed (64b), but they cannot
for (65b) unless allowances are made for poetic licence
(65c).

(64) b. The heir apparent is Charles.

(65) c. A beauty was Cinderella, crones her stepsisters.

So we can say that reversing the nominal elements of an
identification sentence still results in a perfectly well-
formed sentence, whereas this is clearly not the case if
the nouns are reversed in attributive sentences. If we were to accept (65c) as well formed by allowing for the idiosyncrasies of poetic license, we would have to admit that it sounds somewhat quaint if not downright affected. No special 'poetic license' is needed, however, in the formulation of the well-formed sentences (64) and (64b).

The types of sentences which Bach classifies as identification relations, Halliday terms equational clauses and the term 'equational' underlines the nature of the identification sentence where an easy interchange of elements is allowed. Thus identification sentences are distinguished syntactically from attributive sentences which have been marked for the feature [+ class] even though they may have the same surface structure (that is, NP be NP). They can also be distinguished semantically. Cinderella does not equal beauty as Charles equals heir apparent, but instead she belongs to a specific group (that is, beauties, or more precisely, beautiful maidens). When the elements are reversed in equational sentences, the surface subject also changes. In (64a) Charles is the subject of the sentence and in (64b) it is heir apparent. The same reversibility of roles does not hold in property assignment sentences. Even if an ecstatic spectator enunciated (66a,b) below upon seeing Cinderella in her ballgown and thus changed the word order by adding a WH word, the person in question (she) still remains the
subject of the sentence. In fact this may be why the be immediately follows she, although beautiful and beauty have been moved to the left.

(66) a. How beautiful she is!
   b. What a beauty she is!

So whether an attributive sentence belonging to P/rel occurs in its customary form (65a,b) or if the order of the elements has been altered as in (66a,b), the attribute is blocked from occurring as the subject of the sentence. The NP which has been assigned a property or given group membership always occurs as the grammatical subject. This also distinguishes sentences in P/rel which concern property assignment or classification from those in P/act and P/psych which have true deep structure verbs. A change in the surface ordering of sentence elements as in (67a,b) indicates that the verb has been marked for the feature [+ passive]. Julia Morgan will be the subject when the verb has the feature [- passive] and Hearst Castle will be the subject when the verb is marked [+ passive] as in:

(67) a. Julia Morgan designed Hearst Castle.
   b. Hearst Castle was designed by Julia Morgan.

The reordering of elements in (66a,b) however, is not dependent upon any such deep structure feature which will affect the choice of surface subject. Focus may have changed (that is, the primary emphasis may be on beauty
and **beautiful** rather than **she** in (66a,b) but subject choice remains fixed.

In traditional case grammars, that is, in the description of such languages as Latin, Greek, and Finnish, the nominative case is always used to designate the subject of the sentence. Because subject choice is so limited in the attributive sentences, **Nominative** seems an appropriate case designation for that element which is assigned a property or classified as a member of a certain group. The property will belong to the case category attribute (Att) and may be marked [+ class] if membership is to be indicated rather than a property assignment. Sentences involving a description relation (P/rel + attributive) will have two cases, Nom and Att.

It would seem then that if the proposition is not analyzed simply as P, but as either P/act, P/psych, or P/rel, then sentences with predicate adjectives need not generally be analyzed as noun-verb relations. Adjectives may be analyzed as verbs in sentences belonging to P/act or P/psych but not P/rel. As has been demonstrated, some adjective constructions are related to verbs but others are not. For sentences with predicate adjectives, as with all sentences, the proposition type must first be determined. A sentence with a predicate adjective may belong to P/act if the adjective construction involves an Agent or Object as in (54) or P/psych if Per or Aff are
assumed to be involved as in (23) through (25). The adjective constructions will then be analyzed as V/act or V/psych, respectively. If the sentence does not involve such roles, but rather concerns an attributive relation, then the adjective should not be analyzed as a verb and may simply be called an attribute. It may be that attributes are as basic to all languages as nouns and verbs.

2.4. ATTRIBUTIVE SENTENCES

Simple attributive sentences (P/rel + Att) then have only two elements: a noun and an attribute (Nom and Att). As has been noted earlier, the juxtaposition of these two items is enough to constitute a sentence in some languages (e.g., Arabic, Russian, Tagalog, among others). In English, however, be occurs in the surface structure between Nom and Att. Sentence (68) may be well-formed in certain dialects of English, but it would otherwise not be acceptable to many speakers of Standard English.

(68) * Billy big.

Child language, however, may provide further evidence that be is not a deep structure element, but is inserted through transformational rules, which are progressively learned by the child.

Since P/rel contains sentences with verbless relations and be is lexically empty, be does not seem to be a deep
structure element, that is, a component of P/rel. It must be inserted then through transformational rules. In English, be may serve to carry either the past or present tense. Auxiliaries must be added if additional tenses, such as the future, are expressed. Since be then would appear in its uninflected form, it may actually serve as a dummy verb; it has no inherent meaning (no inherent selectional restrictions) and may simply be holding the usual verb position. Auxiliaries never occur without a main verb except in the case of tag questions which do not themselves occur separately. In English, if a verb is not present in the deep structure a dummy verb may have to be inserted at some point. The presence of be in surface structure sentences with predicate adjectives may be an indication that deep structure verbless sentences which are well-formed in some languages are actually blocked in most dialects of English (that is, a dummy verb must be inserted at some point between the deep and surface structure). The verb slot must be filled whether a verb occurs in the deep structure or not.

Further indication of be's tenuous status is that in the present tense it is usually reduced to an enclitic element in informal speech (69a) below. If the complete form is used rather than the enclitic form it may be an emphatic marker (69b). Even emphasis need not be carried by be; the enclitic form may remain and a stressed
qualifier may be added instead (69c). The use of (69d) would probably be restricted to formal English, particularly formal writing and speech making. If no emphasis were indicated, then (69a) would be the sentence occurring in ordinary speech.

\[
\begin{align*}
(69) & \quad \text{a. Mike's great.} \\
& \quad \text{b. Mike IS great!} \\
& \quad \text{c. Mike's REALLY great!} \\
& \quad \text{d. Mike is great.}
\end{align*}
\]

If sentence (69a) were marked for past, then the complete form of be would occur (was), although it would be the least stressed element in the sentence.

If Nom and Att are assumed to be the only elements of the deep structure, then the deep structure configuration of (70) below would be (71). Because the formation of verbless sentences is usually blocked in English, be must be inserted. Since Nom is the one case that always occurs as sentence subject, be will then fill-in the verb position following Nom so that Nom may be the subject of a 'verb' in the surface structure (72 Be-insertion). In English, since tense is indicated in the verb construction, Modality incorporation (73) will occur so that the verb may eventually absorb the tense which is indicated in the modality component (74). If mode were to be indicated (i.e., future, conditional) then the appropriate auxiliaries would be added.
(70) Cinderella was beautiful.

(71)

```
S
  M
    P/rel [+ att]
        Nom
        Att
          Cinderella beautiful
```

(72) Be-insertion

```
S
  M
    P/rel [+ att]
        Nom
        Att
          Cinderella be beautiful
```
(73) Modality incorporation

\[
S \\
\downarrow P/rel \\
[+ att] \\
\downarrow Nom \\
Cinderella \\
\downarrow V \\
be \\
\downarrow M \\
[+ past] \\
\downarrow Att \\
beautiful \\
\]

(74) Tense absorption and morphophonemic transformation

\[
S \\
\downarrow P/rel \\
[+ att] \\
\downarrow Nom \\
Cinderella \\
\downarrow V \\
was \\
\downarrow M \\
beautiful \\
\]

It remains to be seen if this case grammar analysis which has been applied to attributive sentences in English can be applied to them in other languages.
Footnotes to Chapter 2

1. As noted in the introduction, Fillmore uses the Dative case exclusively for animate nouns so that Mr. Fang would be analyzed as Dative rather than Object. I have based the above case designations solely on the relation of the NP's to the verb irrespective of the selectional restrictions. It seems clear, as (17) should demonstrate, that the distinction between Dative and Object should not be based on the selectional features of the nouns, but on their relation to the verb. Sentences (15, 17, and 18) should demonstrate the distinguishing characteristics of Object, Dative, and Benefactive which are all to some degree recipients of the verb's action either directly or indirectly.

2. Halliday's ideas were apparently developed independently of Fillmore's although there are striking similarities. (c.f., Halliday 1967-68 "Notes on Transitivity and Theme in English." JL Part I, 3,1. 37-81, Part II 3.2, 199-244, Part III 4. 179-215.)
CHAPTER 3

PROPERTY ASSIGNMENT SENTENCES IN THAI AND JAPANESE

3.1. INTRODUCTION

The efficacy of the revised case grammar model presented in the preceding chapter is tested by applying the analysis to property assignment sentences in Thai and Japanese. Only those sentences which exemplify the proposition labeled P/rel-att are analyzed. The following analysis should not be construed as testing the validity of the entire model, as P/psych and P/act sentences have been omitted, as well as other types of P/rel sentences, such as those involving identification and possession.

After having chosen a set of English sentences which involve property assignment, I elicited the equivalent sentences in Thai and Japanese. My two informants were bilingual in their respective native languages and English. The Thai speaker is a native of Bangkok and is studying linguistics at the graduate level at California State University, Northridge and the Japanese speaker is a native of Tokyo and is also a graduate student in linguistics at Northridge.

In addition to my own fieldwork, I consulted various works on the Thai and Japanese languages. Rosa Needleman (1973) has written a study of Thai verb structures and
Nuanchen Khampand (1977) a study of time in Thai. Both of these are unpublished studies and are cast in the Chomskyan transformational format. Roy Miller (1969) has collected and edited the published articles on Japanese by Bernard Bloch. John Chew (1973) has done a recent transformational study of Japanese. In addition, I referred to two Japanese grammars which were written for English speakers learning Japanese: Everett Bleiler (1963) and Yahei Matsumiya (1935). Finally there are two excellent studies of Japanese, one by Susumo Kuno (1973) and the other by Roy Miller (1967).

In the next two sections of this chapter, the Thai and Japanese sentences elicited for this study are examined. I have assumed that the semantic relations described in Chapter 2 and labeled P/act, P/psych, and P/rel are universal to all languages. It remains now to be seen if this assumption is correct. In this study, I wish to see if the deep cases NOM and ATT can be postulated as deep structure relations in property assignment sentences in three unrelated languages, namely, English, Thai, and Japanese. English and Thai are first contrasted at the deep structure level, the intermediary level, and then the surface structure level. Then Japanese and English are contrasted at these three levels. The intermediary level involves the transformations necessary to progress from the deep to the surface structure.
3.2. PROPERTY ASSIGNMENT SENTENCES IN THAI AND ENGLISH

Below are the Thai sentences collected for this study. The equivalent English sentences are given to the right of each Thai sentence. The sentences have been grouped according to attribute (type, color, size, etc.). Some of the descriptive categories have a relative aspect. That, the description is not absolute, but is based on a relative concept. For example, a tall man will not be the same height as a tall mountain. In each case, the word 'tall' refers to a concept of height that is relative to each object (man, and mountain).

**PHYSICAL DESCRIPTION**

<table>
<thead>
<tr>
<th>Thai</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIZE OR DIMENSION</strong></td>
<td></td>
</tr>
<tr>
<td>(75) /phuuchaay suung/</td>
<td>The man is tall.</td>
</tr>
<tr>
<td>man tall</td>
<td></td>
</tr>
<tr>
<td>(76) /phuuchaay tiiâa/</td>
<td>The man is short.</td>
</tr>
<tr>
<td>man short</td>
<td></td>
</tr>
<tr>
<td>(77) /phuying pãam/</td>
<td>The woman is thin.</td>
</tr>
<tr>
<td>woman thin</td>
<td></td>
</tr>
<tr>
<td>(78) /phuuchaay ooâan/</td>
<td>The man is fat.</td>
</tr>
<tr>
<td>man fat</td>
<td></td>
</tr>
<tr>
<td><strong>COLOR</strong></td>
<td></td>
</tr>
<tr>
<td>(79) /rot sii faa/</td>
<td>The car is blue.</td>
</tr>
<tr>
<td>car color blue</td>
<td></td>
</tr>
</tbody>
</table>
The bird is yellow.
The cat is black.
The apple is delicious.
The man is old.
The girl is stupid.
The girl is honest.
The man is cruel.
The woman is generous.
The man is selfish.
The man is mean.
The boy is polite.
The man is kind.
POTENCY

(92) /cháang kænɡ ræ̃ɡ ng/ The elephant is strong.
elephant       strong

ECONOMIC STATUS

(93) /phûuying chîn/ The woman is poor.
woman         poor

In property assignment sentences, only two elements are necessary in the Thai surface structure: a noun and the property assigned to it (the case categories NOM and ATT). Nouns, verbs, and adjectives are not inflected in Thai. Number is indicated when necessary by number words and quantifiers. Tense, aspect, mood, etc. are indicated by adverbials, preverbs and/or postverbs. In English adjectives are uninflected words, but nouns are inflected to indicate the features singular and plural or possession ('s). Verbs are inflected for past and present tense, and in English the predicate must carry a tense inflection. There is no such rigid tense requirement for Thai predicates. In English, if a proposition contains a verbless set of relations, as does P/rel-att, then 'be' must be inserted so that tense may be indicated in the predicate. Thai does not require 'be' insertion in these sentences and tense need not be indicated in the surface structure.

In the English sentences, although 'be' is inflected for the present tense, the statement does not seem so much
to refer to present time, as it is simply an indication of an observed fact. A man who is described as tall presumably has been tall all his adult life and will continue to be tall in the future. If 'be' were inflected for the past tense the man might be presumed dead or at least his height would have altered drastically recently. If future were indicated some change of state could be expected. Property assignment statements in the present tense in English, however, indicate a permanent or 'timeless' state. That is, no special point in time is assumed. Even though a statement exhibits a 'timeless' quality, tense must still be indicated in the predicate in English. In Thai, the 'timeless' quality of such statements is not realized by any overt tense marker, such as an adverbial phrase, preverb or postverb.

In both Thai and English in sentences (75) through (93) there seem clearly to be nominal and adjectival elements, that is, the deep cases NOM and ATT. The deep structures are then assumed to be identical and the deep cases NOM and ATT representative of the underlying semantic relationship contained in P. Sentence (75) is illustrated as an example of a property assignment in Thai and English. Figure (94) represents the deep structure for the two languages. The 'timeless' feature, discussed in the preceding paragraph is indicated in M. 'Timelessness' is represented differently in the two
languages at the surface level; in Thai, M remains empty when 'timelessness' is indicated and in English, present tense is added to M (95--Modality contrast in English and Thai).

As noted in Chapter 2 when P/rel involves property assignment NOM will always occur as grammatical subject. Both Thai and English are SVO languages and the subject occurs to the left of the predicate. The Thai surface structure results when the lexical items assigned to the deep cases NOM and ATT have taken subject and predicate positions (96--Subject-Predicate formation). Since M contains no overt features in Thai property assignment sentences, it is deleted. When property assignment sentences are analyzed as 'verbless' sentences, the Thai deep structure very nearly resembles the surface structure. In fact, there are only two intervening transformations (M deletion and Subject-Predicate formation) occurring between the deep and surface structure levels. Analyzing property assignment sentences as 'verbless' relations is an especially economic method for describing the transformational mappings in Thai. No underlying verb or tense need be assumed and then deleted. The deep cases NOM and ATT are sufficient to generate a well-formed property assignment sentence in Thai.

English requires more transformations than Thai for the realization of a property assignment sentence. Since
present tense is marked in M, figure (95) below, 'be' is inserted, since the sentence contains no inflection bearing words. 'Be' insertion follows subject-predicate formation ((96)—Subject-Predicate formation). Once 'be'-insertion, figure (97) below, occurs then M is incorporated in the predicate ((98)—Modality Incorporation). The predicate now carries the tense inflection.

In addition to tense-related transformations, there are NP formation rules necessary for the realization of a sentence in English. English NP formation requires that a determiner precede an unspecified noun, that is, the noun is not a collective or proper noun. The determiner position is filled by the anaphoric the. ((99)—Determiner insertion). When someone is described such as the man in question, the subject is presumed to have been introduced in the discourse and is thus a member of the Pragmatic Universe of Discourse. That is, "The man is tall" would not be the opening statement of a conversation. The identity of the man must first be known to the speaker and hearer. A conversation could have begun with the speaker saying: "A man and a woman just came in." The speaker could then further define the people in question by adding a second statement such as "The man is tall, but the woman is even taller." In the English property assignment sentences in this chapter (75) through (93), the definite article is inserted on the assumption that
the noun in question has previously been identified. In Thai no such determiner is a necessary part of the NP. In fact, there are no definite or indefinite articles in Thai.

Finally, in a well-formed sentence in English the tense marker must be affixed to the verb and the necessary morphophonemic adjustments made. As the adjective cannot be inflected for tense, 'be' receives the tense affix ((100)--Tense Affixation) and then is marked according to the rules of English predication to agree with the grammatical subject in person and number ((101)--Morphophonemic Transformation). In the realization of an English property assignment sentence, more transformations are required than in Thai. The English transformations are conditioned by subject-predicate formation which includes tense inflection, and NP formation.

(94) Deep structure for (75) phuuchaay suung The man is

\[
\begin{align*}
S & \quad \text{M} \\
& \quad \text{timeless} \\
& \quad \text{Thai:} \\
& \quad \text{English:} \\
& \quad \text{P/rel-att} \\
& \quad \text{NOM} \\
& \quad \text{ATT} \\
& \quad \text{man} \\
& \quad \text{tall} \\
& \quad \text{phuuchaay suung}
\end{align*}
\]
(95) Modality Contrast between English and Thai

**Thai**

Modality Deletion

**English**

Present Tense Indicated in M

![Diagram showing the structure of sentences in Thai and English.](image)

(96) SUBJECT-PREDICATE FORMATION

**Thai**

(subject) (predicate)

- phuuchaay
- man

**English**

- tense
- present
- man
- tall

Thai surface structure:

phuuchaay suung

(The man is tall.)
Continuation of transformations for English sentence formation.

(97) Be-insertion

\[
\text{S} \rightarrow \text{M (tense) P/rel-att (subject) NOM (predicate) ATT \ M (be tall)}
\]

(98) Modality Incorporation

\[
\text{S} \rightarrow \text{P/rel-att (subject) (predicate) \ M (be present tall)}
\]
(99) Determiner Insertion (NP formation)

```
S
   P/rel-att
     NOM (subject)
     NP
       Det N
         the man
      be present tall
```

(100) Tense Affixation

```
S
   P/rel-att
     NOM (subject)
     NP
       Det N
         the man
      be-s present tall
```
(101) Morphophonemic Transformation

English surface structure
3.2.1. COLOR AS A PROPERTY ASSIGNMENT

In Thai, when property assignment involves color, the word which means color or paint, ฃิ is inserted and functions as a classifier for the particular color. Color descriptions thus involve one more transformation than other property assignment sentences in Thai ((102)--ฃิ insertion). The other transformations remain the same.

Configuration (102) represents ฃิ insertion for sentence (81). The transformation is preceded by Modality deletion and Subject-Predicate formation.

(102) ฃิ-insertion in Thai
(Color classifier-insertion)

Thai: ฅำฅำ ฃิ ฅำฅำ
English: cat color black

Thai surface structure
ฅำฅำ ฃิ ฅำฅำ
(The cat is black.)
The configurations in (94) through (101) and (102) represent the deep structures and transformations for property assignment sentences in Thai and English. At the deep structure level the two languages are equivalent. The two languages differ in NP formation and in the surface representation of the 'timeless' feature. Thai allows the realization of 'verbless' sentences, but since tense must be indicated in English, a verbal superstructure is imposed upon what was originally a 'verbless' relationship. In the next section this case grammar analysis is applied to Japanese property assignment sentences.

3.3. PROPERTY ASSIGNMENT SENTENCES IN JAPANESE AND ENGLISH

In Japanese the social relationship between the speaker and hearer plays a significant role in determining the surface form of a particular utterance. Elements may be added and deleted depending upon whether the speaker is male or female, speaking to an equal or showing deference to a superior. There are various forms which indicate degrees of politeness and formality. These extra linguistic factors involve many issues and provide enough material for an exhaustive study in themselves. Since this paper must necessarily be limited in scope, I discuss only two styles of property assignment sentences: the informal and the polite. The informal style is
correctly used between equals, especially males, and the polite style, although more formal, is generally correct for female speakers. In his Japanese grammar for English speakers, Matsumiya recommends that students of Japanese use the polite style in order to avoid any awkward sociolinguistic situations. The safe rule seems to be: when in doubt use the polite form.

In traditional Japanese grammar, Japanese words have been separated into two major categories: Yōgen and Taigen. The first are declineable words and include what correspond to adjectives and verbs in English. The second are undeclineable words and include nouns and adjectival nouns, that is, adjectives which are not declined. There are no gender, number or case inflections for the form-class words, labeled Meishi in Japanese. Meishi are nouns and adjectival nouns. Yōgen, declineable words, include verbs, labeled Dōshi in Japanese, and adjectives, labeled Keiyōshi. Dōshi and Keiyōshi are inflected for tense, aspect, and mood. Each inflection has one form, as no distinction is made whether the grammatical subject is singular or plural, or first, second, or third person. The inflectional suffixes for Dōshi and Keiyōshi differ slightly. For example, the tense termed Non past indicative by Bernard Bloch has the following forms depending upon whether the base word is a Keiyōshi or Dōshi:
Inflectional suffix | Keiyōshi \(\text{(adj.)}\) | Dōshi \(\text{(verb)}\)
--- | --- | ---
Non-past indicative | -i | -ru

Bloch uses the term 'non-past' to indicate that tense which is used to describe an event or fact which is true in the present as well as the future. That is, something considered true in the present is expected to be true in the future. The use of the present tense in English could be described in a similar manner.

In Japanese sentence construction on the predicate must contain at least one declineable word. In property assignment sentences a complete sentence may consist of a noun, Meishi, an indeclineable word, and a declineable word, either a Keiyōshi or a Dōshi. The grammatical subject of the sentence is also marked by a postpositional subject marking particle. The inflectional suffix attached to a declineable word (Keiyōshi or Dōshi) is the sentence final element.

The following (103) through (121) are sentences collected for this study. In each case there are two Japanese forms which correspond to the informal and polite styles. The 'a' forms represent the informal style and the 'b' forms the polite. An English equivalent sentence, of which there is only one, is to the right of each set of informal and polite variants. The sentences have been grouped according to the Japanese form-class words
described above (Keiyoshi, Doshi, Meishi). For each type of property assignment sentence Keiyoshi (declineable adjectives) sentences are first listed, then Doshi (verbs), and Meishi (adjectival nouns). The data are divided according to attribute type; the subdivisions are the same as those used for the Thai data.

**PHYSICAL DESCRIPTION**

<table>
<thead>
<tr>
<th>Japanese</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIZE OR DIMENSION</strong></td>
<td></td>
</tr>
</tbody>
</table>

**KEIYOSHI SENTENCES**  
*(declineable adjectives as attributes)*

<table>
<thead>
<tr>
<th>(103)</th>
<th>/otokonohito wa sengatakai/</th>
<th>(informal)  man focus tall marker</th>
<th>The man is tall.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(polite)</td>
<td>/otokonohito wa sengata desu/</td>
<td>(polite)  man focus tall be marker indicative affirmative</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(104)</th>
<th>/otokonohito wa sengahikui/</th>
<th>(informal)  man focus short marker</th>
<th>The man is short.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(polite)</td>
<td>/otokonohito wa sengahikui desu/</td>
<td>(polite)  man focus short be marker ind aff</td>
<td></td>
</tr>
</tbody>
</table>

**DOSHI SENTENCES**  
*(adjectival verbs as attributes)*

<table>
<thead>
<tr>
<th>(105)</th>
<th>/onnanohito wa yaseteiru/</th>
<th>(informal)  woman focus thin marker</th>
<th>The woman is thin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(polite)</td>
<td>/onnanohito wa yaseteiru masu/</td>
<td>(polite)  woman f.m. thin be ind aff</td>
<td></td>
</tr>
</tbody>
</table>
(106) /otokonohito wa uto?teiru/
(informal) man focus fat
marker The man is fat.

(polite) /otokonohito wa uto?teiru masu/
man focus fat be
marker ind
aff

COLOR

KEIYOSHI SENTENCES

(107) /kuruma wa aoi/
(informal) car focus blue
marker The car is blue.

(polite) /kuruma wa aoi desu/
car focus blue be
marker ind
aff

(108) /tori wa kiiroi/
(informal) bird focus yellow
marker The bird is yellow.

(polite) /tori wa kiiroi desu/
bird focus yellow be
marker ind
aff

(109) /neko wa kuroi/
(informal) cat focus black
marker The cat is black.

(polite) /neko wa kuroi desu/
cat focus black be
marker ind
aff
SENSORY DESCRIPTION

KEIYŌSHI SENTENCES

(110) /ringo wa oishii/
(informal) apple focus delicious marker
The apple is delicious

(polite) /ringo wa oishii desu/
apple focus delicious be marker

AGE

DOSHI SENTENCE

(111) /otokonohito wa toshio?teiru/
(informal) man focus old marker
The man is old.

(polite) /otokonohito wa toshio?teiru masu/
man focus old be marker

CHARACTERIZATION

KEIYŌSHI SENTENCES

(112) /otokonohito wa tsumetai/
(informal) man focus mean marker
The man is mean.

(polite) /otokonohito wa tsumetai desu/
man focus mean be marker

(113) /shoonen wa teinei/
(informal) boy focus polite marker
The boy is polite.

(polite) /shoonen wa teinei desu/
boy focus polite be marker ind aff

MEISHI SENTENCES
(nominal adjectives, indeclineable words as attributes)

(114) /shoojo wa baka da/
(informal) girl focus stupid be marker ind aff
The girl is stupid.

(polite) /shoojo wa baka desu/
girl focus stupid be marker ind aff

(115) /shoojo wa shoojika da/
(informal) girl focus honest be marker ind aff
The girl is honest.

(polite) /shoojo wa shoojika desu/
girl focus honest be marker ind aff

(116) /otokonohito wa mujii da/
(informal) man focus cruel be marker ind aff
The man is cruel.

(polite) /otokonohito wa mujii desu/
man focus cruel be marker ind aff
(117) /onnanohito wa kandai da/
(informal) woman focus generous be
marker ind The woman is
aff generous.

(polite) /onnanohito wa kanda desu/
woman focus generous be
marker aff

(118) /otokonohito wa minga?te da/
(informal) man focus selfish be
marker ind The man is selfish
aff

(polite) /otokonohito wa minga?te desu/
man focus selfish be
marker aff

(119) /otokonohito wa shinsetsu da/
(informal) man focus kind be
marker ind The man is
aff kind.

(polite) /otokonohito wa shinsetsu desu/
man focus kind be
marker aff

POTENCY
KEIYÔSHI SENTENCE

(120) /zoo wa tsuyoi/
(informal)elephant focus strong
marker

(polite) /zoo wa tsuyoi desu/
elephant focus strong be
marker aff

The elephant is strong.
ECONOMIC STATUS

(121) /onnanohito wa mazushii/
(informal) 'woman focus poor marker The woman is poor.

(polite) /onnanohito wa mazushii desu/
'woman focus poor be marker ind aff

Sentences belonging to each of the three Japanese form-class words (Keiyōshi, Dōshi, Meishi) are discussed separately. In each case the declineable word (Keiyōshi, or Dōshi) or nondeclineable word (Meishi) forms the central core of the predicate and functions as a predicate adjective, that is, it is the property assigned to the grammatical subject. For each Japanese form-class word there are different syntactic constraints depending on whether the word can take an inflection or not, which inflectional form it takes, and whether the utterance is in the informal or polite style. If a Keiyōshi (declineable adjective) or Dōshi (verb) occurs as ATT then the declineable word is sufficient to form a complete predicate in Japanese. The Keiyōshi or Dōshi in this case is the sole member of the predicate. When a Meishi (adjectival noun) occurs as ATT, a 'be' verb, aru, is added to the predicate and carries the tense indicated in M. Aru is then the sentence final element. Japanese has more than one 'be' verb, and aru is the one which occurs in property assignment sentences when an inflection-bearing word must be added for complete
predicate formation. The separate syntactic constraints governed by these three types of Japanese form-class words, Keiyōshi, Dōshi, and Meishi, are discussed in further detail below.

3.3.1. KEIYŌSHI

As mentioned above, when the predicate adjective is a declineable word, it may be the sole member of the predicate. Japanese predicates, like English predicates, must carry a tense inflection. In the preceding discussion of Thai property assignment, the sentences are described as having a 'timeless' quality. As in the Thai sentences, the 'timeless' feature is marked in M for the Japanese and English sentences. The deep structure is then identical for Japanese and English property assignment sentences as it was for Thai and English. Figure (122) represents the deep structure for sentence (103). Figure (123) represents tense inclusion in M for Japanese and English.

In both Japanese and English, surface word order rules place the subject to the left of the predicate. In Japanese, however, the grammatical subject is also marked by the postpositional particle ga. Thus the subject choice transformation (54) is accompanied by ga insertion (54a--ga insertion).

In Fillmore's original formulation of case grammar
(1968b), the deep cases are postulated as also having deep structure case markers. In English, he postulates that these case markers are represented by the various prepositions associated with the different deep cases (e.g., Agent takes the preposition by, Dative to, and Instrument with). These case markers do not necessarily remain in the surface structure. For example, Agent retains the case marker by only when the verb is marked for passive; by does not occur in the surface structure when Agent is the grammatical subject and the verb is in the active voice. In English there are no case markers which can be postulated for the deep cases NOM and ATT, as no prepositions are associated with nouns and adjectives in property assignment sentences. In Japanese, however, a postposition does mark the grammatical subject (ga) when the sentence involves property assignment the focus marker wa replaces the subject marker ga. A deep case marker could be postulated then for NOM in Japanese. Fillmore suggests, however, that case markers might just as easily be inserted through transformational rules. A transformational treatment of case markers is chosen here, because it seems preferable for Japanese, as well as English, which is discussed further below.

In Thai and English the property assignment relation is represented through word order. NOM assumes subject position and ATT predicate position. No additional
elements are added in Thai. In English, however, once subject and predicate are designated, 'be' is added to complete the predicate, and a determiner is inserted to complete the NP which is the grammatical subject. In Japanese, word order rules (subject-predicate formation) are combined with postpositional rules. Since it is assumed in case grammar that the semantic component is the generative one, it seems logical then to restrict the propositional core to lexical items. For this reason case markers are not represented in P. When they are required to underline or establish semantic relationships they are to be inserted through transformational rules.

As mentioned in the discussion of Thai and English property assignment sentences, the anaphoric article the which occurs with common nouns is the determiner for the NP representing the grammatical subject. The definite article indicates that the object in question identifies a member of the Pragmatic Universe of Discourse, that is, it has an antecedent in the conversation or has been specified in some way. In Japanese, the focus marker wa is used to mark this distinction. When an object has previously been identified in the discourse and then is further explained or defined, the focus marker wa is inserted after the object in question. Special attention is now drawn to the grammatical subject and its predicking element. Wa is often translated as "as for," or to
paraphrase, that is, "speaking of the object in question it will now be further defined." Definite article insertion in English and focus marker insertion in Japanese, then perform similar functions in the two languages. That is, the definite article in English and the focus marker in Japanese both serve to indicate the anaphoric nature of the sentence. Figure (126) represents the insertion of anaphoric elements in Japanese and English (English determiner insertion and Japanese focus marker insertion). After wa insertion, ga is then deleted, as a noun may only take one such marker. That is, when a focus marker is added to a sentence it replaces the subject marker. Kuno (1973) discusses postpositions and focus markers and rules governing their insertion in detail (p. 35ff.). The above discussion follows Kuno's treatment.

Japanese and English both require that tense be indicated in the predicate. For this reason, 'be' is inserted in English property assignment sentences. In Japanese property assignment sentences when Keiyo (declineable adjective) occurs as ATT, no inflection-bearing element need be added to complete the predicate. English 'be'-insertion was illustrated in the discussion of Thai and English and so is not repeated here. Configuration (127) represents Modality Incorporation in Japanese and English. In English, it should be remembered that Modality Incorporation is preceded by 'be' insertion.
Modality Incorporation is then followed by an affixation rule in both languages ((123)—Tense affixation). The Japanese sentence is now grammatically complete. English still requires a morphophonemic transformation, as the surface form of 'be' indicates not only tense, but also the person and number of the grammatical subject. For example, 'is' indicates present tense and third person singular grammatical subject.

(122) Deep Structure for (103) otokonohito wa sengata

Japanese:

English:
(123) Tense indication in M in Japanese and English

Japanese

Non-past indicated in M

Present indicated in M

English

(124) Subject-Predicate formation

Japanese

English
(125) ga insertion in Japanese (NP formation)  
(subject-marker-insertion)

(126) Anaphoric transformation in Japanese and English  
Focus marker insertion in Japanese

---

(125) Nominative case insertion in Japanese (NP formation) (subject-marker-insertion)

S

M

P/rel-att

NOM

ATT

(subject)

(predicate)

non-past

NP

N

subj

marker

otokonohito

man

ga

sengata

tall

(126) Anaphoric transformation in Japanese and English  
Focus marker insertion in Japanese

S

M

P/rel-att

NOM

ATT

(subject)

(predicate)

non-past

NP

N

focus

subj.

marker

marker

otokonohito

wa

ga

sengata

man

tall
(126) Anaphoric transformation in Japanese and English
Determiner insertion in English
(NP formation)

(126') Ga deletion in Japanese
(Subject marker deletion)
(127) Modality Incorporation in Japanese and English

Japanese

```
S
  P/rel-att
    NOM ATT
      (subj.) (pred.)
        NP Ke
          N FM M
          sengata non-past
          otokonohito wa tall
      man
```

English

```
S
  P/rel-att
    NOM ATT
      (subj.) (pred.)
        NP
          Det N M
          the man be present tall
```

(128) Tense affixation in Japanese and English

Japanese

```
S
  P/rel-att
    NOM ATT
      (subj.) (pred.)
        NP Ke
          N FM M
          non-past
          otokonohito wa sengata-i
          non-past
          otokonohito wa sengata
          Japanese surface structure
          otokonohito wa sengata
          (The man is tall.)
      man
```

English

```
S
  P/rel-att
    NOM ATT
      (subj.) (pred.)
        NP
          Det N M
          be-s
          present
          the man be-s present
          tall
```
(129) Morphophonemic transformation in English

In a Japanese property assignment sentence when Dōshi occurs as the deep case ATT, the transformational mappings are similar to those illustrated for Keiyōshi in the previous section. That is, the transformations are the same as those illustrated in (122) - (129), except that the non-past affix is -ru rather than -i.

3.3.3. MEISHI

When Meishi (nouns and adjectival nouns) occur as the deep case ATT in Japanese, the 'be' verb aru is inserted,
since Meishi cannot take tense inflections. The aru insertion related transformations for Meishi property assignment sentences will be similar to 'be' insertion transformations in English. 'Aru' may be translated as "have the characteristic of," and occurs in property assignment sentences when the deep case ATT is realized by Meishi, an undeclivable word. Japanese has other 'be' verbs which occur in other types of existential relations. For example, iru is added to the predicate in sentences when location is indicated (e.g., He's over there.) When aru is added to the predicate, it is preceded by the adjunct marker de. De also acts as a mood marker, as it indicates that the sentence is indicative and affirmative. Since affirmative and indicative are marked in the surface structure, these features are indicated in M. In Japanese, another set of markers indicate negative and nonindicative moods. De + aru insertion precedes Modality Incorporation and follows Subject-Predicate formation. Tense affixation follows Modality Incorporation. A final transformation is required before the surface structure is realized in Japanese; de + aru is reduced and contracted to da ((133)--de + aru reduction). Figures (130) - (133) below illustrate the transformational mappings involved in de (adjunct marker) + aru ('be') insertion for sentence (109).
(130) De + aru insertion in Japanese Meishi property assignment sentences. (adjunct marker + 'be' insertion)
This transformation will have followed subject-predicate formation rules.

(131) Modality Incorporation
(132) Tense affixation

(133) De + aru reduction and contraction in Japanese (adjunct marker + be).

Japanese surface structure
neko wa kuroi da
(The cat is black.)
3.3.4. THE INFORMAL VERSUS THE POLITE SPEECH STYLE

The discussion in the preceding three sections pertains to the 'a' forms of the Japanese sentences (103) - (121). The sentences which have been transformationally mapped are marked for the informal style. No indication is given in the deep structure configuration, however, that the sentence is to be informal. In the deep structure configurations in this study, the deep structure has only indicated modality and proposition, no provision is provided for any pragmatic features. Mapping of sentences which are marked for the informal style then appears to be arbitrary in the preceding discussion, as speech style is not marked in the configurations in the preceding sections. For that matter, if polite sentences had been illustrated instead, that particular illustration too would have been an arbitrary choice.

The case grammar model only describes Modality and Proposition, which do not include extra-linguistic factors. In the discussion of the model in Chapters 1 and 2, matters relating to speech context are not considered, and in the revised version of the model extra-linguistic factors are not deemed pertinent to the discussion. For English sentences, which provide the basis for the revised theories in Chapter 2, Modality and Proposition are considered sufficient to generate well-formed sentences. Although
the model generates sentences in English and Thai, as demonstrated in the first section of Chapter 3, it does not generate all the elements in a Japanese sentence. Sentences in Japanese are subject to highly formalized sets of pragmatic rules which determine speech style. These rules are necessarily constrained by extra-linguistic factors such as sex of the speech participants, social status, and the degree of politeness or formality required by the speech situation. In the descriptions of the transformational mappings for Keiyōshi, Dōshi, and Meishi sentences in the preceding three sections, there should be an indication that the sentences are in a particular speech style. For the purposes of analysis, it is possible in English to isolate sentences from speech context, but the same isolation is not possible in Japanese. If the deep structure is to generate all elements occurring in the surface representation and if transformations are to be meaning preserving, then in the case of a language such as Japanese some indication of the pragmatic features, indicated at the surface level, must be marked in order for a grammatically complete sentence to result. The description of pragmatic content is beyond the scope of this study, although the Japanese data collected for this study indicates that pragmatic factors cannot be avoided in the discussion of language.

The 'b' forms of sentences (103) - (121) which are
marked for the polite style, are discussed as if it were possible to mark them for style in the present model. In Keiyōshi and Meishi sentences desu occurs as the sentence final element. In the informal sentences (103a) - (121a) the Keiyoshi was sentence final. Desu is a reduced and contracted form and represents the following series of morphemes: de + ar-i + mas-ru. De and -i are adjunct markers. De follows a Keiyoshi when the 'be' verb aru is to follow it. The adjunct marker -i follows the 'be' verb aru when the auxiliary verb masu is added in a polite sentence. Masu, an auxiliary verb, indicates indicative mood and in the case of property assignment sentences is inflected for the non-past tense. Masu has an underlying form of mas-ru. The /r/ of -ru is regressively assimilated and absorbed by the preceding /-s/ of the base when the tense affix -ru is affixed to mas-. After tense affixation de + ar-i + masu are contracted and reduced to the surface form desu. In Meishi sentences da was sentence final. Meishi are uninflected words in Japanese and therefore require the insertion of an inflection-bearing word for complete predicate formation. As mentioned in the Meishi section da is a contracted and reduced form for de (adjunct marker) + aru ('be'). In the polite style masu is now added to de + aru resulting in desu which is described above. When Dōshi occurs in a property assignment
sentence as the predicate, the auxiliary verb masu is also added for the polite style. Speech style as well as syntactic constraints determine element insertion in Japanese.
Footnote to Chapter 3

1. The Japanese grammatical labels will be used as the English names (noun, verb, adjective) seem somewhat confusing at times. Using the Japanese terms avoids associating the notions represented by the English grammatical terms, with the different Japanese grammatical categories. Such associating can at times lead to confusion, as what might be called a noun in Japanese (an undelineable word) may not seem like a noun in English in a certain context. Japanese grammatical categories are based on syntactic constraints. Words are distinguished according to whether or not they are declined and as to the forms of affixes they take. Words in separate categories may share semantic features. Dōshi, declineable words, refer to actions, being, and states. Meishi, non-declineable words, are generally nouns, but in some cases may have adjectival functions. Keiyōshi, declineable words, function as adjectives and as descriptions of emotional states.
CONCLUSION

Case grammar was chosen as a model for analysis in this study because it has a semantic basis. It assumes that the formation of sentences results from underlying semantic relationships between the various lexical items. My purpose in examining property assignment sentences is to determine the nature of these underlying relationships.

In the case grammar framework, given separately by Charles Fillmore and William Chafe, adjectives are categorized as verbs. Indeed, all adjectives are analyzed as verbs in George Lakoff's work within Chomsky's generative transformational model.

In order to determine if adjectives should always be considered as verbs, semantic criteria are established in this study to distinguish these two types of elements. Verbs are separated into two categories, V/act and V/psych, according to the specific case relations occurring with each type. The category V/act refers to actions which are perpetrated or instigated by an actor and V/psych to those psychological events or experiences which are experienced or perceived internally by an animate being. Psychological events include the three basic aspects of animate behavior: cognitive, affective, and physiological. Action verbs and their accompanying cases are described by Fillmore in his original formulation of case grammar. Chafe in his
description of a semantically based grammar distinguishes action verbs from experiential verbs. This distinction is not made in Fillmore's study. Halliday also sees a semantic distinction between actions and what he calls "mental processes." In the present study the two verb categories, V/act and V/psych, are established in order to provide a means for distinguishing these two major classifications recognized by both Chafe and Halliday. Once these semantic categories have been established, it is possible to distinguish the functions played by adjectives and verbs at the deep structure level. A verb is defined either as V/act or V/psych according to the type of deep structure cases occurring with it.

Having defined these major categories and their respective sets of case relations, the two major proposition types are described: P/act, and P/psych, which differ from each other according to the specific type of semantic relations each involves. Propositions involving "verbless" or existential relations are then defined as the third type of propositional core and labeled P/rel. The establishment of P/rel as a third type of proposition differs from the case grammar descriptions of Chafe and Fillmore, since in P/rel no underlying central verb is assumed to be present in the deep structure. The definition of P/rel is based on Bach's discussion of "verbless" sentences which represent various types of
existential relationships. Since this study focuses primarily on sentences with predicate adjectives, that is, sentences in which adjectives play an attributive role, only one type of P/rel is discussed in detail, namely, propositions involving property assignment. The proposition labeled P/rel-att defines the relationship existing between an object and/or being and an attribute assigned to it. In this relationship the semantic roles are labeled NOM and ATT. NOM is the deep case label for the object or being referred to and ATT the property assigned to it.

After defining the theoretical base to be used in this study, property assignment sentences are contrasted first in English and Thai, then in English and Japanese, as a test of this revised model. When corresponding sentences are contrasted in these three unrelated languages, the analysis provides a means for establishing an equivalence between the languages at the deep structure level and comparing the transformational mappings necessary for realizing the surface structure in the separate languages. In all three languages it is possible to posit the deep cases NOM and ATT. In Thai the deep cases NOM and ATT generate grammatically well-formed sentences. In fact, for property assignment sentences in Thai the propositional core is sufficient to generate sentences, as no modality features are represented in the surface
structures. The Thai sentences contain only two elements at the surface level: the object or being referred to (NOM) and the attribute (ATT) assigned to it.

The Thai surface structure is almost identical to the deep structure proposition. That is, in the model proposed here no verb appears in Thai surface structure and need not be posited as existing in the underlying structure. The separation of modality and proposition at the deep structure level makes it possible to see exactly which semantic elements are generated in a Thai property assignment sentence. It can clearly be seen that the propositional core is sufficient to generate a sentence, since no modality features are overtly marked. Also when the two deep structure constituents (M and P) are distinguished the contrast between Thai and English sentence formation becomes even clearer. Although property assignment sentences are defined in Chapter 3 as having a "timeless" quality, in English, certain features must be indicated in the modality constituent before a well-formed sentence can be generated. While in English tense must be indicated at the surface level, in Thai there is no surface structure realization of the deep structure modality feature "timeless." In English, on the other hand, tense is indicated by verb inflection. Since by definition P/rel-att represent "verbless" propositions, a dummy verb must be inserted in order to
carry the tense indicated in M. The copular 'be' is then inserted in English. The insertion of 'be' is related to syntactic rather than semantic constraints. That is, although 'be' is lexically empty, it provides a syntactic means for indicating the M features, according to the rules for predicate formation in English. With the analysis provided here, these language specific rules for predicate formation can be isolated from the deep structure level which has universality. Thai requires fewer rules for subject-predicate formation than English, although in both languages the deep cases NOM and ATT describe the underlying representations of the sentences which are generated in each language.

The case grammar revisions proposed in this study prove useful in the analysis of property assignment sentences in Japanese as well. This language poses special problems for analysis, however, because there are three types of form-class words which may occur as the deep case ATT in property assignment sentences. In this study these three types of form-class words are given their Japanese labels: Keiyōshi, Dōshi, and Meishi. Keiyōshi have been equated with English adjectives. They express emotional states and property assignment. When Keiyōshi occur in predicate constructions they carry tense inflections. Dōshi are generally considered equivalent to verbs in English, but some Dōshi perform
adjectival or attributive functions in sentences. Dōshi like Keiyōshi are inflected for tense in Japanese. Meishi have been equated with nouns, although some Meishi have adjectival functions in sentences. Meishi do not take tense inflections. Keiyoshi, Doshi, and Meishi may all occur in predicate adjective constructions in property assignment sentences.

Depending upon whether a Keiyoshi, Doshi, or Meishi is involved in a predicate construction, there will be different syntactic constraints operating in the formation of grammatically correct sentences in Japanese. Since case grammar is semantically rather than syntactically based, such syntactic constraints can be distinguished from the semantic elements at the deep structure level. The proposition contains certain semantic relationships involving lexical items while modality contains certain modality features. Then depending upon the rules for sentence formation various transformations follow. In the case of property assignment sentences in Japanese, depending upon whether Att is a Keiyōshi, Dōshi, or Meishi, various sets of transformations occur. That is, Keiyōshi, Dōshi, and Meishi each have specific sets of transformational mapping rules necessary for the surface realization of a sentence. The deep structure proposition (P/rel-att) only indicates that the lexical items assigned to the deep cases NOM and ATT will stand in a particular kind of
semantic relationship to each other, regardless of the semantic constraints related to the kind of form-class words represented by the lexical items. Once the lexical items for the deep cases NOM and ATT have been assigned, the rules for subject and predicate formation follow. These are language specific rules which are related to the syntactic constraints governed by the various form-class words. In this regard Japanese is particularly interesting, since the three types of form-class words (Keiyōshi, Dōshi, Meishi) may be assigned to a particular deep case (in this instance ATT) and in each case a different syntactic structure is realized at the surface level.

Predicate formation in Japanese and English requires that tense be indicated in the surface representation of a sentence. In both languages property assignment sentences are assumed to have a "timeless" quality. In Japanese the non-past tense is marked in M, and in English present tense is likewise marked. The property assignment sentences in English involve predicate adjective constructions. In each the presence of the predicate adjective requires the insertion of the copular 'be,' as adjectives cannot carry tense. In Japanese the tense marked in M is realized differently in the surface structure depending upon whether Keiyōshi, Dōshi, or Meishi is present in the predicate. Keiyōshi and Dōshi are inflected for tense and Meishi requires the insertion of aru, 'be' which
carries the tense inflection. Although Neishi, Keiyoshi, and Doshi are found in different syntactic structures, these differences need not obscure the fact that they may all play the same semantic role.

As mentioned in Chapter 3, speech style must be indicated in a Japanese sentence. A Japanese sentence contains propositional and modality features as well as pragmatic features in the surface structure. In the formulation of case grammar theory in Chapters 1 and 2, no provision is made for indicating speech style at the surface level. The exclusion of pragmatic considerations proves to be no problem when the revised portion of the model is tested against property assignment sentences in Thai and English. The model is shown to generate grammatically well-formed sentences in both languages. The analysis of Japanese, however, unexpectedly reveals that the model may need to be expanded further. The purpose of this study is to determine the underlying semantic relationships of property assignment sentences and define their propositional core, which has been achieved. The Japanese data, however, reveal that even though M and P have been identified as deep structure constituents, they in themselves may not be enough to generate all sentence elements. Determining how and when pragmatic features are generated in sentence formation is beyond the scope of this paper but the uncovering of this
issue in the analysis of Japanese points out the need for further work. In describing a language it may be necessary to determine whether or not pragmatic features such as speech style are to be included for the generation of sentences. If transformations are to be meaning preserving and if the deep structure is to generate all surface structure elements then our view of linguistic analysis may have to be modified in order to account for those extra-linguistic factors which are realized in surface representations.

Speech style is an integral part of the formation of Japanese sentences, as can be seen in the use of the focus marker wa. Likewise, the definite article in English involves pragmatic features. As mentioned in Chapter 3, justification of the and wa, in English and Japanese respectively, was based on the assumption that the grammatical subject of the sentence in question had been previously mentioned. In order for the anaphoric elements the and wa to occur in sentences, the noun in question is already assumed to be a member of the Pragmatic Universe of Discourse. That is, the subject referred to is assumed to represent an entity known to the speaker and hearer. In Chapter 3 English sentences are examined out of their speech context, however, their grammatical structure indicates that they are constrained by the rules of discourse. Anaphoric sentences can never be discourse
initial and always require a conversational antecedent. Although the pragmatic aspects of anaphora are briefly mentioned in Chapter 3, no deep structure motivation is provided for the insertion of the English definite article the and the Japanese focus marker wa. This admittedly ad hoc treatment of anaphora in the Japanese and English property assignment sentences further points out the need for a consideration of the role of pragmatics in sentence formation.

A semantically based grammar is chosen for this analysis so that all the semantic features occurring in a surface representation can be generated at the deep structure level. This study is an attempt to define the propositional content for property assignment sentences. The proposed revision of the case grammar model is validated when tested against sentences in English, Thai, and Japanese. The proposition labeled P/rel-att is shown to describe the propositional core of property assignment sentence in three unrelated languages. This model specifies the semantic relations needed to formulate a universal deep structure.
BIBLIOGRAPHY


APPENDIX I

Tables of Phonetic Symbols Used for the Transcription of the Thai Language in This Study

1. Consonants

<table>
<thead>
<tr>
<th></th>
<th>labial</th>
<th>alveolar</th>
<th>palatal</th>
<th>velar</th>
<th>glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>vd vl</td>
<td>vd vl</td>
<td>vd vl</td>
<td>vd vl</td>
<td>vd vl</td>
</tr>
<tr>
<td>aspirated stops</td>
<td>ph th</td>
<td></td>
<td></td>
<td>kh</td>
<td></td>
</tr>
<tr>
<td>unaspirated stops</td>
<td>p b t d</td>
<td></td>
<td>k</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>fricatives</td>
<td>f s</td>
<td></td>
<td></td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>affricates</td>
<td></td>
<td>ch j</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nasals</td>
<td>m n</td>
<td></td>
<td>ng</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lateral</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>flap</td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>semi-vocalic</td>
<td>w y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Vowels

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i ii*</td>
<td>i ii**</td>
<td>u uu</td>
</tr>
<tr>
<td>Mid</td>
<td>e ee</td>
<td>θ θθ θθ</td>
<td>o oo</td>
</tr>
<tr>
<td>Low</td>
<td>æ æ æ</td>
<td>æ æ æ æ</td>
<td>æ æ æ æ</td>
</tr>
</tbody>
</table>

*Geminated vowels contrast with their non-geminated counterparts.

**In the above vowel chart i represents a high central unrounded vowel which has no English equivalent.
3. **Thai Tones**

<table>
<thead>
<tr>
<th>Description</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>/</td>
</tr>
<tr>
<td>mid</td>
<td>no symbol</td>
</tr>
<tr>
<td>low</td>
<td>\</td>
</tr>
<tr>
<td>rising</td>
<td>&gt;</td>
</tr>
<tr>
<td>falling</td>
<td>&lt;</td>
</tr>
</tbody>
</table>
APPENDIX II

Tables of Phonetic Symbols Used for the Transcription of the Japanese Language in This Study

1. Consonants

<table>
<thead>
<tr>
<th></th>
<th>labial</th>
<th>dental</th>
<th>alveolar</th>
<th>alveolar</th>
<th>palatal</th>
<th>velar</th>
<th>glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>stops</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td></td>
<td>k</td>
<td>g</td>
</tr>
<tr>
<td>fricatives</td>
<td>j</td>
<td>s</td>
<td>z</td>
<td>sh</td>
<td>zh</td>
<td>x</td>
<td>h</td>
</tr>
<tr>
<td>affricates</td>
<td>ts</td>
<td>dz</td>
<td>ch</td>
<td>j</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nasals</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td>ng</td>
<td></td>
</tr>
<tr>
<td>flap</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>semi-vocalic</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td></td>
</tr>
</tbody>
</table>

Subscript 1 indicates a syllabic consonant.

2. Vowels

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i</td>
<td>ii*</td>
<td>u</td>
</tr>
<tr>
<td>Mid</td>
<td>e</td>
<td>ee</td>
<td>o</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td>a</td>
</tr>
</tbody>
</table>

*Geminated vowels contrast with their non-geminated counterparts.