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TRANSITIVE VERBS IN THAI.

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TRANSITIVE VERBS IN THAI

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN LINGUISTICS

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By
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ABSTRACT

This study attempts to investigate the nature and the characteristics of transitive verbs in Thai in terms of case features, derivational properties and potential occurrences of different types of verb complements. How these characteristics subcategorize transitive verbs and determine their occurrences in various constructions in Thai is presented. Data used in the investigation are provided by the writer who is a native speaker of Thai, as well as by several other Thai native speakers, some of whom are linguistically sophisticated and some of whom are not.

Transitive verbs are defined in Chapter III as verbs that require two features: $[+([+\text{NM}])]$ and $[-[+\text{NM}]+\text{OBJ}]$. The first feature, with its parentheses indicating optionality, means that transitive verbs potentially have the nominative actant, a constituent carrying a nominative case form, in their environment. This potential allows the presupposition of the subject when it is not overtly present in the sentence. Such presupposition is important in the treatment of the missing complement subject discussed in Chapter VI. By $[-[+\text{NM}]+\text{OBJ}]$, transitive verbs do not allow the nominative objective actant but obligatorily require the presence of the accusative objective actant (see RR-2, Chapter III).
The absence of the \([+^{AC}\, +^{OBJ}]) is allowed only in the appropriate context of situation.

Three major classes of transitive verbs: agentive, dative, and instrumental, are set up in Chapter III on the basis of different case relations that are realized in the \([+NM]\) case form. The agentive and dative classes are further subclassified on the basis of case co-occurrence potential and a requirement for a certain additional case in the verb case frames. Ditransitive verbs exemplify the subclass made on the basis of case co-occurrence; strict location agentive transitive verbs exemplify the subclass posited on the basis of a requirement for a certain case in the verb case frames.

The examination of derivational properties of transitive verbs in Chapter IV shows that homophonous transitive and intransitive verbs which are related in meaning such as /pəət/ "open", a transitive verb, and /pəət/ "open", a process intransitive verb, or /sāk/ "wash", a transitive verb, and /sāk/ "wash", a middle intransitive verb, should be each understood to be separate lexical items and that the relationships of the words in each pair are to be accounted for by derivational processes of transiti­vization and intransitivization.

The study of /thuuk/ and /dooy/ passive constructions, also in Chapter IV, shows that "affected" and "factitive" features are inherent semantic-syntactic features of
transitive verbs. These features determine the occurrences of transitive verbs in the passive constructions.

The discussion of transitive verbs and their occurrences with the /wâa/ PP and the /thîi/ NP reveals another significant semantic-syntactic feature: "information". Verbs that possess this feature constitute a subcategory that cross-classifies the major classes of agentive and dative verbs.

Chapter VI explores transitive verbs and their occurrences with an embedded verb complement in a complex sentence that is restricted to a single embedded sentence. Two major types of verb complements are discussed: purposive and non-purposive. The first is subdivided into causative-purposive and non-causative purposive. Transitive verbs that are causative require the causative purposive verb complement. All non-causative agentive verbs allow the non-causative purposive verb complement. It is observed that although dative transitive verbs do not allow the non-causative purposive verb complement in a complex sentence of one single embedded sentence, they can convey the meaning of purpose if two verb complements occur with /hây/ as the verb in the first verb complement.

The second major type of verb complement is the non-purposive resultative verb complement. Only [+affect] specified verbs allow this type of verb complement.
Chapter VI also shows that in the area of sentence embedding, a grammar such as Lexicase which does not recognize the distinction between deep and surface structures can handle the missing complement subject by a claim that the verb in the verb complement is a non-finite verb and that a non-finite verb, although not having the nominative actant overtly present, presupposes one.

Although the case system is not the focus of this study, case relations, case forms and case markers are discussed to provide the background for the analysis of transitive verbs in Chapter II. It is shown that through case marking devices such as word order, intrinsic prepositions, coverbs and noun auxiliaries, cases can be identified in an uninflected language such as Thai. The two case marking devices: coverbs and noun auxiliaries, represent a new analysis of word categories in Thai that have been referred to in earlier studies as the so-called secondary verbs (Hass 1964) and prepositions respectively.

Chapter VII summarizes the analysis and conclusions and gives specific suggestions for further research in the area of complementation, causation and derivation.
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CHAPTER I
INTRODUCTION

1.0 Purpose and Scope

The main purpose of this study is to investigate occurrences and behaviour of transitive verbs in Thai in both simple and complex sentences. By "transitive verb", I mean any verb that requires a nominative actant which is not a nominative objective actant. An actant is a constituent carrying a case relationship to the verb. (For the use of the terms "actant", see Starosta 1973a.) By this definition, transitive verbs are distinguished from intransitive verbs such as /wiŋ/ "run", which require a nominative objective actant, and from existential verbs such as /mii/ "have" which disallow the nominative actant altogether. (See Chapter III for a formal definition and a more detailed discussion.)

The investigation of transitive verbs can be divided into two parts. The first part, Chapters III, IV and V, comprises the analysis of transitive verbs in simple sentences; the second part, Chapter VI, comprises the analysis of transitive verbs in complex sentences.

The analysis of transitive verbs in simple sentences is organized according to the following topics and purposes:
(a) Transitive verbs and case relations in simple sentences: to classify transitive verbs according to their case relations. This topic is the focus of Chapter III, which will also include the formal definition of transitive verbs as used in this study.

(b) Transitive verbs with derivational processes of transitivization and intransitivization: to examine transitive verbs that are homophonous with intransitive verbs and to attempt to account for their relationship by means of derivational rules.

(c) Transitive verbs and their potential occurrences in "passive" constructions: to show that transitive verbs behave differently with regard to their potential occurrences in the /dooy/ and /thùuk/ "passive" constructions, (see Section 4.2 for the discussion of the "passive" constructions), and that they should be subcategorized accordingly.

(d) Transitive verbs and their potential occurrences with the /wâa/ prepositional phrase and the /thîi/ noun phrase: to show that transitive verbs behave differently with regard to these constructions and that they are subcategorized accordingly.

Topics (b) and (c) constitute the focus of Chapter IV. They reveal properties of transitive verbs other than the case properties. The potential occurrences in the "passive" constructions can introduce a further sub-classification of
the classes of transitive verbs which have been determined by the case-occurrences in (a) above.

Topic (d) constitutes the focus of Chapter V. The study reveals the different properties of transitive verbs in co-occurring with the /wâa/ PP and the /thîi/ NP. Because of the differences found, transitive verbs are further subcategorized.

In the second part, Chapter VI, transitive verbs functioning as main verbs in complex sentences will be examined. In this present work, complex sentences are limited to a type containing only a single embedded sentence—a verbal sentential complement. The purpose of this investigation is to determine whether or not this provides a useful subcategorization criterion. It is found that the subcategorization of transitive verbs resulting from the investigation of verb complements generally agrees with the subcategorization by case-occurrences analyzed in Chapter III, although the examination of transitive verbs and the causative-purposive verb complement introduces a finer subcategorization.

In addition to the main purpose stated above, the study of transitive verbs in Thai is intended to show that the "lexicase" framework, which has no deep structure or transformational rules, is a workable framework in which to analyze sentence embedding. In other generative grammars,
transformational rules seem particularly indispensable to sentence embedding.

Since this analysis is done within the framework of lexicase, a model which captures syntactic generalizations using inherent and contextual case features (see Section 1.1 below), Chapter II will be devoted primarily to an investigation of the case system in Thai.

During the analysis, examples of sentences will be cited to help clarify the discussion. These sentences will be numbered consecutively within each chapter. In general, glosses will be given together with the approximate translation of the whole sentence. However, where this translation seems misleading, it will be omitted.

1.1 Theoretical Framework

In analysing transitive verbs in Thai with the ultimate goal stated in the previous section, the syntactic model called "lexicase" is used as the theoretical framework. This is the model proposed by Stanley Starosta (see Li 1973) and further developed by Starosta (1973b), Taylor (1971) and Li (1973).

1.1.1 Lexicase

In the lexicase model, the grammar is composed of phrase structure rules, the lexicon and the phonological component. The phrase structure rules (PSR) generate labelled trees containing information necessary for the
insertion of lexical items from the lexicon, which contains both lexical entries and lexical rules. The lexical entries include phonological representations and all other features that cannot be predicted by redundancy rules or assigned by subcategorization rules. The features marked on lexical entries include grammatical category features, such as [+N], [+V]; case features, which include both case relation features such as [+AGT] (agentive) and case form features such as [+NM] (nominative); case frame features, such as [+---[~~~J]] (for more detailed discussion, see Section 2.3); semantic features (which will not be handled extensively in this study); and other idiosyncratic features.

Three types of rules included in the lexicon are subcategorization rules (SR), redundancy rules (RR), and derivational rules (DR). The SR's are rules that give information about the subcategories of the major grammatical categories in the grammar. For example, the following subcategorization rule gives information about the subcategorization of the category V:

\[ [+V] \rightarrow [+([+NM])] \]

This rule says that the verb may belong to either the subcategory \([+(+[NM])]\) or to the subcategory \([-([+NM])]\). An example of a verb belonging to the first subcategory is /kin/ "eat", a non-existential and transitive verb; a verb belonging to the latter subcategory is /mii/ "have", an
existential verb (see Section 3.3.2.2.2 for a further discussion). The distinguishing characteristic of the subcategorization rules is that they have the symbol "±", which reads "either plus or minus" in the output of the rule.

The RR's are rules that capture the general characteristics shared by many lexical items. The rules help reduce the number of features to be specified in the lexical entries. For example, a lexical entry for an agentive transitive verb may be minimally specified with \([+V, +([+NM]), -[+NM], +([+AGT])]\); that is, this lexical entry specifies a verb that, among other features, does not allow a nominative objective actant in the environment. A redundancy rule such as

\[
[-[\text{+NM}_{\text{OBJ}}]] \rightarrow [+\text{+AC}_{\text{OBJ}}]
\]

will add the feature on the right hand side of the rule to the lexical matrix of the verb. The rule says that a verb which does not allow a nominative objective actant requires an accusative objective in its environment.

The DR's are rules that account for the relationship of certain pairs of lexical items. These related lexical items are listed in the lexicon with one of them marked with the feature \([+\text{deriv}]\) (derived). For example, the lexicon contains both /pəs/ "open", specified with syntactic and semantic features which identify it as an intransitive verb, and
/pəət/ "open", specified with syntactic and semantic features as a transitive verb and the additional feature [+derv]. This feature tells one to look for a derivational rule which formally states that this /pəət/ is semantically related to the other and that the transitive verb is a derived item. The derivational rule may look roughly like:

\[
\text{[+V} \quad \text{[+NM] \quad [+OBJ]} \quad \text{[+process]} \quad \text{[+derv} \quad \text{[+[+NM]} \quad \text{[+NM}} \quad \text{-[+OBJ]} \quad \text{[+AC]} \quad \text{[+OBJ]}} \quad \text{[+derv}}
\]

This derivational rule says that for any process intransitive verb, a corresponding transitive verb can be added to the lexicon. (See also Section 4.1.1.3.) The DR's are specified with \(\rightarrow\), a fletched arrow which shows that the class of items constituting the output of the rule is formally and historically related to the class characterized by the input of the rule.

These three types of lexical rules operate on lexical entries and produce the fully specified lexical items which can be inserted at the terminal nodes of the trees generated by the phrase structure rules of the base component, resulting in a fully specified syntactic representation.

The phonological component assigns to the syntactic representations the appropriate phonological representations.
All the trees in which no syntactic occurrence restrictions are violated at this point are considered well-formed.

Outside the grammar but still in the lexicase model is the semantic interpretation component (SIC). The semantic interpretation component has not been worked out yet for any language, but presumably contains, among other things, rules that give semantic interpretation to the trees produced by the grammar on the basis of the information given by the syntactic interpretation of the sentence and the context of situation, which includes linguistic and non-linguistic context, involving both the real world context and the imagined world context. The acceptability of the output strings, which is considered a matter of performance, is determined partly on the basis of the possible interpretations assigned to the output string by the SIC. This is distinguished from the grammaticality of the string, which is a matter of competence and which is determined solely by the grammar itself. A sentence such as

1. khāw kin khāaw yùu bon phēdaan hōoη
  he eat rice still on ceiling room

He is eating on the ceiling.

is a well-formed sentence, generated by the grammar of a lexicase model. Although the sentence may be unacceptable for many Thai native speakers, this unacceptability is due to the knowledge of the world that a speaker has, i.e., that it is not common to eat on the ceiling. Given an
imaginative world where it is possible that people can eat on the ceiling or in the weightless environment of a manned earth satellite, this sentence would be acceptable.

In short, the grammar in the lexicase model generates well-formed or grammatical strings without any attempt to judge whether or not the strings are appropriate in a given situation or whether the situation they describe is one frequently encountered by native speakers.

Figure 1, which is adapted from Taylor (1971: 10), illustrates the lexicase model containing the grammar with its components and the grammar's connection with the semantic interpretation component and the context of situation.

1.1.2 Lexicase and Other Approaches to Generative Grammar

Starosta (1973b: 11) describes his model as falling formally somewhere between Chomsky 1965 and Fillmore 1968. This means that lexicase has certain similarities with and certain differences from these other two types of generative grammar.

The PSR and the lexicon have made the lexicase model close to Chomsky 1965 yet lexicase differs from the latter in other important respects:

(a) It does not have a separate semantic component. Lexicase has semantic features as important features in the lexicon, which is included in the grammar. The semantic
LEXCASE MODEL

The Grammar

Phrase Structure Rules (PSR)

Trees

Lexicon

Lexical entries
Grammatical Category features
Case features
Other syntactic features
Semantic features
Phonological Representations etc.
Subcategorization Rules (SR)
Derivational Rules (DR)
Redundancy Rules (RR)

Lexical items

Syntactic Representations

PHONOLOGICAL COMPONENT

Phonological Representations

CONTEXT OF SITUATION

Linguistic Context
Real-World Context
Imagined-World Context

SEMANTIC INTERPRETATION COMPONENT

Semantic Representations

Figure 1

Lexicase Model (Adapted from Taylor 1971, p. 10)
interpretation component (SIC), which operates on the
semantic features, and other grammatical features given by
the grammar, within the context of situation, is necessarily
outside the scope of the grammar itself. As semantic
features are given in the lexicon, which is included in the
grammar, there is no redundancy in the presentation of the
semantic features, as there is in Chomsky 1965 where semantic
features are once introduced in the lexicon and again in the
semantic component, which is separate from the other
components.

(b) It does not make the deep-surface distinction and
thus it does not use transformation at all. In lexicase,
the interrelationship of two constructions is shown by the
features on the lexical items. For example, the relation­­ship between the sentences in the following pair is captured
by the marking of case features on the verb /pət/ "open"
and the noun /pra?tuu/ "door":

2. pra?tuu
   door
2. pət
   open

\[
\begin{align*}
   \text{pra?tuu} & : \begin{cases}
      +N \\
      +\text{NM} \\
      +\text{OBJ} \\
      \alpha_{F_k}
   \end{cases} \\
   \text{pət} & : \begin{cases}
      +V \\
      +([+\text{NM}]) \\
      +\text{NM} \\
      +\text{OBJ} \\
      \beta_{F_j} \\
      \gamma_{F_m} \\
      \phi_{F_a}
   \end{cases}
\end{align*}
\]

The door is opening!
3. khāw  pəxt  pra?tuu
   he   open   door

\[
\begin{array}{c}
+\text{N} \\
+\text{NM} \\
+\text{AGT} \\
\varepsilon F_0 \\
[+
\begin{array}{c}
+\text{V} \\
+\text{der}
\end{array}
\]
[+
\begin{array}{c}
\text{([+NM])} \\
+\text{NM} \\
-[-\text{OBJ}] \\
+\text{AC} \\
+\text{OBJ} \\
\beta F_j \\
+([+\text{AGT}]) \\
\gamma F_m \\
\alpha F_k \\
\end{array}
\]
\end{array}
\]

He opens the door.

The specification of features on /pəxt/ indicates that the verbs in the two sentences are related; the constant case relationship feature on /pra?tuu/ with respect to /pəxt/ indicates that the same lexical item bearing the same relationship to the verb occurs in both sentences, but in different case forms due to different but related verbs. \([\beta F_j]\) represents the identical selectional restrictions imposed by both verbs on their [+OBJ] actants. \([\alpha F_k]\) represents the semantic features of the [+OBJ] noun, which must be compatible with the selectional restrictions represented by \([\beta F_j]\). By these specifications, sentences 2 and 3 are formally shown to be related without the positing of a separate deep structure and without the use of transformational rules, which have been criticized as having so much power that their use actually weakens the explanatory claim of a grammar (see Bach 1971).
(c) It treats all derivation as a process which is different in kind from the synchronic rules of grammar. As shall be seen in this study, derivational rules are not as productive as other rules in the language but they are as significant in the sense that they are recognized and used by native speakers. (For more detailed discussion, see Section 4.1.1.3).

The use of case relations brings lexicase close to Fillmorean case grammar. In spite of the similarity, lexicase differs from the latter in several respects. It differs from Fillmorean case grammar in the same respects as it does from Chomsky 1965 discussed in (b) and (c) above, i.e., the lack of deep-surface distinction and the treatment of derivation processes. Besides these differences, lexicase shows other different characteristics as follows.

(a) It treats case forms and case relations as features of lexical items (for definition and discussion of case forms and case relations, see Section 2.2). The treatment of case forms and case relations as lexical features has many advantages. These have been discussed by Starosta (1973b) and so will not be repeated here.

(b) It treats case form, as well as case relation, as a significant category. Starosta (1973b) has argued that case forms have a system of their own and that they constitute a universal set. In the lexicase framework, case forms other
than [+NM] and [+AC] are introduced (Taylor 1971; Li 1973). In the Fillmorean case grammar, case forms (as defined in this study) corresponding to only [+NM] and [+AC] are mentioned.

Although lexicase has not yet been tested as a workable grammatical model for very many languages--Taylor (1971), Li (1973), and Clark (forthcoming) use lexicase to analyze particular languages--and although it is not without problems, it seems so far that this model can describe and explain a language as well as a transformational grammar can, while eliminating certain problems inherent in the latter kind of model, for example, the problem in the ordering of the transformational rules and the problem of the excessive power of transformations. If the present study can account for the facts of Thai transitive verbs as adequately or more adequately than previous approaches, that will constitute additional evidence as to the applicability of the lexicase framework to the description of languages of diverse types, and thus further demonstrate the potential of the framework for universality.

1.2 Thai Phonemes

The Thai language on which this study is based is the dialect spoken in the central part of Thailand where Bangkok, the capital of the country, is situated. This dialect is used in the classroom and in conducting national affairs and
is officially considered the national language of Thailand or Standard Thai.¹

The following symbols will be used for phonemic transcription throughout this study. It should be noted that these symbols are the researcher's own interpretation of the phonemic system of the Standard Thai mentioned in the previous paragraph. They are not meant to represent a definitive analysis of the phonemic system of the language, but only to serve as a reference for the transcription of the data in this study.

1.2.1 Consonants

<table>
<thead>
<tr>
<th>Bilabial</th>
<th>Labio- Dental</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>vd.unasp.</td>
<td>b</td>
<td>d</td>
<td>č</td>
<td>k</td>
</tr>
<tr>
<td>Stops</td>
<td>p</td>
<td>t</td>
<td>čh</td>
<td>kh</td>
</tr>
<tr>
<td>vl. asp.</td>
<td>ph</td>
<td>th</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricatives</td>
<td>f</td>
<td>s</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>Nasals</td>
<td>m</td>
<td>n</td>
<td>η</td>
<td></td>
</tr>
<tr>
<td>Liquids</td>
<td>r, l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-vowels</td>
<td>w</td>
<td></td>
<td>y</td>
<td></td>
</tr>
</tbody>
</table>

1.2.2 Vowels

<table>
<thead>
<tr>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>Mid</td>
<td>e</td>
<td>ə</td>
</tr>
<tr>
<td>Low</td>
<td>æ</td>
<td>a</td>
</tr>
</tbody>
</table>
All vowels can occur long or short. Long vowels are represented by the symbol for the short vowel written twice. Three diphthongs occur in Thai:

\[
\text{ia} \quad \text{ia} \quad \text{ua}
\]

1.2.3 Tones

Standard Thai has five tones:

- Mid unmarked
- Low `'`
- Falling `'
- High `'`
- Rising `'`
Footnotes to Chapter I

1 It should be noted that there are other dialects spoken in different parts of Thailand. The other major dialects are: the dialects of Northern Thai, as spoken in Chiengmai; Northeastern Thai as spoken in Roi-et; and Southern Thai, as spoken in Nakhorn Sri Thammarat.
2.0 Introduction

As outlined in Section 1.2, syntactic representations result from the insertion of lexical items provided by the lexicon into the tree generated by the PS rules. The lexical items provided by the lexicon contain many types of features, of which the syntactically crucial ones are the case features. Thus, it can be said in connection with the syntactic representations that all the syntactically relevant information in the description of a sentence can be discussed in terms of phrase structure rules and case features. It is consequently deemed necessary to study the phrase structure rules and the case system in Thai as the background for the syntactic analysis of transitive verbs that follows. At the outset, it should be emphasized that this study of phrase structure rules and the case system is not intended to be exhaustive. It is only meant to serve as the background for the analysis of transitive verbs.

2.1 The Phrase Structure Rule Component

In the lexicase model, the phrase structure rules can be said to constitute an independent component in a grammar. It contains only phrase structure rules which generate
bracketed strings of grammatical categories for the insertion of lexical items from the lexicon. The phrase structure rules will be discussed immediately below.

2.1.1 Phrase Structure Rules

Phrase structure rules are context-free well-formedness conditions on trees which apply to category symbols. Their application involves branching and ultimately generates trees with lebeled nodes, or equivalently, strings of grammatical category symbols analyzed in terms of labelled bracketings. These strings, given by the PS rules, contain general information of syntactic categories and of ordering and the hierarchical relationships of constituents necessary for the insertion of lexical items in at least two respects. First, the insertion is allowed only if the syntactic category features marked on the items are identical to the syntactic category labelling the node under which the lexical item is to be inserted. Secondly, the contextual features in the lexical entries are stated in terms of sister categories, and thus the hierarchical information the PS rules give is indispensable.

In connection with the insertion of the lexical items, it should be noted that as long as the contextual features of the lexical items are compatible with the environment provided by the string, i.e., they match the terminal category nodes and there are no contextual features violated,
the lexical items can be inserted, and the string is grammatically well-formed.

Following are the phrase structure rules posited for the generating of possible grammatical strings in Thai:

\[
S \rightarrow \begin{cases} 
    S(cocon)S^n \\
    NP \rightarrow NP \\
    ((PP)\text{ Modal})V((PP)\text{ Adv})((Q)\text{ (FP)}) \\
    \{NP\} \rightarrow P(S) \\
    \{NP\} \rightarrow N(S) \\
    \{NP\} \rightarrow N(\text{ (Num(clf) S)}) (Dem) \\
\end{cases}
\]

Abbreviations:

cocon: co-ordinating conjunction such as /tâeai/ "but"

S: sentence

Modal: modality which includes constituents such as negative words, e.g., /mây/ "not" and auxiliary verbs such as /khon/ "probably". Modality is not expanded since it does not seem necessary for the study of transitive verbs

Q: question word, e.g., /ri~j/, which signals a question corresponding approximately to a yes-no question in English

FP: final particle such as /khráp/, a final politeness particle used by male speakers

PP: Prepositional Phrase
NP: Noun Phrase
Adv: Adverb, e.g. /čháa/ "slowly"
P: Preposition
Num: numeral such as /sɔŋ/ "two"
clf: classifier such as /tua/, a classifier used for animals
Dem: demonstrative determiner such as /nǐi/ "this" or /nán/ "that"

2.1.2 Discussion of PSR-1

PSR-1 as written above can generate several types of strings. Below are some of the possible sentence types allowed by it.

2.1.2.1 Compound Sentences

PS rule 1 above gives three choices. The first, S→S((cocon)S)^n, produces the derivation of a compound sentence with an indefinite number of conjoined sentences, as indicated by the use of the superscript 'n'.

An example of a compound sentence is:

1. dæŋ pay roomrian tæe pük kláp bān
   Dang go school but Pook return home

   Dang went to school but Pook returned home.
Since what is relevant to the examination of the transitive verbs can be included in a simple sentence, compound sentences are outside the scope of this study.

2.1.2.2 Verbless Sentences

The second choice in the PS rule, $S \rightarrow NP^{–} NP$, produces sentences that do not contain a verb. It is observed that these sentences are of the equational type, that is, the two nominals are identical in reference to one another. Often these two nominals are location and time nominals and the two NP's can be shifted with a difference in focusing, for example:

2(a) wanníi wansùk
to-day Friday

Today is Friday

(b) wansùk wanníi
Friday to-day

Friday is today.

3(a) bâan nán bâan čhǎn
home that home I

That house is mine.

(b) bâan čhǎn bâan nán
home I home that

My house is that one.

The structure of the two sentences, 2(a) and 3(a) can be shown by the following tree diagrams:
2(a)

S

NP

NP

N

N

Dem

Dem

wanníi

to-day

wansük

Friday

bāan

nám

bāan

čhǎn

home

that

home

I

This type of sentence will not be treated in this study for the obvious reason that it does not contain a verb, much less a transitive verb.

2.1.2.3 Subjectless Sentences

The third choice given by PS rule 1:

\[ S \rightarrow ( \{ PP \} )^3 (\text{Modal}) \vee (\{ PP \} )^n (S)(A\text{d}v)(\{ PP \} )^n (Q)(FP) \]

allows a type of sentence that may not have a subject. Such a statement needs some clarification. It is found that in Thai, there are sentences that occur without any subject. In the lexicase framework, as should be noted, "subject" is defined as the actant specified with a [+NM] case form feature. The [+NM] specified actant, if it is present in the string, occurs only immediately before the verb or modal. The definition of "subject" in terms of case form is different from Chomskyan definition of 1965 according to which the "subject of" a sentence is the NP which is directly dominated by S (Chomsky 1965:71).

Sentences that occur without a subject, or subjectless sentences, are of two types. The first includes those that
have the subject left out because they are redundant in the particular context of situation. Since context of situation is outside the area of grammar proper, subjectless sentences of this type are not considered. The second type of subjectless sentences are those that do not grammatically have any subject. Existential sentences which contain verbs such as /mii/ "exist" which is specified with the feature 
[+V,-([+NM])] are examples of subjectless sentences of this second type. The feature [-([+NM])] in the lexical matrix of /mii/ means that no nominative case form can occur in its environment. This feature immediately indicates that the subjectless verb /mii/ is not a transitive verb where an [+NM] is required. (For a more detailed definition of a transitive verb, see Chapter III.)

An example of a subjectless sentence is:

4. mii naŋsīi sɔɔn lêm bon tô?
   have book two clf on table

   There are two books on the table.

   The tree diagram for the above sentence can be shown as:

   ![Tree Diagram]

   The existential verb /mii/ will be briefly discussed in connection with the transitive verb /mii/ "have" in Chapter III.
Verb complements are also instances of subjectless sentences that do not grammatically have any subject. As will be seen in Chapter VI, the subject of the verb complement after a transitive verb cannot have an overt subject. (See Chapter VI for detailed discussion.)

Imperative sentences are also considered a type of subjectless sentence where the subject is grammatically absent. In this study, however, no attempt is made to account for imperative sentences.

2.1.2.4 Transitive sentences

The third choice in the PS rule 1 above also allows an indefinite number of NP's or PP's after V, as indicated by the superscript n. The occurrence of one NP before a transitive verb can produce a transitive sentence if that NP is specified with a case relation other than [+OBJ] and if it has the [+NM] case form. The simple transitive sentences must contain at least one nominal after the verb but can according to the data contain a maximum number of seven different constituents. In the following sentence, for example, seven different nominals occur after the verb:

5. mãe tham khanôm hây têy dùay taw?ôp ?an
   mother make dessert for Toy with oven

   màây kâp pûk dùay khwaamsa?nûksanâan thîi bân
   new with Pook with fun at house

   pûk waannîi
   Pook yesterday
Mother made dessert for Toy with a new oven with Pook with a lot of fun at Pook's house yesterday.

Such a sentence though not common is well-formed and acceptable. The reason for its being uncommon is obviously due to performance restrictions on the span of memory of a native speaker as well as the very unusual situation in which a speaker would want to supply so much new information at once.

The more common simple transitive sentences of which the following are examples, contain less than seven nominal actants:

6. dææn yĩn nõk sõŋ tua
   Dang shoot bird two clf
   Dang shot two birds.

7. dææn râk mææ
   Dang love mother
   Dang loves mother.

8. fay máy pàa
   fire burn forest
   Fire burnt the forest.

The above sentences are similar in structure, as can be seen from the tree diagram below:
The analysis of transitive verbs in Chapter III will show however that despite the similarity in sentential structure, these three sentences belong to three different types of transitive sentences, determined by the case features on the subject of the sentences.

Transitive verbs in transitive sentences of the three types above will be the main focus of this study.

2.1.2.5 Other Non-transitive Sentence Types

The third choice of PS rule 1 also allows derivations of intransitive sentences, locative sentences, equational copular sentences and probably others. Some examples are given below:

9. 
\[\text{dææn} \quad \text{yım} \quad \text{kàp} \quad \text{chån}\]
\[\text{Dang} \quad \text{smile} \quad \text{with} \quad I\]
\[\text{Dang} \quad \text{smiled} \quad \text{with} \quad \text{me.}\]

10. 
\[\text{dææn} \quad \text{yùu} \quad \text{båan}\]
\[\text{Dang} \quad \text{stay} \quad \text{home}\]
\[\text{Dang} \quad \text{is} \quad \text{home.}\]
11. dææn pen khruu
   Dang be teacher
   Dang is a teacher.

These sentences do not differ from sentences in the previous section if only the PS rules are taken into consideration since they all have the same NP V \{NP\} construction. However intransitive sentences are distinguished from each other and from transitive sentences when case relation requirements of the verb are taken into consideration. It can be seen then from the case frame of verbs where the case relation requirements of the verbs are explicitly indicated that intransitive verbs and transitive verbs differ in their requirement of the nominative case form with the objective case relation. While the case frames of transitive verbs do not allow an actant bearing a nominative case form with the objective case relation to co-occur with those verbs, intransitive verbs such as those in 9, 10 and 11 require it. The nominative NP before the verb in the string given by the PS rule is thus specified as essentially different in transitive and intransitive sentences.

2.1.2.6 Embedded Sentences

The third choice of PS rule 1 also allows an embedded S as a sister category of the V. In other words, it allows a verb complement. The verb complement to be studied here is the verb complement of transitive verb which is unique in
that its main verb must be non-finite. Thus, the verb complement appears with no subject. Chapter VI of this study will treat this kind of embedded sentence in more detail. The following sentence shows /khāay/ "sell" as a non-finite verb in an embedded verb complement:

12. yaay kèp dìskmày khāay
grandmother pick flower sell

\[
\begin{array}{c}
\text{[+V finite]} \\
\text{[+- finite]}
\end{array}
\]

Grandmother picked the flowers to sell.

2.1.2.7 Sentences with Topicalized Actants

Another possibility allowed by the third choice of PS rule 1 is that a number of PP's or NP's can be expected before the verb. The superscript 3 must be taken as the possibility ranging from one instance of actant to three as the maximum number. The following are examples of sentences containing topicalized actants:

13. nòk khon yin kan màak thîi praačîn
bird people shoot together very at Pracîn

\[
\begin{array}{c}
\text{[+N ]} \\
\text{[+AC] [+NM]} \\
\text{[+OBJ] [+AGT]}
\end{array}
\]

Birds, people shot a lot at Pracîn (a province in Thailand).

14. waannîi nòoŋ hòklîm thîi ta?làat
yesterday sister fall down at market

\[
\begin{array}{c}
\text{[+N]} \\
\text{[+AC] [+NM]} \\
\text{[+TIM] [+OBJ]}
\end{array}
\]

Yesterday, sister fell down at the market.
15. daeæn mææ hay ñææ samæs
    Dang mother give money always

    [+N]     [+N]
    [+AC]    [+NM]
    [+BEN]   [+AGT]

    It's Dang that mother always gives money to.

16. kàp khruu dææn klâa law
    with teacher Dang dare tell

    [+P]     [+N]     [+N]
    [+C]     [+AC]    [+NM]
    [+DAT]   [+OBJ]

    Only to the teacher will Dang dare to tell (the story).

    It has been observed that the actants that are chosen as topics
carry only certain cases: [+OBJ], [+DAT], [+BEN], [+TIM] or [+LOC].
Except for [+OBJ], all other cases listed, when topicalized, are found to also occur
with other case forms than just [+AC]. An example of the actant chosen as
the topic carrying dative case relation and comitative case form can be seen in sentence 16.

    The following sentence shows two instances of topicalized actants in addition to
the nominative actant, the consequence of which is three NP's before the verb:

17. waannii thîi hëon pra?chum ču?laa aaçin phûut
    yesterday at room meeting Chula Aachin speak

    [+N]     [+Nax]     [+N]
    [+AC]    [+AC]      [+N]
    [+TIM]   [+LOC]     [+NM]
    [+AGT]

    Yesterday, at the Assembly Hall at Chula, Aachin
gave a talk.
To account for the topicalization of the actants mentioned, lexical rules such as the following can be set up:

\[
\begin{align*}
\text{SR: } & [+V] \\
& \quad \rightarrow [\_\_ [+\text{OBJ}]] \\
& \quad \rightarrow [\_\_ [+\text{OBJ}]] \\
\text{RR: } & [+ [+\text{OBJ}]] \\
& \quad \rightarrow [\_\_ [+\text{OBJ}]] \\
& \quad \rightarrow [\_\_ [+\text{OBJ}]] \\
& \quad \rightarrow [\_\_ [+\text{OBJ}]] \\
& \quad \rightarrow [\_\_ [+\text{OBJ}]] \\
& \quad \rightarrow [\_\_ [+\text{OBJ}]]
\end{align*}
\]

The first rule says that a verb that does not allow a nominative objective actant, that is, a transitive verb, takes an objective actant which may or may not occur after the verb. If the accusative objective actant is not situated after the verb, then, by the second rule, it must occur before the verb in which instance it conveys a meaning of emphasis. This results in a sentence with a topicalized accusative objective case such as that in sentence 13 above. Other instances of topicalized cases can be handled in a similar way.

There are two observations that I would like to make in connection with topicalization. The first concerns the specificness of the topicalized actants. The sentence:

18. *dēk khon nīn khruu tii
child clf one teacher beat

\[
[+N] \quad [+N] \\
[+AC] \quad [+NM] \\
[+OBJ] \quad [+AGT]
\]

It's a child that the teacher beat.
is not acceptable because /dêk khon nîn/ is not specific. However in the sentence:

18(a) dêk khon nîn khruu tîi thûk wan
child clif one teacher beat every day

There is a child that the teacher beats every day. /dêk khon nîn/ is specific in the mind of the speaker because this sentence is interpreted to mean that the teacher must have beaten a particular child every day. Therefore this sentence is allowed. In Thai, the syntactic means by which a noun is made specific are still unclear. In the above sentence the addition of /thûk wan/, an adverb of time, has probably made the noun specific. The idea about specificness of the topicalized actants is also mentioned by Lekawatana (1970:99).

The second observation in connection with topicalization is that the location verbs do not allow their inner locatives (see Section 2.4.9) to be topicalized:

19. *čâak roonrian dææn maa
from school Dang come

Both of these observations need further research which the present limited study cannot provide.
2.1.3 Discussion of PSR-2

PSR-2 as shown rewrites PP (prepositional phrase) into either P^NP or P^S. The P or preposition can be either an intrinsic or a derived preposition. In this study, prepositions function as case markers and are specified with a certain case form feature which indicates, as required by the verb, the case form feature of the PP's in which they occur. They are also specified, like verbs, with case frame features indicating the case relations they require on the NP's with which they co-occur, for example, /dûay/ "with" is

\[
\begin{aligned}
{+AC} & \quad \{+INS\} \\
{+I} & \quad \text{[+INS]} \\
\end{aligned}
\]

This means that /dûay/ "with" is a preposition which carries the instrumental case form and is obligatorily followed by either the instrumental or manner case relations. Since in Thai it is the case that every nominal occurring after P carries only the accusative case form, a redundancy rule of the type:

\[
[+P] \rightarrow [-\_[-AC]]
\]

can be set up. By this RR, no case form feature need be marked in the case frame feature of P, and /dûay/ "with" can be specified only as [+P, +I, +\{[+INS]\}].

An example of a prepositional phrase comprising a P followed by an NP is /dûay mít/ "with knife":

\[
\begin{aligned}
{+AC} & \quad \{+MAN\} \\
{+I} & \quad \text{[+INS]} \\
\end{aligned}
\]
There are a few prepositions which also allow an S instead of NP to follow them, of which /sāmrāp/ "for" is an example. In this instance, no case relationship is marked since an S does not carry a case relation by definition.

2.1.4 Discussion of PSR-3

PSR-3 illustrates the expansion of NP. This rule is simplified here and is only detailed enough for the discussion of transitive verbs. It does not claim therefore to cover all types of noun phrases.

2.2 Case Relations and Case Forms

The term "case" according to Charles J. Fillmore (1968a:21) is the term used to identify the underlying syntactic-semantic relationships between the predicator, which can be either a verb, a noun or an adjective, and one or more entities or noun phrases.

These relationships are claimed to be basic to the structure of simple sentences of any language and therefore fundamental in the description of the syntax of any language. This study will assume such relationships in Thai. However
this study, following the lexicase model, differs from the Fillmorean approach in its treatment of these relations. Some of these approaches can be listed as follows:

(a) In the Fillmorean case grammar, case relations such as A (agentive) are represented in the grammar as nodes in the tree. This presentation creates a confusion between categorical and functional information as Fillmore has recognized (Fillmore 1971:262). In lexicase such confusion can be avoided since case relations and case forms are treated as lexical features and therefore are both marked explicitly on the lexical items.

(b) In Fillmorean case grammar, since case relations are introduced in the deep structure, they must be mapped into the surface structure. The mapping is done by a set of transformation rules, referred to as realization rules, which include for example, nominative marking, accusative marking and preposition selection. In the lexicase model, where no deep structure level is found necessary, such rules are not needed. All case form features are indicated in the lexical matrices of the items or are introduced through the redundancy rules.

(c) In talking about the realization of cases, Fillmore recognizes only two case forms: nominative and accusative, and as this implies, case forms are not treated as significantly as case relations. In lexicase, case forms other
than nominative and accusative are posited (see Taylor 1971; Li 1973). They are also considered significant, having their own system, and like case relations, can be considered as universal. Starosta (1972) points out that in many languages two or more case relations can be realized by identical case forms, and that the same groupings of case relations that share identical realization occur in various languages to a degree that this may be considered a universal tendency.

2.3 The Marking of Case Relation Features, Case Form Features and Case Frame Features

In this study the marking of case relations and case forms will differ somewhat from that of Taylor (1971). Taylor treats case relations and case forms as redundantly marked on nouns and prepositions with a requirement that the features on the nouns and prepositions agree. However this study will follow the most recent version of Lexicase (Li 1973), which has case relations marked only on nouns, and case forms on nouns and prepositions, for example:

20. ด้าเน่น ซี นาฬิกา ลำนิ ซามรัพ พุก
    Dang  buy  book  clf this for Pook

\[
\begin{align*}
\text{[+N]} & \quad \text{[+N]} & \quad \text{[+P]} & \quad \text{[+N]} \\
\text{[+NM]} & \quad \text{[+AC]} & \quad \text{[+B]} & \quad \text{[+AC]} \\
\text{[+AGT]} & \quad \text{[+OBJ]} & \quad & \quad \text{[+BEN]} \\
\end{align*}
\]

Dang bought this book for Pook.

This new way of marking indicates that in Thai if case relations are realized in other case forms than nominative
and accusative, the nominals function as the object of the prepositions: and together with the prepositions they constitute a unit (an actant) which carries a case relation with the verb.

Verbs are specified with case frame features among other features. The case frame features indicate which cases are allowed or required to co-occur with the verb. These features sub-classify verbs into groups. The case frame features may be marked in the form [+[+X]], [+[-X]] or [-[-X]]. Treating [+X] as a case feature, the first frame feature: [+[+X]] means that a verb may or may not occur before the case feature [+X]; the second case frame feature means that the verb must occur before the specified case; the third case frame feature means the verb cannot occur before the specified case. The blank is used as the positional order and thus can occur before or after the specified case: [+[+X]] or [+X]. When no blank is mentioned, it is to be understood as the abbreviation of either position, i.e., before or after, for example [+[+X]] is an abbreviation of "[+[+X]] or [+X]."

Prepositions as mentioned before are specified with a certain case form, for example, /kàp/ "with" carries [+C] (comitative) case form. Like verbs, prepositions also carry case frame features (see Section 2.1.3 above). The case frame features on P's are advantageous especially in the treatment of derived prepositions, where such marking
indicates similar properties on case requirements that the derived prepositions and their source verbs share. Having the same requirement indicates that the two lexical items are syntactically and sometimes historically related. (For a detailed treatment of derived prepositions, see Clark, forthcoming.)

2.4 Case Relations in Thai

Nine case relations have been posited in this study for Thai. The identification of the posited case and the case occurrences will be discussed as each case is introduced. When case relations are referred to in a non-technical sense, they will be written in full and in small letters, such as, "agentive case relation". When they are referred to as features, they will be written in abbreviated forms: three capital letters enclosed in square brackets, for example, [+AGT] (agentive). These abbreviated forms are used in rules, lexical entries and sometimes in the discussion.

2.4.1 The Agentive Case Relation [+AGT]

Following Fillmore (1968a:24), the agentive case in this study is defined as "...the typically animate perceived instigator of the action identified by the verb." In lexicase, though not in Fillmorean case grammar, the agentive case relation realized in the nominative case form, obligatorily requires the accusative objective case to co-occur.
It may or may not co-occur with the dative case relation. If it does, the verbs will always be di-transitive verbs. In general, the agentive case may occur with instrumental, benefactive, manner, comitative, time and locative case relations. Of all these case co-occurrences, the instrumental case co-occurrence is distinctive, and can usually be used as a criterion to distinguish the agentive case relation from other cases such as the dative case relation which does not generally co-occur with an instrumental case relation. (See Sections 2.4.4 and 3.3.2.)

The agentive case relation appears in the [+NM] case form in all its occurrences except for the /dooy/ sentences (see Section 4.2.1). Thus, the Thai language can be considered an accusative language. As such, [+AGT] occupies the highest position in the subject case hierarchy.

Following are some of the occurrences of the [+AGT] case relation:

21. 

\[
\text{Dang shoot bird clf that with gun clf new}
\]

\[
\begin{array}{cccc}
+\text{N} & +\text{N} & +\text{P} & +\text{N} \\
+\text{NM} & +\text{AC} & +\text{I} & +\text{AC} \\
+\text{AGT} & +\text{OBJ} & & +\text{INS} \\
\end{array}
\]

Dang shot that bird with a new gun.

22. 

\[
\text{Dang tell secret with Pook}
\]

\[
\begin{array}{cccc}
+\text{N} & +\text{N} & +\text{P} & +\text{N} \\
+\text{NM} & +\text{AC} & +\text{C} & +\text{AC} \\
+\text{AGT} & +\text{OBJ} & & +\text{DAT} \\
\end{array}
\]

Dang told (his) secret to Pook.
The agentive case may occur in the [+M] case form in the /dooy/ construction (see Section 4.2.1 for the discussion of /dooy/ sentences):

23. nī?thaan rān nīi khān dooy nākkhīan mīi čhī story clf this write with writer have name

\[
\begin{array}{c}
[+N] \\
[+NM] \\
[+OBJ]
\end{array} \quad \begin{array}{c}
[+P] \\
[+M] \\
[+AC]
\end{array} \quad \begin{array}{c}
[+N] \\
[+AGT]
\end{array}
\]

This story is written by a famous writer.

2.4.2 The Objective Case Relation [+OBJ]

[+OBJ] is defined by Fillmore (1968:25) as the most neutral case and referred to as "...the case of anything representable by a noun whose role in the action or state identified by the verb is identified by the semantic interpretation of the verb itself: conceivably the concept should be limited to things which are affected by the action or state identified by the verb." This definition is adopted in this study and expanded to cover not only things that are affected by the action or state identified by the verb, but also animate beings that are so affected. According to the definition, [+OBJ] can be considered as present in every verb's case frame although Fillmore has not adopted this practice. It is realized in the nominative case form if the verb is not a transitive verb. If the verb is a transitive verb, the [+OBJ] is realized in the accusative case form and will occur with [+NM], [+NM], or [+INS].
The following are examples of sentences which contain the objective case form (sentence 21 is repeated):

24. kĩn’mây kĩn nän hàk m’hâkhînh

branch clf that break night

\>[+N] \[+NM] \[+OBJ] \]

That branch broke last night.

21. dâæ’n yîn nõk dûay pîin kra?bɔɔk mày

Dang shoot bird with gun clf new

\>[+N] \[+NM] \[+AGT] \[+AC] \[+OBJ] \]

Dang shot the bird with a new gun.

25. pûk râk lûuk khon lêk

Pook love child clf small

\>[+N] \[+NM] \[+DAT] \[+AC] \[+OBJ] \]

Pook loves the youngest child.

26. fay mày pàa

fire burn forest

\>[+N] \[+NM] \[+INS] \[+AC] \[+OBJ] \]

The fire burnt the forest.

The objective case is posited in this study to cover two distinct cases posited by Fillmore (1968a:25): Factitive and Objective, since it is found unnecessary to posit two separate cases. Such positing is made on the consideration that the information of "result" of an action or "factitive"
and of the "affected state" of the actant or "objective" are in fact semantic features of the verbs. That is to say, Fillmore's factitive case always occur with creative verbs such as /kʰian/ "write", /wâat/ "draw"; Fillmore's objective case on the other hand occurs with the verbs that are non-creative verbs such as /khâː/ "kill". Since the difference in the semantic information is due to the characteristic of the verbs, and since the differences in Thai are in complementary distribution, the information could be given by marking certain features on the verbs, and by positing only one case relation: objective case. Thus, instead of positing another case: factitive, this study has chosen to mark creative verbs such as /kʰian/ "write" with the feature [+affect (affected), +fct (factitive)], verbs such as /khâː/ "kill" with [+affect, -fct], and verbs such as /ʔāan/ "read" as [-affect]. Thus, in sentence 21, if /yin/ "shoot" is specified with [+affect, -fct] features, it refers to an action that affects the patient, /nôk/ "bird", but does not bring the patient into existence. This is equivalent to Fillmore's objective case. On the other hand, in a sentence such as:

27. khruu khían rûup nân
teacher draw picture that

+[N]  [+V
+[NM]  +([+NM])   [+N
+[AGT]  +([+AGT])  +N
[-NM]  [-fct   +AC
[-OBJ]  [+fct   +OBJ]
The teacher drew that picture.

with /khǐ'an/ "draw" marked as [+affect, +fct], the object /rùup/ "picture" can be interpreted as the result which comes into existence from the action expressed by /khǐ'an/ "draw". This is equivalent to Fillmore's factitive case.

The features "affect" and "fct" are found to be significant syntactically (see Section 4.2 for a discussion of these syntactic-semantic features) and they help subcategorize relevant transitive verbs. They are referred to as syntactic-semantic features.

Besides being realized in the [+AC] and the [+NM] case forms, the [+OBJ] case relation is also found to be realized in the [+R] case form on a special condition. That is, the [+OBJ] case is realized in the [+R] case form only if the objective actant is also a quote noun:

28. khruu bɔk wāa ʔa? pay phrùnníi
teacher tell will go to-morrow

The realization of [+OBJ] as [+R] allows the possibility of having the [+OBJ] case occurring twice in a string. This violates Fillmore's prohibition against the occurrence of more than one instance of a given case relation within a single simple sentence. Starosta (1973a) in the lexicase
framework, has pointed out however that two instances of the same case relation can occur in a simple sentence if they are coreferential, in the sense that the referent of one actant is identical or included in the referent of the other. (See also Fillmore 1971 and Yang 1972.) In the following sentence, /rían rót/ "the topic of the car" is a general topic carrying [+AC +OBJ], while /wàa taay sa?mā?/ is a specific detailed information included in the general topic telling of what happens to the car:

29. pùk lāw rían rót wàa man taay sa?mā?
   Pook tell story car saying it die always

   

   Pook told about the car always breaking down.

2.4.3 The Instrumental Case Relation [+INS]

   Fillmore (1968a:24) defines the instrumental case as "the case of the animate force or object causally involved in the action or state identified by the verb." This study, following Starosta (1973a), will however extend the instrumental case to include any means, material, or object which may be necessary for the performance of an action but does not affect any external object directly. This means that an instrumental case can occur in the case frame of an intransitive verb as well as a transitive verb.
It has been stated before that one of the characteristics of an agentive case is that it can co-occur with the instrumental case. In examining the instrumental case, it is however found that while an instrumental case may occur wherever an agentive case occurs, the agentive case does not necessarily occur where the instrumental case does.

The instrumental case can appear in the [+NM] case form. In this instance, no other case relations except objective, time and locative can co-occur.

30. mîit bàat mîi dææn
knife cut hand Dang

\[
\begin{array}{c|c}
+N & +N \\
+NM & +AC \\
+INS & +OBJ \\
\end{array}
\]

The knife cut Dang's hand.

31. fay mây pàa mîawaan
fire burn forest yesterday

\[
\begin{array}{c|c}
+N & +N \\
+NM & +AC \\
+INS & +OBJ \\
\end{array}
\]

The fire burnt the forest yesterday.

32. pææn nîi tham khanom ?ar氧
cr flour this make dessert delicious

\[
\begin{array}{c|c}
+N & +N \\
+NM & +AC \\
+INS & +OBJ \\
\end{array}
\]

This flour makes a delicious dessert.

When the instrumental case occurs in the [+NM] case form, two types of verbs may be distinguished. The first type includes those verbs that do not have corresponding
verbs that allow the agentive case in the case frames. These verbs form a distinct group of their own (see Section 3.3.3) and are exemplified by sentences 30 and 31 above. The other group of verbs, in contrast, have corresponding verbs that allow the agentive case and such verbs presuppose the action of an outside agent, for example, /tham/ "make" in sentence 32 above. These latter verbs are considered to be derived verbs (see Section 4.1.3).

When the instrumental case co-occurs with the agentive case or the dative case, it is generally realized through the [+I] case form:

33. dam ñok dûay piìn kra?bûk nán
   Dam shoot bird with gun clf that
   [+[N] [+[P] [+[N] [+INS]]]

   Dam shot the bird with that gun.

34. dææn rak khun ñit dûay ñay mày chây
   Dang love Khun Cit with heart not
   [+[N] [+[P] [+[N] [+INS]]]

   Dang loves Khun Cit with his heart, not his head.

It should be noted that the instrumental case that occurs with the nominative dative case must obligatorily
involve an inalienable possession and is not usually present in the string since it is implied by the lexical content of the verb itself. The occurrence of [+INS] case with dative verbs may be considered equivalent to Fillmore's case notion: built-in roles (Cook 1971:14; see also Lekawatana 1970:64-69).

With certain verbs the instrumental case can appear in the [+AC] case form. These verbs include for example: /pay/ "go", /kin/ "eat":

35. dææn pay ròtfay čàak kruŋthēep
    Dang go train from Bangkok

\[
\begin{array}{c}
\text{[+N]}
\hline
\text{[+AC]}
\hline
\text{[+INS]}
\end{array}
\]

Dang went (somewhere) by train from Bangkok.

36. dææn kin tâ?kiap
    Dang eat chopsticks

\[
\begin{array}{c}
\text{[+N]}
\hline
\text{[+AC]}
\hline
\text{[+INS]}
\end{array}
\]

Dang eats with chopsticks.

In the above two sentences, the instrumental case may also appear in the other case forms:

35(a) dææn pay dooy ròtfay čàak. kruŋthēep
    Dang go by train from Bangkok

\[
\begin{array}{c}
\text{[+P]}
\hline
\text{[+M]}
\hline
\text{[+N]}
\hline
\text{[+AC]}
\hline
\text{[+INS]}
\end{array}
\]

Dang went (somewhere) by train from Bangkok.
It is observed that in sentences 36 and 36(a) the absence or presence of /duay/ "with" corresponds to the absence or presence of the object of the verb. When no [+OBJ] is present, the instrument case relation may be [+AC] or [+I], but when the object is present, the instrumental case relation may not appear in the accusative case form but only in the instrumental or the comitative case form:

35(b) *daææn kin khãaw tà?kiap
Dang eat rice chopsticks

Dang eats rice with chopsticks.

(c) daææn kin khãaw duay tà?kiap
Dang eat rice with chopsticks

Dang eats rice with chopsticks.

(d) daææn kin khãaw kàp tà?kiap
Dang eat rice with chopsticks

Dang eats rice with chopsticks.

Thus, it appears that Thai (and presumably other languages as well) has an object choice hierarchy with certain verbs, if an [+OBJ] actant occurs in the predicate, it must be [+AC]; if no [+OBJ] is present, another case relation may occur as [+AC], for example [+INS].
2.4.4 The Dative Case Relation [+DAT]

The dative case relation can be defined as "the case of the animate being affected by the state or action identified by the verb" (Fillmore 1968a:24); or the entity involved in an activity without being affected as an active participant in that activity.

The dative case relation may be realized through the [+NM], [+AC], or [+C] case forms. If it is realized through the [+NM] case form, it does not allow the co-occurrence of [+AGT] or [+BEN] case relations. The verbs that allow [+NM] except for the possession verb /mii/ "have", express the semantic meanings of emotion, cognition or perception (see Section 3.3.2). In general, [+NM] does not allow the co-occurrence of [+INS], but if the [+INS] involves inalienable possession, the co-occurrence is allowed (see sentence 34 above). When the dative case relation is realized in the [+AC] or [+C] case forms, the agentive case relation must also occur. Following are some examples of the dative case relation in sentences:

37. pùk khììn nānš́̄i lèm nán khruu lāàw
Pook return book clf that teacher already

[+N ]
[+NM ]
[+AGT ]
[+N ]
[+AC ]
[+DAT ]

Pook returned that book to the teacher already.
38. pùk khàin nànsì t lèm nàn kàp khruu lààw
Pook return book clif that with teacher already

\[
\begin{array}{c}
{[[+N]}} \\
{[+NM]} \\
{[+AGT]}
\end{array}
\begin{array}{c}
{[+P]} \\
{[+AC]} \\
{[+OBJ]}
\end{array}
\begin{array}{c}
{[+C]} \\
{[+AC]} \\
{[+DAT]}
\end{array}
\]

Pook returned that book to the teacher already.

39. daææn ràk màæe màak
Dang love mother very

\[
\begin{array}{c}
{[[+N]}} \\
{[+NM]} \\
{[+DAT]}
\end{array}
\begin{array}{c}
{[+N]} \\
{[+AC]} \\
{[+OBJ]}
\end{array}
\]

Dang loves mother very much.

2.4.5 The Benefactive Case Relation [+BEN]

The benefactive case relation is defined as "...the relation of the entity for whose benefit an action is performed, or for the benefit of which a state exists; or the entity in whose place an action is performed; ..."
(Starosta 1973a:7). In Sora, a Munda language spoken in India, there seems to be the meaning of reason or purpose for which an action is undertaken included in the benefactive case relation (Starosta 1973a:7). This also seems true in Thai, for example:

40. khàw tham ñaán chìn nàn phìa lòuk
he do work clif that for child

\[
\begin{array}{c}
{[+P]} \\
{[+B]}
\end{array}
\begin{array}{c}
{[+N]} \\
{[+AC]}
\end{array}
\begin{array}{c}
{[+BEN]}
\end{array}
\]

He did that job for the sake of (his) child.
In the above sentence, /lûuk/ carries the [+BEN] case relation, but instead of conveying only the beneficial meaning, it also conveys the meaning of reason for the action /tham nân čhin nân/ "to do that job".

Within the scope of this study, there seems to be no need for a positing of a separate case: reason. The benefactive case relation is used to cover both relation meanings.

The benefactive case relation always appears in the accusative case form or in the benefactive case form marked by /hây/ "for"; /phâa/ "for, for the sake of"; /sâmrâp/ "for":

41. phâč hây nân pûk
   father give money Pook

   [+N ]
   [+AC]
   [+BEN]

   Father gave Pook (some) money.

42. dâmêŋ yëŋ sâ sâ hây pûk
   Dang sew shirt for Pook

   [+P]
   [+N ]
   [+B]
   [+AC]
   [+BEN]

   Dang sewed the shirt for Pook (in place of Pook).

43. dâmêŋ yëŋ sâ sâmrâp pûk
   Dang sew shirt for Pook

   [+P]
   [+N ]
   [+B]
   [+AC]
   [+BEN]

   Dang sewed the shirt for Pook.
Dang sewed the shirt for the sake of Pook.

There are some differences in meaning among these case markers which will be discussed in Section 2.6.2.1.2.

2.4.6 The Comitative Case Relation [+COM]

The comitative case relation is defined as the case of the being "...which is somehow associated in a parallel way with the referent of another actant in the verbal activity or state described" (Taylor 1971:42). Unless the verb is marked otherwise, the comitative case relation is allowed to occur only with non-stative and non-process verbs. That is, the comitative case relation does not occur with stative verbs such as /dam/ "be black" or process verbs such as /hâk/ "break".

The comitative case relation is realized through the [+C] (comitative) case form:

45. dăeæn pay roonrian kàp pùk
Dang go school with Pook

Dang goes to school with Pook.
It should be noted that some verbs in Thai are inherently comitative, that is, they require a comitative actant in their case frames. The obligatory presence of a comitative case relation thus distinguishes these verbs from others and consequently helps in sub-classifying verbs. This also constitutes further justification for positing [+COM] as a separate case.

46. dææn tha?lė? kàp phîan
   Dang quarrel with friend
   
   [+P]  [+N ]
   [+C]   [+AC ]
   [+COM]

   Dang quarreled with (his) friend.

Other verbs that inherently require [+COM] are for example: /khuy/ "chat", /khâw/ "go with, be compatible with, as of colors".

2.4.7 The Manner Case Relation [+MAN]

The manner case relation designates the way or manner in which the action expressed by the predicator is carried out. The manner case relation is realized through the [+I] case form, the [+C] case form, or the [+M] case form:

47. pùk yép sîa dùay khwaamtânčay
   Pook sew shirt with intention
   
   [+P]  [+N ]
   [+I]   [+AC ]
   [+MAN]

   Pook sewed the shirt intently.
48. daææn khâa khôn taay dooy khwaampra?màat
   Dang kill man die with recklessness

   \[
   \begin{array}{c}
   [+P] \\
   [+M] \\
   [+AC] \\
   [+MAN]
   \end{array}
   \]

   Dang killed a man recklessly.

49. daææn hên khâw thûuk yîn kâp taa
   Dang see he shoot with eye

   \[
   \begin{array}{c}
   [+P] \\
   [+C] \\
   [+N] \\
   [+AC] \\
   [+MAN]
   \end{array}
   \]

   Dang saw him shot with his own eyes.

2.4.8 The Time Case Relation [+TIM]

   The time case relation can be interpreted as that which
   expresses the time of the event or action identified by the
   verb. [+TIM] can occur in the case frame of any verb and
   can be realized through the accusative [+AC] case form or
   the locative case form [+L].

50. khruu ča? yùu bāan wânsûk
    teacher will stay home Friday

    \[
    \begin{array}{c}
    [+N] \\
    [+AC] \\
    [+TIM]
    \end{array}
    \]

    The teacher will stay home on Friday.

51. khruu ča? yùu bāan thîn wânsûk
    teacher will stay home arrive Friday

    \[
    \begin{array}{c}
    [+P] \\
    [+derv] \\
    [+L] \\
    [+N] \\
    [+AC] \\
    [+TIM]
    \end{array}
    \]

    The teacher will stay home until Friday.
2.4.9 The Locative Case Relation [+LOC]

The locative case relation can be defined as the relationship between the actant and the verb which expresses the location or spatial orientation of an action. In relation to the locative case, two aspects can be discussed: different types of locative and the direction aspect of locative.

In connection with the first aspect, Fillmore (1968a: 26) observed that some verbs require location obligatorily; for example, in English, "to live" cannot occur without a specified location. One cannot say "*I live" but "I live in New York". Other verbs allow optional location. The location obligatorily required by certain verbs is referred to by Fillmore as "inner locative" as opposed to the weakly restricting L or "outer locative".

Platt (1971:32-33) mentioned three types of locatives in English: inner, outer and far-outer. The first type is obligatory or directional or both. It is required by a more restricted range of verbs. The second is optional and may occur with any verbs that imply agentive. The third type, referred to by Platt as the far-outer locative, is not required by any particular type of verb but can occur in a string with any verb if the expression of spatial orientation of the state or action is to be made. Three types of locatives can be also observed in Thai but the three types
are different from Platt's in a significant way. The first type of locative is the strict inner locative. This is the locative which is required grammatically by a group of verbs which presumably, are few in number. These verbs, for example: /sày/ "put", /yùu/ "stay", /təm/ "add", cannot occur grammatically without the locative actant:

Pook on the phone to Dang: thəə kamlən tham ?aray yùu nà? you -ing do what FP

What are you doing?

Dang: *kamlən sày nám -ing put water *(I) am putting water.

As can be seen, the locative actant cannot be omitted out of context. The second type of locative which is not discussed by Platt is also inner locative but of the non-strict type. This means that the locative actant is allowed to be optional. This is because such a locative actant is already implied by the lexical content of the verb. The verbs that allow a non-strict inner locative are, for example: /khàn/ "write", from the lexical content of which, one knows that the action of writing must be done on a certain thing on which one can write. The optionality of the non-strict inner locative actant makes it seem similar to the third type of locative, the outer locative, which can occur optionally also. However, the two can be differentiated. Whereas the non-strict inner locative indicates the location
of the [+OBJ] actant, the outer locative indicates the location of the action as a whole. Besides, whereas the inner locative actant does not allow topicalization, the outer locative does. Moreover, while the outer locatives can occur with any type of verb, including those that occur with an inner locative, the inner locatives occur only with certain verbs.

The difference between the types of locatives in this study and Platt's can be shown by the following chart:

<table>
<thead>
<tr>
<th>This Study</th>
<th>Platt's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner locative (indicating the location of [+OBJ])</td>
<td>inner locative, obligatory, or directional or both</td>
</tr>
<tr>
<td>Outer locative (occurring with any verb expressing the location of an action as a whole)</td>
<td>outer, optional and with agentive verb</td>
</tr>
<tr>
<td></td>
<td>far outer locative, occurring with any verb</td>
</tr>
</tbody>
</table>

Similar to the instances of factitive objective case discussed in Section 2.4.2, the types of locatives can be considered as dictated by different types of verbs. Two major types of verbs can be set up accordingly: [+location] verbs and [-location] verbs. The first type includes verbs that grammatically require the locative actant and may or
may not grammatically allow its absence. The verbs that do not allow the absence of the locative actant are referred to as the strict location verbs. The locative required by them is referred to as the strict inner locative actant. The verbs that grammatically allow the absence of the locative actant are referred to as the non-strict location verbs and the locative actant occurring with them is referred to as the non-strict inner locative. The second major type of verbs includes the non-location verbs. These verbs do not require a locative actant to occur with them.

To account for these different types of verbs, the following sets of rules are probably needed:

**SR's**

\[ [+V] \rightarrow [+\text{location}] \]

\[ [+\text{location}] \rightarrow [+\text{strict}] \]

\[ [+([+\text{LOC}])] \rightarrow [+][+\text{LOC}] \]

\[ [+][+\text{LOC}] \rightarrow [+][+\text{LOC}] \]

**RR's**

\[ [+V] \rightarrow [+([+\text{LOC}])] \]

\[ [+\text{strict}] \rightarrow [[+\text{LOC}]

\[ [+][+\text{LOC}] \]

\[ [+][+\text{LOC}] \]

\[ [+][+\text{LOC}] \]

\[ [+][+\text{LOC}] \]

\[ [+][+\text{LOC}] \]

\[ [+][+\text{LOC}] \]

The first SR rule says that verbs can be subcategorized into two types: location verbs such as /tæm/ "add", /səy/ "put"
and non-location verbs such as /kin/ "eat", or /rūu/ "know". The second SR rule states that location verbs can be further subcategorized into either strict location or non-strict location verbs. RR-ii states that strict location verbs are verbs that grammatically require the locative actant and that this locative actant occurs only after the verb. RR-ii also indicates that strict location verbs allow the outer locative actant, which is topicalized and hence carries the emphatic meaning, to occur before them. This outer locative actant is introduced by RR-i, with the following application of SR-iii, SR-iv, and RR-iv. The output of RR-iii with the parentheses around [+LOC] indicates that the non-strict location verbs, unlike the strict location verbs, allow the locative actant to be optional. If, however, the locative actant occurs, it occurs after the verb, as can be seen from the case frame in the output of RR-iii. This locative actant is different from the outer locative actant introduced by RR-i and which can be topicalized, according to RR-iv.

RR-i says that any verb allows the locative in its environment. By SR-iii, verbs that have potential for locative can have the locative actant in the actual string or not. By SR-iv, the locative actant may or may not occur after the verb. If it does not, then, by RR-4, it occurs before the verb, in which instance, it is a case of topicalization, where the meaning of emphasis on the topicalized actant is also expressed.
In connection with topicalization of the outer locative actant, it should be emphasized that the inner locative actant, as shown by the outputs of RR-ii and RR-iii can occur only after the verb and thus cannot be topicalized.

Another aspect in connection with locative case is the direction notion. In this study, it is found unnecessary to posit "direction" as another case. Instead, following Fillmore's observation (1968a:25) that locational and directional elements do not contrast but are superficially different and can be accounted for by the character of the verb, this study uses the syntactic-semantic features:

[+dir] "directional" to mean the direction or the motion of the action expressed by the verb in relation to the location;
[+gol] to mean the intended end of the directional action;
[+src] "source" to mean the starting point of the directional action; and
[+term] "terminus" to mean the actual end of the directional action. These features are considered inherent features of [+L] prepositions and location verbs or verbs that have the feature [+location]. They sub-classify the verbs accordingly. The following rules account for these syntactic-semantic features formally:

\[
\begin{align*}
[+\text{location}] & \rightarrow [+\text{dir}] \\
[+\text{dir}] & \rightarrow [+\text{gol}] \\
[-\text{gol}] & \rightarrow [+\text{src}] \\
[+\text{gol}] & \rightarrow [+\text{term}] 
\end{align*}
\]
According to these rules, locative verbs can be divided into many sub-types: [-dir] such as /yùu/ "stay"; [+dir, -gol, -src] such as /phàn/ "pass"; [+dir, +gol, -term] such as /pay/ "go"; [+dir, -gol, +src] such as /čàak/ "depart"; [+dir, +gol, +term] such as /th̀n/ "arrive". A redundancy rule will be used in addition to the above rules:

\[
\begin{array}{c}
[-\text{dir}] \\
\{[+\text{term}] \\
[+\text{src}] \\
[+\text{[+LOC]}]
\end{array}
\rightarrow
\begin{array}{c}
[-\text{[+LOC]}] \\
[---[+\text{LOC}]]
\end{array}
\]

This rule says that a non-directional verb such as /yùu/ "stay"; terminus verbs such as /th̀n/ "arrive" and source verbs such as /čàak/ "depart" will not allow [+L] locative actant to occur following them. Thus, verbs such as /pay/ "go" can occur before [+AC] or [+L] locative actants:

52(a) daeàen pay bàan
Dang go home

\[
\begin{array}{c}
[+\text{V}] \\
[+\text{location}] \\
[+\text{dir}] \\
[+\text{gol}] \\
[-\text{term}]
\end{array}
\]
\[
\begin{array}{c}
[+\text{N}] \\
[+\text{AC}] \\
[+\text{LOC}]
\end{array}
\]

Dang goes home.

(b) daeàen pay čàak bàan
Dang go from home

\[
\begin{array}{c}
[+\text{V}] \\
[+\text{location}] \\
[+\text{dir}] \\
[+\text{gol}] \\
[-\text{term}]
\end{array}
\]
\[
\begin{array}{c}
[+\text{P}] \\
[+\text{der}] \\
[+\text{L}] \\
[---[+\text{LOC}]]
\end{array}
\]
\[
\begin{array}{c}
[+\text{N}] \\
[+\text{AC}] \\
[+\text{LOC}]
\end{array}
\]

Dang went from home.
On the other hand, verbs such as /yùu/ "stay" which is marked as [-dir] or /čàak/ "depart", specified with [+src] do not occur before a [+L] locative actant but only before an [+AC] locative actant:

53(a) daææñ čàak bâan maa láay pii láæw  
Dang leave home come several year already

53(a)

\[
\begin{array}{c}
\text{[+V]} \\
\text{+location} \\
\text{+dir} \\
\text{-gol} \\
\text{[+src]}
\end{array}
\quad
\begin{array}{c}
\text{[+N]} \\
\text{[+AC]} \\
\text{[+LOC]}
\end{array}
\]

Dang left home several years ago.

(b) *daææñ čàak thăñ bâan  
Dang leave arrive home

54(a) daææñ yùu bâan  
Dang stay home

54(a)

\[
\begin{array}{c}
\text{[+V]} \\
\text{+location} \\
\text{-dir}
\end{array}
\quad
\begin{array}{c}
\text{[+N]} \\
\text{[+AC]} \\
\text{[+LOC]}
\end{array}
\]

Dang stays home.

(b) *daææñ yùu čàak bâan  
Dang stay from home

(b)

\[
\begin{array}{c}
\text{[+P]} \\
\text{+deriv} \\
\text{+L} \\
\text{[+] [+LOC]}
\end{array}
\quad
\begin{array}{c}
\text{[+N]} \\
\text{[+AC]} \\
\text{[+LOC]}
\end{array}
\]

Thus, the meaning of direction of an action and types of direction can be captured by the syntactic-semantic features marked on the verbs. These features then determine the
types of location of the locative actants. The locative case relation can be realized as [+AC] or [+L], as can be seen from the above examples.

2.5 Case Forms

As stated before, case forms are treated in lexicon as lexical features on nouns and prepositions. They are symbolized by one or two capital letters, for example, [+C] is for the comitative case form, [+NM] for the nominative case form. Of all the eight case forms to be discussed below, two are manifested by word order: accusative and nominative. For these two case forms, the case form features [+AC] (accusative) and [+NM] (nominative) are marked on the head noun of the construction, for example:

55. khruu dū? dēk khon nān ʁi̯i
   teacher scold child clf that Q word

Did the teacher scold that child?

For case forms other than the nominative and accusative, preposition, either intrinsic or derived, are used as case markers. (See Section 2.6 for discussion of case markers.)
The prepositions as case markers carry the case form features such as [+I] (instrumental) while the noun that follows is marked by the accusative case form indicating that it is the object of the preposition. In this sense, there is a case form government hierarchy: the verb governs the preposition; the preposition governs the noun. This can be illustrated by the following tree where all the case features are indicated:

```plaintext
56. daeæn  yin   nök tua nán dúay piin kra?bök níi
Dang shoot bird clf that with gun clf this
```

Following are the eight case forms in which the nine case relations appear.

2.5.1 The Nominative Case Form [+NM]

The nominative case form is the form of the grammatical subject of the sentence. In Thai, this case form can host four case relations: agentive, objective, dative and instrumental. In a simple non-subjectless sentence, only one nominative actant can occur and it can be identified by
word order: the nominative actant must occur immediately before the verb.

2.5.2 The Accusative Case Form [+AC]

The accusative case form can realize six case relations: objective, dative, benefactive, instrumental, locative and time. In a simple sentence, unlike the nominative case form, the accusative case form may occur more than once.

57. dææn yùu bâan waanníi
   Dang stay home yesterday

   \[ [+N] \quad [+N] \quad [+AC] \quad [+AC] \quad [+LOC] \quad [+TIM] \]

   Dang stayed home yesterday.

58. dææn hây næn kâp pûk waanníi
   Dang give money with Pook yesterday

   \[ [+N] \quad [+P] \quad [+N] \quad [+AC] \quad [+AC] \quad [+OBJ] \quad [+DAT] \quad [+TIM] \]

   Dang gave the money to Pook yesterday.

It is observed that when the accusative case form occurs more than once, there seems to be an order of priority for the case relations that are realized as [+AC]. For example, between the accusative locative case relation and the accusative time case relation, the former always precedes the latter. This constraint in ordering must ultimately be accounted for in the grammar but will not be attempted here since it requires a separate study that is beyond the scope of this present work.
2.5.3 The Range Case Form [+R]

The range case form realizes only one case relation: [+OBJ], on the condition that the actant that carries this [+OBJ] case relation is also a derived quote noun. The [+R] case form is identified by the preposition /wâa/ which is a coverb meaning "that, saying".

2.5.4 The Instrumental Case Form [+I]

The [+I] case form can realize two case relations: instrumental and manner. The [+I] case form is identified by the preposition /dûay/ "with".

2.5.5 The Benefactive Case Form [+B]

The benefactive case form is the case form that hosts only one case relation: the benefactive case relation. It is marked by several prepositions: /hây/ "for, in place of", /sâmrap/ "for", /phâa/ "for, for the sake of".

2.5.6 The Comitative Case Form [+C]

The comitative case form realizes several case relations: comitative, dative, manner and instrumental. The [+C] case form is identified by the preposition /kàp/ "with", which is often reduced to /kà?/ in colloquial use. The realization of comitative and dative case relations through the [+C] case form may result in an ambiguity in a sentence in which they both appear. This ambiguity is discussed in Section 2.6.2.1.1 below.
2.5.7 The Manner Case Form [+M]

The manner case form hosts the following case relations: agentive, instrumental and manner. The agentive case relation realized through the [+M] case form is found only in the /dooy/ "passive" construction. (See Section 4.2.) The [+M] case form is signalled by the preposition /dooy/ "by".

2.5.8 The Locative Case Form [+L]

The locative case form realizes locative and time case relations. The [+L] case form is signalled mainly by derived prepositions, for example /ćiak/ "from", /thǐn/ "to", although intrinsic prepositions are not impossible, for example: /tàiæ/ "from".

As can be seen, there is no one to one correspondence between a case relation and a case form. This supports Starosta's observation (1973b) that case forms in a grammar seem to function like pigeon-holes, in which the speaker places case relations according to certain priorities and in which the hearer looks to find case relations. Further, the realization of case relations into an identical case form in Thai, such as the realization of [+INS] and [+MAN] into [+I] case form, or the realization of [+LOC] and [+TIM] into [+L] is also found in other languages. The first occurs in English, German and Sora; the second in English, Japanese and Korean (Starosta 1973b). This supports
Starosta's idea that the grouping of case relations with the same case forms is similar in many languages and can be studied as a possible universal.

Table 1 is the summary of the correlation of case relations and case forms in Thai.

2.6 Case Markers

Starosta (1971b:194), discussing Sora case relation manifestations, presented the following devices to realize case relations in overt forms: word order, post-positions, co-verbs, and noun auxiliaries. Thai uses the same devices, except that it has prepositions instead of post-positions. These devices are discussed in the following sections.

2.6.1 Word Order

The use of word order as a device for case realization applies to the nominative [+NM] and the accusative [+AC] case forms, since neither of these case forms is marked by a preposition.

In Thai the position for the [+NM] case form, i.e., the grammatical subject of a sentence, is immediately before the verb. But this is not the only case that can occur in pre-verb position; in a sentence with topicalization, the topicalized actant carrying a case form other than [+NM] can also occur before the verb. This fact if added to the fact that in Thai, in a discourse where context of situation has a role, the [+NM] or subject of a sentence can be omitted,
Table 1
Correlation of Case Relations and Case Forms in Thai

<table>
<thead>
<tr>
<th>Case Relations</th>
<th>+NM</th>
<th>+AC</th>
<th>+R</th>
<th>+I</th>
<th>+B</th>
<th>+C</th>
<th>+M</th>
<th>+L</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AGT</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>+OBJ</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+INS</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+DAT</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+BEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+COM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>+MAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+TIM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>+LOC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
can make it sometimes difficult to decide whether the single actant before the verb in a given sentence is an instance of the topic choice of a particular case or an instance of a subject. A general test to determine which is the case is to insert another nominal before the verb between the actant in question and the verb and see whether the basic meaning of the sentence changes. If it does not, the first nominal is likely to have been an instance of a topicalized actant:

59(a) wanníi kin khâaw lææw rįi yaŋ
  to-day eat rice already Q yet

To-day, eaten yet?

(b) wanníi khun kin khâaw lææw rįi yaŋ
  to-day you eat rice already Q yet

To-day, have you eaten yet?

In sentence 59(b), /khun/ can be inserted before the verb without changing the basic meaning of the sentence. Therefore, /wanníi/ in 59(a) can be considered an instance of topicalization and not a manifestation of the nominative case form. If the insertion of another nominal before the verb changes the basic meaning of the sentence, it is likely that the first nominal actant in the original sentence is in the nominative case form:

60(a) wanníi nãaw
  to-day cold

To-day is cold.

(b) wanníi phõm nãaw
  to-day I cold

To-day I am cold.
Sentences 60(a) and (b) differ in meaning according to the absence or presence of /phōm/ "I". In (a), it is the weather which is cold but in (b), it is a person who feels cold. This difference is due to the fact that in sentence (a) /wannii/ is the subject or the nominative actant of the sentence whereas in (b), it is the topicalized accusative time actant.

Thus, although the nominative actant which must occur before the verb is not the only actant that can occur in the pre-verb position, it still can be identified.

Similar to the [+NM] case form, the [+AC] case form is generally manifested by word order. The accusative case form of the objective case usually occurs immediately after the verb. In instances where there is more than one accusative case form, there is a question of relative order of the case relations involved as mentioned in Section 2.5.2.

Although the usual word order of a sentence is to have the [+AC] case form occurring after the verb, it is not impossible to have the accusative case form occurring before the verb. This is an instance of topicalization (see Section 2.1.2.7) as in:

61. bān čhǎn ča? klàp tāәe yaŋ māy čhày diawnii
    home I will return but yet not now

[[+N] [[+N] [+AC]] [+NM]
[+LOC] [+OBJ]]

I shall return home but not now.
2.6.2 Prepositions

In Thai, as in many other languages, prepositions are used as case markers. They are divided into intrinsic or non-derived prepositions and co-verbs or derived prepositions. In the discussion below, the non-derived prepositions will be dealt with first.

By PS rule stated in Section 2.1.1, a preposition is followed by either an NP or S. Together they constitute an actant, a unit which carries a case form and, with an NP, a case relationship to the predicator or to the verb. A preposition is marked with a case form feature, and usually also a case frame feature which indicates the case relation that the preposition requires on the following NP; for example, /tāe/ "from" is marked as:

This means that /tāe/ is a locative case marker which requires a following [+AC] or [+AC] NP. If the preposition is derived, the additional [+derv] feature and other syntactic-semantic features are also marked, as will be seen in the discussion below. Since it is assumed that the nominal actant following [+P] always carries the [+AC] case
form, a redundancy rule such as:

\[ +P \rightarrow [-__[-AC]] \]

can be set up. By this redundancy rule, there is no need to mark \([+AC]\) in the case frame feature of the preposition. Thus, \(/tææ/ \) "from" above can appear in the lexicon as:

\[
\begin{array}{c}
tææ \\
"from"
\end{array}
\]

\[
\begin{array}{c}
[+P] \\
+L \\
+_{[-[+LOC]]} \\
+_{[-[+TIM]]}
\end{array}
\]

2.6.2.1 Intrinsic Prepositions

The list of intrinsic prepositions in Table 2 includes only some of those preposition case markers that are commonly used. The prepositions listed will be presented with their case form and case frame features. The English gloss given suggests the general semantic field of the prepositions only: there is no syntactic attempt in this study to present semantic features. Some of these prepositions require certain observations.

2.6.2.1.1 The Preposition /kàp/ 'with'

/kàp/, the preposition case marker for \([+C]\) case form which in colloquial speech is usually reduced to /kà?/, as has been observed, can mark either the dative or comitative relations among others. One might ask whether it is possible for the definition of the comitative relation to be extended also to cover the dative case relation. In this
Table 2

Some Intrinsic Prepositions in Thai

<table>
<thead>
<tr>
<th>Prepositions</th>
<th>Case forms</th>
<th>Case Relations</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ด้วย &quot;with&quot;</td>
<td>[ +P ]</td>
<td>[+INS]</td>
<td>ด้วยยิงนกด้วยปืนกวางน้ำนา้</td>
</tr>
<tr>
<td></td>
<td>[+I]</td>
<td>[-]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ +M ]</td>
<td>[+MAN]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ +INS ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ด้วย &quot;by, with&quot;</td>
<td>[ +P ]</td>
<td>[+AGT]</td>
<td>นี้เขียนด้วยด้วยหนังสือด้วย</td>
</tr>
<tr>
<td></td>
<td>[ +M ]</td>
<td>[+MAN]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ +INS ]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Examples:

- Dang kill man dead by recklessness.
- Dang went to Chiangmai by train.
### Table 2 (Continued)

Some Intrinsic Prepositions in Thai

<table>
<thead>
<tr>
<th>Prepositions</th>
<th>Case forms</th>
<th>Case relations</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>[+COM]</td>
<td>dææn pay rooŋrian kāp pūk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[+DAT]</td>
<td>Dang go school with Pook</td>
</tr>
<tr>
<td>c. kāp &quot;with&quot;</td>
<td></td>
<td>[ +C]</td>
<td>Dang goes to school with Pook.</td>
</tr>
<tr>
<td></td>
<td>[C]</td>
<td>[+INS]</td>
<td>dææn khām nānšį kāp pūk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ +C]</td>
<td>Dang return book with Pook</td>
</tr>
<tr>
<td></td>
<td>[C]</td>
<td>[+MAN]</td>
<td>Dang returned the book to Pook.</td>
</tr>
<tr>
<td></td>
<td>[C]</td>
<td></td>
<td>Dææn khāaw kāp tǎ?kiap</td>
</tr>
<tr>
<td></td>
<td>[C]</td>
<td></td>
<td>Dang eat rice with chopsticks.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dææn hēn khon thōuk yīn kāp taa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dang see man shot with eye</td>
</tr>
<tr>
<td></td>
<td>[B]</td>
<td></td>
<td>Dææn yēp sǐa tua nān sāmrap pūk</td>
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<td>Dang sew shirt clf that for Pook</td>
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<tr>
<td>d. sāmrap &quot;for&quot;</td>
<td></td>
<td>[ +B]</td>
<td>Dææn yēp sǐa tua nān sāmrap pūk</td>
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<tr>
<td></td>
<td>[B]</td>
<td></td>
<td>Dang sewed that shirt for Pook</td>
</tr>
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Table 2 (Continued)
Some Intrinsic Prepositions in Thai

<table>
<thead>
<tr>
<th>Prepositions</th>
<th>Case forms</th>
<th>Case relations</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>e. pha &quot;for&quot;</td>
<td>pha thamnaan pha luuk</td>
<td>father work for child</td>
<td>Father works for the sake of the child.</td>
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<td></td>
<td>[+B]</td>
<td>[+BEN]</td>
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<td>[+P]</td>
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<tr>
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<td>+B</td>
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<tr>
<td></td>
<td>[+BEN]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. tae &quot;from&quot;</td>
<td>dauawn maa tae chiangmai</td>
<td>Dang come from Chiangmai</td>
<td>Dang came from Chiangmai</td>
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<tr>
<td></td>
<td>[+LOC]</td>
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<td>[+TIM]</td>
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</tbody>
</table>

Dang came early this morning (and is still here).
study, this possibility is not maintained; instead two separate case relations, [+COM] and [+DAT], are posited to appear in the C case form. There are reasons for this positing. First, the positing of two case relations can explain the ambiguity of such sentences as:

62. dææn sǐi sǐa tua nǐ₁ kàp pǔk
Dang buy shirt clf this with Pook

This sentence has two distinct readings:
(a) Dang bought this shirt from Pook (Pook is the seller)
(b) Dang together with Pook bought the shirt.

These two readings can be explained if one assigns [+C] to /kàp pǔk/ in reading (a); and [+C] to /kàp pǔk/ in reading (b). The positing of only [+COM] for both cannot explain the ambiguity.

Second, that the two case relations realized both as /kàp/ are independently significant can be seen from the different properties of verbs which differ in ability to co-occur with these two cases. If a verb is a ditransitive verb with no restriction on comitative actant, either case is allowed. Two readings are consequently possible for a string, depending on whether the actant marked by /kàp/ is interpreted as [+DAT] or [+COM]. If a verb is a ditransitive which does not allow [+COM], only one reading is
possible. If a verb is not a ditransitive verb, only one reading is possible, that is, the actant marked by /kəp/ is a comitative actant; if a verb does not allow either a comitative or dative case, no reading is possible. That these differences in verb properties affect the readings of sentences can be seen in the following examples:

(a) /thāam/ "ask", a ditransitive verb with no restriction on comitative actant.

63. pūk thāam ḥān bān kəp ḥān
   Pook ask story home with I
   i. Pook asked me about the house (dative).
   ii. Pook and I asked about the house (comitative).

(b) /bōn/ "complain", a di-transitive verb with a restriction for not allowing comitative case:

64. pūk bōn kəp dæän ḥān ṇaän
   Pook complain with Dang story work
   Pook complained to Dang about the work (dative).

(c) /lēn/ "play", a non-di-transitive verb:

65. pūk lēn kəp dēk
   Pook play with child
   Pook plays with the child (comitative).

(d) /khāwčay/ "understand", a dative transitive verb:

66. *pūk khāwčay lēek kəp dæän
   Pook understand mathematics with Dang
   (No reading is possible).

Thus, it can be said that without the dative and comitative as separate case relations, the differences in the properties
of verbs cannot be revealed. Consequently, the positing of two independent cases is justified.

Another observation with regard to /kàp/ the case marker is that it is homophonous to /kàp/ "with", the conjunction. For the following sentence, two interpretations can be given:

67. dæææn kin khåaw kàp pük
    Dang eat rice with Pook

a) Dang eats rice with Pook (Dang eats and Pook eats).
b) Dang eats rice and Pook (Dang is a cannibal).

In interpretation (b), the substitution of /læ?/ "and", a co-ordinating conjunction, for /kàp/ is possible. Because of the possibility of this substitution of /læ?/, one may syntactically distinguish a case marker /kàp/ from a co-ordinating conjunction /kàp/ although there seems to be a certain semantic (and probably historical) relation between the two.

2.6.2.1.2 The Prepositions /sãmràp/ "for" and /phãa/ "for, for the sake of"

Both /sãmràp/ "for" and /phãa/ "for, for the sake of" mark the [+B] case form. They differ, however, in meaning and use: /sãmràp/ usually conveys the meaning of a benefactive act that has a concrete result whereas /phãa/ suggests an abstract beneficial act and thus usually conveys the meaning of "for the sake of". Syntactically, /sãmràp/ usually marks the benefactive actant that occurs with
creative verbs such as /tham/ "to make", /yép/ "to sew". As shown in the examples below, /phâa/ on the other hand may mark the benefactive actant that occurs with creative verbs or non-creative verbs:

\[68(a)\] dææn yép sîa sâmrà p lûuk
Dang sew shirt for child
\[+[V [+fct] [+[P [+[N [+AC [+[BEN] \]

Dang sewed the shirt for her child.

(b) *dææn ?àan nansîi sâmrà p lûuk
Dang read book for child

\[69(a)\] dææn yép sîa phîa lûuk
Dang sew shirt for child
\[+[V [+fct] [+[P [+[N [+AC [+[BEN] \]

Dang sewed shirts for the sake of (her) child.

(b) dææn ?àan nansîi phîa lûuk
Dang read book for child
\[+[V -[fct] [+[P [+[N [+AC [+[BEN] \]

Dang reads books for the sake of (her) child.

It is observed that when the nominal actant after /phîa/ is an abstract or a mass noun, the sentence conveys the meaning of reason or purpose:

\[70\] dææn thamnàan chîn nán phîa nàan
Dang work piece that for money

Dang worked on that piece of work for money.
Since there seems to be no syntactic reasons besides this to create separate "reason" case, the [+BEN] case relation is used to cover the meaning of purpose or reason.

2.6.2.2 Co-verbs

The third device used in the realization of case relations into their overt case forms is the use of co-verbs. The term co-verb is used in the study to refer to a preposition derived from a verb through a derivational rule. This co-verb or derived preposition corresponds to what Mary Haas (1964) refers to as a secondary verb. The assignment of the unit as a co-verb or a derived preposition and not as a secondary verb in this study is due to the observation that the unit behaves syntactically like a preposition although homophonous forms exist which are clearly verbs. This may be seen from the following discussion.

It is found that certain verbs require that the location which follows be marked by a preposition:

71(a) *dææn wîn bâan
     Dang run home

(b) dææn wîn tææ bâan
     Dang run from home

\[
\begin{align*}
&[+P] [+N] \\
&[+L] [+AC] \\
&[+loc] [+LOC] \\
&[+src] [+locn1]
\end{align*}
\]

Dang ran from home.
As can be seen, 71(a) without any preposition preceding the location is ungrammatical. In 71(c), /caak/, homophonous to the verb /caak/ "depart", functions in a parallel manner to /tææ/ "from" a preposition in 70(b).

From this evidence, it is reasonable to propose that /caak/ is a type of preposition: a co-verb or derived preposition. Syntactically, a derived preposition is indistinguishable from other prepositions in its behavior. Furthermore, no synchronic reason can be found for claiming that it must be considered a member of a distinct category, i.e., as in Haas' secondary verb, and in fact it would complicate the rules of a grammar to do so. The obvious relation of the preposition /caak/ "from" to the verb /caak/ "depart" is a fact that belongs in a diachronic description. As such, if the verb /caak/ was to disappear from the language, the status of the preposition /caak/ would be unaffected.

The diachronic relationship of the derived prepositions and their corresponding verbs can be accounted for by the following derivational rule, which has been extremely simplified:
$\left[ +V \right] \quad \left[ +P \right]

\left[ \alpha F_m \right] \quad \left[ +P \right]

\left[ +der \right] \quad \left[ +F_n \right]

\left[ \alpha F_m \right]$

$\left[ +F_n \right]$ represents case form feature which must be specified for a derived preposition. $\left[ \alpha F_m \right]$ represents the case frame, semantic-syntactic features and many other relevant features which are carried over from the verb in the input to the output prepositions. (For a thorough analysis of co-verbs, see Clark, forthcoming.)

The use of co-verbs or derived prepositions as case markers is quite common in Thai. Some of the common ones are, /čàak/ "from", /thîn/ "to", /yùu/ "at". /pây/ "to", /maa/ "to" /hây/ "for", /wâa/ "saying, that". From the list, two types of co-verbs can be set up: co-verbs that do not allow a derived quote noun to follow and co-verbs that allow only a derived quote noun to follow. The first includes the derived locative and derived benefactive co-verbs; the second consists of only one member: /wâa/ "saying, that".

2.6.2.2.1 Derived Locative Co-verbs

All the co-verbs in the list above except /hây/ "for" and /wâa/ "saying, that" are derived locative prepositions. The derived locative co-verbs are specified with either [-dir] or [+dir] (directional). Some, however, require additional features such as [+gol] (goal), [+src] (source),
or [+term] (terminus) which are carried over from the lexical matrices of the verbs from which they are derived. These features indicate whether the following locative noun is a source, a goal, a plain direction or a location for the action expressed by the verb. For example, in sentence 71(c) repeated below:

71(c)  dææŋ  wîn  čàak  bâan
      Dang  run  from  home
      Dang ran from home.

the noun /bâan/ "home" following /čàak/ "from" marked with the feature [+src] can be interpreted as the source location for the action /wîn/ "run", the main verb. Since the derived prepositions carry different features, the interpretation of location on nouns differs, for example, the following sentences differ in meaning only because of the different prepositions:

72.  dææŋ  maa  thin  bâan
     Dang  come  arrive  home
     Dang arrived at home.

73.  dææŋ  maa  čàak  bâan
     Dang  come  from  home
     Dang came from home.

For sentence 72, /bâan/ is a terminus goal, for sentence 73, /bâan/ is a source.

It is to be observed that the verbs which derive locative prepositions are usually location verbs, so classified on the basis of independent syntactic criteria.
2.6.2.2.2 Benefactive Co-verb /hây/ "for, in place of"

The preposition /hây/ "for, in place of" is derived from the verb /hây/ "give" and serves as a case marker for the [+B] case form which realizes the [+BEN] case relation.

As a case marker, /hây/ "for" conveys the meaning of "substitution for"; this immediately implies that the subject of a sentence must be specified with the [+AGT] case relation, so that it can perform the action expressed by the verb in place of the beneficiary:

74. mâæ yép sâa hây lûuk
    mother sew shirt for child

Mother sewed the dress in place of (her) child.

The above sentence has another reading according to native speakers: "Mother sewed the dress for (her) child (gave the dress to the child)." For this reading, I propose that this /hây/ is a ditransitive verb meaning "give" and is in the above sentence a verb in a non-causative purposive complement (see Section 6.3.1.2), rather than a preposition. With this interpretation, sentence 74 is a complex sentence with the structure that can be illustrated by the following tree diagram:
By positing /hây/ as a verb in this sentence it is possible to explain the sentence /mâe ae yêp sîa hây kâp lûuk/ "Mother sewed the shirt and gave it to the child" of which /lûuk/ is [+AC] marked by the case marker /kâp/ "to" and /hây/ is the verb in the embedded sentence. If /hây/ is considered a case marker in this sentence, one will have two case markers, /hây/ as a benefactive case marker followed by /kâp/ as a case marker for the dative case. The problem then would be whether to assign [+BEN] or [+DAT] to the actant /lûuk/. If /hây/ is analyzed as a verb, one does not face this problem and can have /lûuk/ as an ordinary dative case marked by /kâp":

```
S[+N]
| NP[+NM] [+AGT]
| NP[+V ([+NM])] [+AC]
| NP[+N] [+OBJ] [+BEN]
```

```
mâe ae yêp sîa hây kâp lûuk

mother sew shirt give child
```

```
[+V]
| ([+NM]) [-finite]
| ([+AGT]) [+DAT]
```
This solution also correctly predicts the fact that there cannot be a purely benefactive substitution reading for the above sentence.

It should be noted that the benefactive meaning "for the benefit of" and "for the sake of" are usually expressed by /phâa/ "for" or /sâmrâp/ "for" whereas the benefactive meaning "substitution for" is conveyed by /hây/ and not by the aforementioned prepositions. This difference in the benefactive meaning is a common feature in many languages, for example in English. However in English, all the different meanings of the benefactive case can be expressed by the preposition "for" and thus are not explicitly distinguished as they are in Thai. This distinction may lead to the recognition of the feature "substitution" as a sub-case feature for the benefactive case relation. The hypothesis will however need more exploration for any definite statement.
to be made and therefore will be left open in this study which focuses more on the transitive verbs than on the case system.

2.6.2.2.3 The Co-verb /wâa/ "saying, that"

The preposition /wâa/ "saying, that" is derived from the verb /wâa/ meaning "say, scold". This preposition, unlike other prepositions, obligatorily requires that a derived noun follow, for example:

75. dææn khít wâa phaasãasât yâak
   Dang think that linguistics difficult
   Dang thinks that linguistics is difficult.

The PP construction beginning with /wâa/ occurs only after information verbs. This particular construction will be discussed in detail in Chapter V.

2.6.3 The Noun Auxiliary

The fourth device used to mark case in Thai is the noun auxiliary. The term "noun auxiliary", used by Starosta (1967) in his analysis of Sora, refers to a bound noun which
is compounded to another noun that cannot otherwise be marked directly by a particular case relation. In the analyses of Vietnamese, this type of noun is also found and is referred to by Thompson (1965) and Clark (forthcoming) as "Relator Noun".

The term "noun auxiliary" is adopted in this study to refer to a group of nouns such as /nay/ "in", /bon/ "on", /thi/ "at" which occur before another noun in a noun phrase construction and satisfy the selectional requirement of a verb for the locative case relation when that following noun cannot itself be directly marked by the locative case relation. These nouns, which will be marked in the lexicon with the categorial feature [+Nax] (noun auxiliary), differ from ordinary nouns in their restricted occurrences. Unlike ordinary nouns, they cannot be modified by a descriptive adjective or a numeral, for example: /*nay súay nán/ in pretty that whereas the ordinary nouns can: /tò? súay nán/ "that pretty table". On the other hand, they behave like nouns in that they allow a preposition to precede them. One may have, for example, /càak bon thỳn lâan/ "from up to below" parallel to /càak bàn thỳn roonrian/ "from home to school" in which /bàn/ "home" and /roonrian/ "school" are ordinary nouns.
Since these nouns are more restricted in their usage than the ordinary nouns, yet at the same time they have certain quality that supports their status as nouns, it is reasonable to call them noun auxiliaries with a definition given above.

As can be seen from Table 1: "Correlation of Case Relations and Case Forms in Thai", the locative case relation may appear in the [+L] or [+AC] case forms. When it appears in the [+L] case form it is marked by a preposition, either an intrinsic preposition such as /tææ/ "from" or a derived preposition such as /čāak/ "from". When it is realized in the [+AC] case form, it can occur with or without the noun auxiliary with certain conditions which need further exploration that will not be attempted in this study. If it occurs with a noun auxiliary, the noun auxiliary functions as the head noun of the construction NP and carries the case form and case relation required by the verb, for example:

76. nók  bin  bon  fáa
    bird  fly  on  sky

    [+V
     +([+NM]) [+Nax] [+N]
     +([+NM] +AC [+]LOC]

    Birds fly in the sky.
77.  pùk  sày  nàm  nay  ?àañ
       Pook   put   water   in   bowl

[+V
  +([+NM])
  [+Nax]  [+N]
  [+AC]
  [+LOC]
  -[+OBJ]
]

Pook put water in the bowl.

2.7 Conclusion

The nine case relations and eight case forms posited above have been found sufficient to describe the syntactic relationships in the Thai language. These nine case relations, except for the time case relation, help in the subcategorization of verbs. The requirement of comitative case in the verb case frames distinguishes verbs such as /thá?l??,/ "quarrel" or /khuy/ "chat" from other verbs; the possible occurrence of dative case in the case frames of certain verbs as opposed to the disallowance of it in other verb case frames helps distinguish ditransitive verbs from non-ditransitive verbs.

As can be seen, there is no one-to-one correspondence between case relation and case form. The recognition that different case relations can be realized in the same case form helps explain the ambiguity in sentences such as:

78.  čhān  háy  ṇeën  sìp  bâat  kâp  pùk  mìawanníi
     I  give  money  ten  baht  with  Pook  yesterday

in which two readings are possible. Interpreting /kâp  pùk/ as a [+C +DAT] actant, the sentence is read as "I gave ten baht to Pook yesterday". However, if one interprets /kâp
pûk as [+C, +COM] case, the sentence is read as "Yesterday, I gave together with Pook ten baht". ²

Such realization of different case relations into the same case forms seems to be a universal characteristic of languages as discussed above.

Though not thoroughly investigated, it has been observed that the derived locative prepositions are usually derived from location intransitive verbs that carry a [+dir] (directional) feature. A more rigorous study can be done to justify this observation. Also a more thorough examination could lead to the formalization of rules in relation to the constraint in the sequential ordering of case relations as in the instances of several case relations realized in the [+AC] case form observed in Section 2.5.2 above and perhaps in other instances. Neither of these investigations are attempted here since they are not directly relevant to the focus of the study, "Transitive verbs in Thai". 
Footnotes to Chapter II

1 "locn" is an abbreviation for "location", a feature for nouns indicating that the nouns inherently carry the spatial or place meaning where an action can take place.

2 Another reading with no connection with case relation can be given. That is, if one interprets /kâp/ as a conjunction meaning "and", the sentence can mean "I gave ten baht and Pook yesterday".
CHAPTER III
TRANSITIVE VERBS AND CASE RELATIONS IN THAI

3.0 Introduction

The purpose of this chapter is to study the behavior of transitive verbs in connection with case relations in the limited scope of a simple sentence. The ultimate goal of such study is the subcategorization of transitive verbs.

Preceding the aforementioned study, the definition of transitive verbs as used in the present work will be given as well as a brief discussion of the treatment of transitive verbs in the literature in general and in treatments of Thai grammar in particular.

3.1 Previous Studies of Transitive Verbs in the Literature

Otto Jespersen (1969: 66) said that "in dealing with linguistic subjects, it is necessary to have names for the various classes into which words fall naturally..." One of these classes that grammarians generally recognize is "verb", within which sub-classes are distinguished. One of the sub-classes comprises transitive verbs. The notion of transitive verbs can be said to be intuitively recognized by any native speaker and yet, as with many other notions in linguistics, no rigorous description of what is meant by "transitive verb" is agreed upon by all linguists. In order
to see these different viewpoints, I would like to discuss briefly what has been said about transitive verbs in the literature and also in various Thai grammars.

3.1.1 The Traditional Grammarians

Jespersen (1969: 116) defines a transitive verb in English as a verb that has an object, in contrast to an intransitive verb which has none. This definition is dependent on the surface presence of an object (transitive verbs) or absence of an object (intransitive verbs). As shown by the examples in Jespersen, an object can be identified as a noun occurring immediately after the verb without any intervening preposition. Because of the dependency on the presence of an object and because the object can be identified by its position in the surface string, the definition given by Jespersen is a positional one.

Such a positional definition naturally leads to the analysis that "play" in "He played the violin" is a transitive verb, but an intransitive verb in "He played extremely well". Recognizing that the two verbs are essentially the same, Jespersen talked about the use of the same verb "transitively" and "intransitively". It is not clear to me, thus, whether verbs such as "play" in the above examples are considered by Jespersen as two distinct verbs or one verb with an overlapping class.
Besides this problem, the positional definition of a transitive verb leads Jespersen to consider verbs such as "leave" in "He left London" as transitive verbs. This is because "London" as a noun immediately occurs after the verb and thus is the object of "left". If this analysis holds, one will also have to consider "reach" in "He reached London in time", a transitive verb. Such a conclusion is likely to be counter-intuitive to most speakers of English.

Lyons (1968: 350) presents a different traditional definition of "transitive verbs". According to him, a transitive verb is defined by the traditional grammarians as a verb that expresses the effects of the action which pass over from the agent (actor) to the patient (goal). Lyons points out, quoting Robins, that such a definition has weaknesses. For one thing, it cannot account for the fact that in "I hear you" "hear", considered a transitive verb, does not seem to pass over the effects of an action from an agent to the patient.

3.1.2 The Generative Transformationalists

According to Chomsky (1965: 90-106) verbs are classified in terms of syntactic frames which express relations between the grammatical constituent V and the other following constituents which together constitute a higher constituent, VP. The structure used for the basis of this syntactic frame can be shown by the following tree:
Verbs that are classified as transitive verbs are those that have the syntactic feature: [+NP] which indicates that they must occur in the environment of an immediately following "Noun Phrase". This syntactic feature, or "Strict subcategorization" (SS) feature, distinguished transitive verbs from intransitive verbs which Chomsky defined as [+#]. Thus, "run" in "He ran fast" with the SS feature: [+#] is distinguished as an intransitive verb, different from "eat" in "He ate an apple" with the SS feature [+NP], which is a transitive verb.

Chomsky also distinguishes transitive verbs from "middle" verbs, which are verbs that are similar to transitive verbs in their requirement for a following NP. Middle verbs such as "resemble" in "He resembles his father" cannot take a manner adverb and thus are different and excluded from the class of transitive verb, which can.

The definition of transitive verbs as carrying the strict subcategorization feature [+NP] can be said to be a syntactic definition. It leads to an analysis in which two verbs that have a meaning relation are treated as
separate lexical items without any account of this relation at all. Thus, "open" in "He opened the door" is analyzed as a transitive verb unrelated to a homophonous intransitive verb "open" in "The door opened". As Fillmore (1966: 21) pointed out, Chomsky has failed to show the constant syntactic-semantic relationship that exists between the verb such as "open" and "door" regardless of whether "open" is used transitively or intransitively.

3.1.3 The Fillmorean Case Grammarians

According to Fillmore (1968: 27-31), one of the criteria used in classifying verbs is the case frame. By "case frame", he means the array of cases occurring with a given verb under the node P (proposition). Verbs that share the same array of cases or case frames are considered as belonging to the same class. Thus, "remove" and "cook" which share the same case frame +[__O A], that is, occurring in the environment of an agentive case and objective case, belong to the same group of verbs. It can be said that by talking about verbs in terms of their arrays of cases, Fillmore does not recognize verbs in terms of transitives or intransitives. The difference between verbs such as "open" in "The door opened" and "open" in "He opened the door", which is presumably recognized by Jespersen and Chomsky as the difference between intransitive verb and transitive verb is analyzed by Fillmore (1968a) as the consequence of the
optionality of a case in the case frame and the choice of one of the cases in the case frame as the subject. As "open" has the case frame: +[__0(I)(A)], i.e., an obligatory 0 case and optional I and A cases, "The door opened" results from not choosing either I or A and thus having 0 as the subject. "He opened the door" results from choosing A and having it subjectivalized. In short, Fillmore can account for the transitive and intransitive notion and allow the grammar to show the two uses of "open" to be the same word; thus, facing no problem of deciding whether "open" belongs to the transitive or the intransitive verb class.

3.1.4 Halliday's Transitivity

In his article "Notes on Transitivity and Theme in English" (1967), Halliday discusses the network of a system of which the major constituent is a clause. This network is referred to by Halliday as "Transitivity". According to his system, types of clauses are distinguished in accordance with "process", which includes features such as "non-directed action"--action associated with one participant, an actor-- and "directed action"--action associated with two participants, an actor and a goal--; "participants", which includes, for example, "actor" and "goal" (later Halliday calls the two "causer" and "affected"); and "attribute" and "circumstances". The combination of these features determines major types of clauses: extensive clauses--clauses describing "action" or
"doing" process--, which are sub-divided into effective and descriptive--; and intensive clauses--clauses describing "being" process. Verbs that can occur in the effective sub-clause type correspond, according to Halliday, to the traditional transitive verbs and are called "verb class 2". This sub-clause describes directed-action i.e., action associated with two participants: actor and goal. Verbs that can occur in the descriptive clause type, or verb class 1, corresponds to the traditional intransitive verbs. This sub-clause describes non-directed action, i.e., action associated with one participant: actor. Verbs that can occur in the intensive clause type or verb class 0 correspond to the traditional copulative verbs. By talking primarily about clause types and secondarily about verbs that can occur in the clause types, Halliday does not posit a class of verb called "transitive" or "intransitive" but instead discusses verbs that share the same potential of occurrence in the same types of clauses he posits. The term "transitive" (1967: 39) is used instead to refer to clauses with at least one C (complement), and thus is a structural term that has no role in the underlying systematic description.

From this brief review of transitive verbs in the literature, one can observe that the definition of transitive verbs is made using either syntactic or semantic criteria or a combination of both. Jespersen and Chomsky recognize and define transitive verbs by means of syntactic occurrence:
for the traditional grammarians, a verb followed by an object; for Chomsky, the strict subcategorization feature [+__NP]. However, whereas Chomsky bases his definition on grammatical categories in the deep structure where NP indicates the relational notion of "object of" with the V under VP, Jespersen bases his definition on the surface structure object. The other definition of transitive verb by the traditional grammarians, as mentioned by Lyons, is based solely on semantic criteria. This definition, as pointed out by Robins (see Section 3.1.1), cannot account for verbs that differ semantically but are syntactically similar and can both be considered transitive verbs.

Fillmore and Halliday base their classification of verbs not only on syntactic criteria but on a combination of syntactic and semantic grounds: while Halliday talks about roles of participants, Fillmore talks about case relations between nouns and verbs. Neither recognizes "transitive" as a class of verbs. Halliday uses the term "transitive" to indicate a surface clause type which contains an element C (complement). Fillmore (1968a) considers "transitive" and "intransitive" as a result of the optionality of cases in the case frame and of the choice of a case in the case frame as the subject. Unlike Fillmore, however, Halliday recognizes a verb class 2 which covers approximately the range of transitive verbs as distinct from verb class 1 which includes the intransitive verbs.
3.1.5 Previous Studies of Transitive Verbs in Grammars of Thai

Transitive verbs have been discussed in a general way in every grammatical description of Thai, but due to the nature of the grammars that have appeared, they have never been given full attention. The following is a summary of certain treatments of transitives in Thai that have appeared previously.

In his grammar book, Lak Phasaa Thai (1968: 84-85), Phayaa Uppakit Silpasarn treated transitives as verbs that are not complete in meaning without an object. Thus, /moo/ "look" in the construction /ch 'an moo/ "I looked" is not complete in its meaning until an object such as /dek/ "children" is placed after it: /ch 'an moo dek/ "I looked at the children". Phayaa Uppakit Silpasarn observed that certain verbs can be either transitive or intransitive, for example /p 'at/ "open" in /khaw p 'at pra?tuu/ "He opened the door" and /p 'at/ "open" in /pra?tuu p 'at/ "The door is opening!" respectively. He does not attempt, however, to give a formal explanation for the status of such verbs. Phayaa Uppakit's definition of transitive verbs in Thai can be presumed to be similar to Jespersen's above.

Richard B. Noss (1964: 123-25), using the "item and arrangement" model, considers a transitive verb as a free lexeme (Predicative) that may substitute for the construction composed of a transitive verb and a substantive object.
(Predication). For example, /pəat/ "open" is considered a transitive verb since it may substitute for the predication /pəat pra?tuu/ "open the door". Noss observes that transitive verbs may occur with or without subject and with or without objects. Such optionality, according to Noss, leads to an ambiguity in the interpretation of subject as actor or goal. This means that in the S-V construction, such as /khaw pəat/ "He opened", the subject is interpreted as an actor but in /pra?tu pəat/, the subject is interpreted as goal. To know the appropriate interpretation Noss suggests inserting /thìuk/ "suffer a bad action" between noun and verb. If the insertion is permissible, the subject is the goal, as in /pra?tuu pəat/ "The door opened"; if not, it is the actor as in /khaw pəat/ "He opened (the door)". What Noss suggests can be considered a discovery procedure, but it does not explain that there are two lexical items which are homophonous. One is a transitive verb, the other is not.

Vichin Panupong (1970: 120-25) sets up testing sentence frames such as: N N lāæw and N kamlan…N and labels the items that can occur in the blanks of these frames transitive verbs. According to her, there are two types of transitive verbs: those that can be followed by one N or "transitive verbs" and those that can be followed by two N's, or "double transitive verbs". This latter type of transitive verbs occur in the frames N N N lāæw and N kamlan…N N.
The use of testing sentence frames for the identification of transitive verbs does not seem very revealing to me, since the frames allow /pay/ "go" as a transitive verb. That is, one can have /dèk pay bân lêæw/ "The children have already gone home" and /dèk kamlaŋ pay bân/ "The children are going home". It is obvious that the relationship of /pay/ "go" to /bân/ "house" is not parallel to that of /tii/ "beat" to /dèk/ "child" in /khruu tii dèk/ "The teacher beat the child". Therefore the inevitable inclusion of /pay/ as a transitive verb on the ground that it fits a testing sentence frame is suspect.

In the framework of generative-transformational grammar, Udom Warotamasikkhadit (1963: 9-16) puts the transitive verb or $V_t$ as a type of verb under MV (main verb). These verbs are distinguished from other types of verbs by a phrase structure rule which states that they are obligatorily followed by a Nom (nominal) and optionally by an Adv (adverb), which category includes items such as /bân/ "some". $V_t$ is subcategorized into twelve sub-groups according to different classes of following nominals. For example, $V_t$, which includes such transitive verbs as /thâam/ "ask", requires a following H (human) nominal.

Warotamasikkhadit does not include verbs such as /khít/ "think", /klua/ "fear", /lâw/ "narrate" in his $V_t$ group, since these verbs, according to his phrase structure rules, allow an optional nominal. This cannot be taken as a
convincing criterion, however, since his $V_t$ may also allow the following nominal to be optional in certain contexts.

Working in the framework of case grammar, Lekawatana (1970) does not have distinct classes for transitive and intransitive verbs. The difference between the two types of verbs is accounted for by means of different case frames. When the two types of verbs are homophonous, their different behavior is considered a surface difference of the same underlying verb resulting from the optionality of certain cases and subject selection. It will be shown in the study however, that such consideration may give incorrect information about these verbs and that facts such as the relationship between transitive and intransitive "uses" of /pɔaːt/ "open" are best handled by treating them as distinct verbs related by derivational rules.

In sum, previous studies of transitive verbs in Thai grammar provide only a procedure for identifying transitive verbs, frequently at a very specific level. Except for Warotamasikkhadit, there seems to have been no attempt to classify transitive verbs. Besides, except for Warotamasikkhadit's mention of one general transformational rule for a complex sentence and Lekawatana's analysis of certain "causative transitive verbs" such as /hây/ "cause, allow, order" or /čhây/ "order", there seems to have been no attempt to seriously investigate transitive verbs in connection with embedded sentences. But this is because
these works did not treat transitive verbs as the focus of the respective studies.

While the present study does not claim to be an exhaustive treatment of all transitive verbs in Thai, it does aim to give a fuller and more syntactically and semantically adequate analysis of them.

3.2 Definition of Transitive Verbs in This Study

In this study, a transitive verb in Thai will be defined as a verb that requires in its fully specified matrix two features. The first is \(+([+\text{NM}])\), which means that a transitive verb is required to have potential for a nominative actant, that is, a grammatical subject, in its environment. The parentheses around the \([+\text{NM}]\) indicates the optionality of an overt occurrence of the subject. The requirement for \(+([+\text{NM}])\) distinguishes a transitive verb from the existential verbs such as /miː/ "have" which do not allow \(+([+\text{NM}])\) (see Section 3.3.2.2.2).

The second feature is \([-([+\text{NM}]+\text{OBJ}])\], which means that a transitive verb does not allow an OBJ subject—i.e., a nominative objective case. This feature at once distinguishes a transitive verb from an intransitive verb such as /dɔːn/ "walk" which although is a \(+([+\text{NM}])\) verb, requires the feature \(+([+\text{NM}]+\text{OBJ}])\) in its environment; it also distinguishes transitive verbs from an equational copular verb, such as /pen/ "to be", which also requires \(+([+\text{NM}]+\text{OBJ}])\) in its lexical matrix.
These two features required by a transitive verb involve the following rule:

RR-1: [+V] \rightarrow [+([+OBJ])] \\
SR-1: [+V] \rightarrow [±([+NM])] \\
SR-2: [+([+NM])] \rightarrow [±([+NM]+[+OBJ])]

By RR-1, all verbs in Thai are claimed to possess potential for an objective case in their case frames. By SR-1, verbs must be specified as to whether they have the potential for the occurrence of a nominative case form or the "subject" in their environments or not. Verbs that do not, or the [-([+NM])] verbs, are existential verbs such as /mii/ "to have" in:

1. mii dèk sǎam khon nay hển nán 
   exist child three clf in room that
   There are three children in that room.

Verbs that require the potential for the occurrence of the nominative actant in their environment, or the [+([+NM])] verbs, are non-existential verbs. These verbs, as indicated by the parentheses around the feature [+NM] allow the grammatical optionality of the subject. Two instances of grammatical absence of the subject allowed by the grammatical optionality of the subject can be mentioned. One is an imperative sentence such as:

2. ?àan bòt thîi sìi mày 
   read chapter four anew
   Read Chapter IV again!
Imperative sentences are not treated rigorously in this study. In a complete grammar where imperative sentences must be handled, some slight modification can be expected in the above set of rules.

The other instance of grammatical absence of subject is the instance of the missing subject in the verb complement, as discussed in Chapter VI of this study.

By SR-2, \([+([+NM])]\) verbs must be specified as to whether they are nominative objective verbs--\([+([+NM]+OBJ])]\) verbs--or not. Verbs that are specified \([+([+NM]+OBJ])]\) are intransitive verbs. The \([+([+NM]+OBJ])]\) feature means that the verbs so specified have the potential for a nominative objective case in the environment. The parentheses around the feature indicate that this type of verb grammatically allows the absence of the objective subject. Verbs that are specified \([-([+NM]+OBJ])]\) are non-intransitive verbs, and if they also require \([+([+NM])]\), they are transitive verbs by the definition given at the beginning of this section.

The two features \([+([+NM])]\) and \([-([+NM]+OBJ])]\) will be used as the identification features for transitive verbs: any verb which has these two features in its lexical matrix will be identified as a transitive verb. The use of \([+([+NM])]\) as an identification feature is justified by the fact that it helps distinguish transitive verbs as non-existential verbs. The use of \([-([+NM]+OBJ])]\) is similarly justified by the fact that it can, as shall be seen below, bring in other
relevant features to the lexical matrices by RR rules. Moreover, it can neatly distinguish transitive verbs from intransitive verbs.

With these identification features, transitive verbs are recognized in this study as constituting a distinct verb category from other types of verbs. The recognition of transitive verbs as constituting an explicit category in a language is also made by Jespersen, Chomsky, Phyaa Uppakit, and Warotamasikkhadit as discussed in the previous sections. Despite this general similarity, there are differences in approach and explicitness of definition between this study and the analyses by the linguists mentioned above.

The use of case features in the definition of transitive verbs shows that the definition in this study is a syntactic-semantic one. In this respect, it is different from the definitions given by Jespersen, Phyaa Uppakit, Chomsky and Warotamasikkhadit, which are purely syntactic. Because it is not based on the surface presence of the object, unlike the definition given by Jespersen, the given definition avoids the problem of the same verb being considered at one time a transitive verb when there is an object present in the string but at other times an intransitive verb when there is no object present. For example, in the sentences given by Jespersen, "He played the violin well" and "He played extremely well", "play" must be considered a transitive
verb in the former sentence but an intransitive verb in the latter.

In this study, "play" is considered a transitive verb in both sentences, since "play" fulfills the definition of a transitive verb by possessing the two identification features. The absence of the object in the latter sentence will be explained as dependent on the context of situation (see Section 3.2.2 below).

Using syntactic-semantic features, the definition given in this study can also get rid of a problem faced by a definition based solely on semantic criteria such as those given by traditional grammarians (see Section 3.1.1). As an example of such a problem, "hear" could be considered syntactically a transitive verb, but it does not fit the definition of a transitive verb as verb that "passes over the effect of an action from the agent to the patient" (Lyons 1968: 350). By the definition given in this study, "hear", with the features [+(+[NM])] and [-[+NM]+OBJ]], is a transitive verb regardless of whether or not it passes on the effect of an action from the agent to the patient.

The definition given in this study leads to the recognition of homophones such as /pəʊt/ "be open" and /pəʊt/ "open" as distinctly intransitive and transitive verbs, respectively. The relationship between the two items will be accounted for by means of derivational rules. In this respect, it differs from Chomsky 1965 (1965: 189), in which
he recognizes the need to relate the transitive verb "grow" in "He grows corn" to "grow" in "Corn grows", but provides no concrete suggestion as to how this relationship should be represented explicitly in a grammar.

The use of case features in the definition of transitive verbs in the study brings the definition closer to the Fillmorean specification of verbs than to any of the other theories mentioned above. However, while Fillmore does not recognize transitive verbs as constituting an explicit category, this study does. Also while homophonous verbs such as /pāt/ "open" and /pāt/ "be open" are handled in the Fillmorean framework by case optionality in the same case frame and by subject choice of a certain case in that case frame, this study recognizes two lexical items: transitive and intransitive which are related by derivational processes. It will be shown in Chapter IV that a Fillmorean analysis of homophonous verbs such as the above leads to a false claim that there is only one lexical entry for the homophonous verbs.

In brief, a transitive verb is defined as a verb that has a potential for the occurrence of a subject but does not allow an OBJ subject. The two identification features of transitive verbs will be discussed in more detail immediately below.
3.2.1 Discussion of the Feature \([+([+\text{NM}])]\)

It was mentioned in the previous sections that the feature \([+([+\text{NM}])]\) with the parentheses around it indicates the fact that a transitive verb has the potential for the occurrence of \([+\text{NM}]\) but that the verb can occur grammatically without a nominative actant. One such type of occurrence is exemplified by sentence 2(a), repeated here.

\[
\text{?àan bòt thîi sìi mày} \\
\text{read chapter four anew}
\]

Read Chapter IV again!

That is, a transitive verb may occur without a subject grammatically, when it is in an imperative sentence. In the complete grammar, there will be a rule which says that an imperative verb does not allow a subject.

A transitive verb which otherwise requires a subject must also occur without a subject in an infinitival verb complement after a transitive verb:

\[
\text{ðææn hây pûk tìi mâa} \\
\text{Dang order Pook beat dog}
\]

Dang ordered Pook to beat the dog.

/tìi/ "beat" as a transitive verb in the verb complement occurs as a non-finite verb, that is, a verb that occurs with no subject. The possibility of the optionality of the subject indicated by the use of parentheses thus provides for the grammatical absence of the subject in these constructions.
There are in Thai sentences other than the imperative sentences and infinitival verb complement that appear without the subject, for example:

3. kin khâaw mâak thûk wan lây
   eat rice much every day PP
   (I/you/they/people) eat a lot every day.

The above sentence illustrates the omission of the subject allowed by the context of situation. What this means is that the subject can be given by the context of situation for the semantic interpretation of the string. Since COS varies, there can be many interpretations, as can be seen from the translation of the sentence above where the subject can be "I", "you", "they", "people", or "Noam Chomsky" even, given the appropriate situation. Because the omission is allowed by the COS and because this study does not claim to account for the use of linguistic system in actual communication (performance), but only for the linguistic system itself (competence), no attempt is made to systematically account for the omission of the subject, such as in sentence 3 above. The optionality indicated by parentheses in SR-1 is not meant to account for the situational omission of the subject.

A transitive verb is still therefore described as a verb that requires a potential for the occurrence of a subject. Where a transitive verb appears without a subject, it can be explained either as an instance of a transitive
verb in an imperative sentence or in a verb complement where the subject is grammatically absent but presupposed, or of a contextual omission, which is a matter of performance and thus outside the bounds of linguistics proper.

3.2.2 Discussion of the Feature [-[+NM +OBJ]]

According to RR-1, which claims that every verb must possess potential for [+OBJ] case, a transitive verb as a verb has [+[+OBJ]] in its case frame. This [+OBJ] is not realized in the [+NM] case form, as indicated by the other identification feature of a transitive verb: [-[+NM +OBJ]]. The examination of the data shows that a transitive verb has [+OBJ] case relation realized in the accusative case form. A redundancy rule can be set up to capture this fact formally:

\[
\text{RR-2: } [-[+NM +OBJ]] \rightarrow [+[+AC +OBJ]]
\]

This rule says that a verb that does not allow a nominative objective actant requires an accusative objective actant. Since [+[+AC +OBJ]] occurs automatically if one has [-[+NM +OBJ]] in the case frame of a verb, one may say that a transitive verb also requires an accusative objective actant.

Noss (1964: 23) has observed that all transitive verbs in Thai may occur with or without objects. This observation is true. Yet it cannot be taken as an invalidation of transitive verbs as obligatorily requiring an accusative
object, if one distinguishes between the linguistic system (competence) and the use of that system for communication (performance) which necessarily involves extra-linguistic factors such as context of situation, discourse, and others. What this means is that a transitive verb such as /sii/ "buy", specified with [+AC +OBJ], will grammatically require that an accusative objective actant occur in the string. /sii/, however, allows the object to be left out in actual performance, provided that the information for semantic interpretation of the string can be given by the context of situation. Thus, after telling Pook about the good qualities of a watermelon, Dang may ask Pook a question such as /ca? sii may/ "Will (you) buy (it)?" in which /sii/ occurs without any objective actant. The requirement for an objective actant specified in the lexical matrix of /sii/ will lead one to look into the context of situation for the missing object so as to be able to interpret the sentence. Without the context of situation the above sentence is not acceptable. This claim is supported by the fact that without the context of situation, a construction such as /yaak sii/ "want to buy" will elicit a question such as /yaak sii ?aray/ "Want to buy what?". The question indicates the incomplete status of the first sentence out of context. It lacks an object actant which is apparent in the form of /?aray/ "what" in the corresponding question.
Thus the claim made by RR-2 that grammatically, a transitive verb obligatorily requires an objective actant is valid. It is claimed further that a transitive verb allows the accusative objective actant to be left out provided that there is an appropriate context. Since the leaving out of the objective actant is dependent on the context of situation, it is considered outside the scope of the grammar of competence.

3.2.3 Some Transitive Verbs and Their Cognate Objects

It has been stated in the previous section that the accusative objective actant of a transitive verb is grammatically required to be present. It can be omitted only in the non-linguistic context where the particular context of situation or previous discourse can provide appropriate information about the missing actant. There are however other instances of the omission of objects of transitive verbs that seem to be allowed not by the particular context of situation or by the previous discourse. Such an omission can be seen from the following sentences:

4. rian "study" nákrian mây čhɔɔp rian wansāw
   student not like study Saturday

   Students do not like to study on Saturdays.

5. thảam "ask" nákrian wítsawá? čhɔɔp thảam
   student engineer like ask

   Engineering students like to ask.
6. sōn "teach" khruu sōn wansāw thūk sāw
   teacher teach Saturday every Saturday

   The teacher teaches every Saturday.

All of the above sentences are objectless. In all of them, no particular situation or previous discourse are needed for the interpretation of the sentences. For native speakers, an unmarked accusative objective actant can be provided for each of the missing objects in the sentences above: /nānsīi/ "book" in sentences 4 and 6, and /khāmthāam/ "question" in sentence 5. The fact that the same object is invariably given as the first choice by native speakers, with no need for particular situation or previous discourse is significant in at least two ways. The first is that the verbs in sentences 4 to 6 can grammatically have an accusative objective actant; therefore they are transitive verbs. Secondly, the agreement of native speakers on the same object indicates the special properties of the verbs, i.e., these verbs always occur with or presuppose a certain object. This knowledge of special properties of these verbs must be shared by all native speakers of the language such that if the objects of the verbs are not required to be definite, they can be omitted and can be provided by any native speaker. What this means is that all native speakers share the knowledge that in a general situation where no specification is required in asking or /thāam/, one must ask /khāmthāam/ "question"; in studying or /rian/, one studies
/nāṇśīi/ "books" and in teaching or /sōn/, one teaches /nāṇśīi/ "books". All of these objects at this point are not definite, and thus may be omitted. The evidence that they are non-definite is seen from the fact that one cannot topicalize them, for example, one cannot say:

7. *nāṇśīi nākrīan māy čhōp rian wansāw
    book student not like study Saturday

Books, students do not like to study on Saturdays.

If the object is required to be more definite which means that more information must be added to the common knowledge that the speakers share about the special requirement of the verbs on their objects, the information must be stated. In these instances, the object will be required to be present. In sentence 6 for example, the object is required to be present if a particular book is taught:

6(a) khruu sōn nāṇśīi lēm nān wansāw thūk sāw
    teacher teach book clf that Saturday every Saturday.

Teacher teaches that book every Saturday.

The accusative objective actant in the above sentence can be omitted only in a particular situation as discussed in the previous section.

It can be said, in short, thus, that some transitive verbs have a selectional requirement for their objects and that since the requirement is known by native speakers, the object of the verbs becomes redundant and can be omitted.
These certain objects that can be predicted by the selectional requirement of the verbs can be considered as the cognate objects of the verbs, if by "cognate" one does not necessarily mean an item identical to the verb. In other words, if "cognate object" is not taken to cover only "John dreamt a dream" but also "John cooks (food) well". As Halliday (1967: 59) says: "Cognateness is best thought as extension inherent in the process leading to a mutual expectancy of collocation between the noun and the verb involved."

In conclusion, for some transitive verbs the omission of the objects is allowed by the knowledge of native speakers of the selectional requirement of the verb for a particular object. This knowledge will be considered to belong to the COS component. The definition of transitive verbs will still be verbs that require the accusative objective actant grammatically, but that the objective actant can be omitted by the COS of different types.

Another observation in connection with the optionality of the objective actant should be made. Some intransitive verbs can be hard to distinguish from the transitive verbs where the object is omitted. This is particularly the case when the transitive verbs are homophonous with the intransitive verbs. /lên/ "play", for example, can be either an intransitive verb meaning "enjoy oneself" or a transitive...
verb meaning "play a game". A sentence such as /khǎw lèn rîay/ is ambiguous in meaning. It can mean "He is not serious; he is playful" in which instance /lèn/ can be considered an intransitive verb or it can mean "He plays (badminton or tennis) often" in which /lèn/ "play" is a transitive verb with an object absent in a certain context of situation. Such an ambiguity is accounted for in this analysis by having two separate lexical items for /lèn/: [+([+NM]), (+[NM]+OBJ)] are specified for the intransitive /lèn/ and [+([+NM]), -[+NM]+OBJ]] are specified, among other features, for the transitive /lèn/. Since between these two items, there is a common meaning, the semantic relationship must be taken into account. This may be handled by means of a derivational rule by which one of the items is derived from the other. It is not clear how this situation would be handled in a Fillmorean grammar, since Fillmore does not provide a means for distinguishing between two homophonous and semantically related verbs when one is intransitive and the other transitive with its object omitted in context. In his framework, one must have either a single entry for both, thus losing the information that such a contrast is possible, or set up two separate entries, as Chomsky must, thereby losing information that the items are related.

The recognition that a transitive verb can allow the objective actant to be omitted in an appropriate context of situation and the recognition that certain transitive verbs
can allow the optionality of their cognate object independent of external context helps make it clear that a transitive verb remains a transitive verb even though no object overtly appears.

3.3 Major Classes of Transitive Verbs

The general definition of transitive verbs as verbs that possess \([+NM]) and \([[-^{+NM}_+OBJ}]) only states that in a lexical matrix, a transitive verb requires a nominative actant but does not allow the nominative objective actant. It does not include any information as to what case relations can be realized as \([+NM]\) in the case frames of transitive verbs--in short, the definition of transitive verbs does not yet tell what can qualify as the "subject" of the verb. As discussed in Chapter II, case relations that can be realized as \([+NM]\) are: \([+AGT], [+O LJ], [+INS] and [+DAT]\). Of these four, \([+OBJ]\) is disallowed because of the feature \([[-^{+NM}_+OBJ}]) specified in the general definition of a transitive verb. The exploration of the other three possibilities which results in the classification of transitive verbs is presented below.

3.3.1 Agentive Transitive Verbs

As mentioned in the previous section, the first possibility is the instance of an agentive case to be realized as \([+NM]\). Transitive verbs which require agentive actants to
be realized as [+NM] constitute a large class which corresponds approximately to Halliday's (1968) verb class 2 or to the traditional transitive verbs. These verbs will be specified with [+V, +([+NM]), -[+OBJ], +(+[AGT])] in the lexicon.

To account for the agentive transitive verbs as constituting a distinct class of transitive verbs, a set of rules is set up:

RR-1:  
\[ [+V] \rightarrow [+([+OBJ])] \]

SR-1:  
\[ [+V] \rightarrow [+([+NM])] \]

SR-2:  
\[ [+([+NM])] \rightarrow [+([+NM] [+OBJ])] \]

RR-2:  
\[ [-[+NM] [+OBJ]] \rightarrow [+AC [+OBJ]] \]

SR-3:  
\[ [+([+NM]) [+NM] [+OBJ]] \rightarrow [+([AGT])] \]

RR-3:  
\[ [-[+M (+AGT)] [+ [+] [+AGT]]] \rightarrow [+AGT] \]

The first rule, RR-1 has already been introduced in Section 3.2 above. It says that a verb in the language has potential for [+OBJ] in its environment. By SR-1, a verb must be specified as to whether or not it belongs to a type of verb which requires the potential for the occurrence of a nominal actant in its environment. If it does, by SR-2, it must be specified as to whether or not it requires a potential for the occurrence of a nominative objective
actant. If it does not, the verb is a transitive verb and by RR-2, it automatically requires an accusative objective actant. SR-3 indicates that a transitive verb must be specified as to whether or not it requires the potential for the agentive case in its environment. If it does, the verb is an agentive transitive verb, and by RR-3, the agentive case must occur only before the verb. The features in the input of RR-3 assume a preceding rule which says that an agentive transitive verb must have the agentive case realized not in [+M] case form. What this means is that the agentive case of an agentive transitive verb must be realized only in the [+NM] case form.

The following are examples of some agentive transitive verbs:

bɔok "tell" thǎam "ask" sìf "buy"
khâa "kill" wὰat "draw" ?aὰn "read"
khĩin "return" saya "put"

The following sentences illustrate some of the agentive transitive verbs in the above list in sentences:

8. dææŋ̩ khâa nôk tua nán
Dang kill bird clf that

[Dang killed that bird.]
9. dææŋ bṽk khwaamláp kàp pùk  
Dang tell secret with Pook  

\[
\begin{align*}
+V \\
+([+NM]) \\
-[-NM] \\
+[OBJ] \\
+([+AGT])
\end{align*}
\]

Dang told the secret to Pook.

10. dææŋ sày nám nay thúykaææw thúk bay  
Dang put water in glass every cliff  

\[
\begin{align*}
+V \\
+([+NM]) \\
-[-NM] \\
+[OBJ] \\
+([+AGT])
\end{align*}
\]

Dang put water in every glass.

3.3.1.1 Sub-classification of Agentive Transitive Verbs

As mentioned, the agentive transitive verbs constitute a large category. This category is found to be sub-classified into several sub-groups as follows.

3.3.1.1.1 Ditransitive Verbs

Since it is a universal characteristic of the agentive case to allow co-occurrence(s) of instrumental, benefactive, comitative, manner, and locative cases, the agentive transitive verbs, having the agentive case in their case frames, can thus be assumed to allow all of the mentioned cases to occur in their case frames. An examination of the agentive transitive verbs, however, shows that in Thai, only certain agentive transitive verbs allow the occurrence of the dative
case in their case frames. The potential occurrence of the dative case thus subcategorizes the agentive transitive verbs into two sub-groups: those that allow the dative case to occur in their environment or ditransitive verbs; and those that do not allow the dative case to occur in their environment, or non-ditransitive verbs. To account for these sub-classes, the previous SR-3 is modified as:

\[
\text{SR-3: } \begin{cases}
{+([\text{NM}])} & {+([\text{AGT}])} & -([\text{DAT}]) \\
-\text{NM} & -\text{OBJ} & \end{cases}
\]

This rule says that transitive verbs can be subcategorized into 4 groups: \(+(+[\text{AGT}])\), \(+(+[\text{DAT}])\), \(-([+\text{AGT}])\), \(+[+\text{DAT}])\), and \(-([+\text{DAT}])\). The first two sub-groups are agentive transitive verbs as seen from \(+(+[\text{AGT}])\). The first of these, the \(+(+[\text{AGT}])\), will be referred to as the ditransitive verb sub-group; the second, the \(-([+\text{DAT}])\), as the non-ditransitive, agentive verb sub-group. In the lexicon, the agentive transitive verbs will be entered as belonging to one of these two sub-groups.

The other two sub-groups of transitive verbs resulting from SR-3 will be discussed later in this chapter. As may already be observed from the feature \(-([+\text{AGT}])\), they are not agentive transitive verbs.

As can be seen from the specification of the ditransitive verbs, the \(+\text{DAT}\) feature has parentheses around it.
This shows that ditransitive verbs may occur with or without the dative case. Thus, sentence 9 may appear as:

9(a) \( \text{daææ}_n \text{ bɔɔk} \text{ khwaamláap} \)

\[
\begin{align*}
+V \\
+(+\text{NM}) \\
-\text{NM} \\
+\text{OBJ} \\
+(+\text{AGT}) \\
+(+\text{DAT})
\end{align*}
\]

Dang told the secret.

In addition, the dative case that occurs in the case frame of an agentive transitive verb may also occur either before or after the verb. Thus, sentence 9 can also appear as:

9(b) \( \text{kàp} \text{ pùk} \text{ daææ}_n \text{ bɔɔk} \text{ khwaamláap} \)

\[
\begin{align*}
+P \\
+[\text{AC}] \\
+\text{DAT}
\end{align*}
\]

To Pook, Dang told the secret.

To account for this topicalization, the two following rules are set up:

SR-i: 
\[
\begin{align*}
-\text{[+NM]} \\
+\text{[+DAT]}
\end{align*}
\]

\[\rightarrow [\pm \text{[+DAT]}] \]

RR-4:
\[
\begin{align*}
-\text{[+NM]} \\
-\text{[+DAT]}
\end{align*}
\]

\[\rightarrow [+\text{[+DAT]}] \]

SR-i presumes a preceding redundancy rule that says:
or that the dative case in a ditransitive verb is required not to realize in [+NM] case form but in other possible case forms for the dative case, i.e., [+AC] or [+C] case forms. By SR-i, the dative case of the ditransitive verbs can occur or not after the verb. As can be seen, SR-i is numbered in small roman numerals. This is to indicate that the rule is a late subcategorization rule and does not have effect on the hierarchy of sub-categories, unlike the SR rules that are numbered in arabic numerals which have effect on the subcategorization of verbs. RR-4 says that if a ditransitive verb does not have the dative actant occurring after it, it will have the dative actant occur before it. This is an instance of a topicalized actant which usually conveys the meaning of emphasis. RR-4 does not give any account for this information. To handle the meaning of emphasis which is common to any topicalized actant, not only to a topicalized dative actant, general rules such as the following may be given:

\[
\text{RR-a: } [+V] \rightarrow [-[-NM \text{-emphasis}]]
\]

\[
\text{SR-a: } [+N] \rightarrow [+\text{emphasis}]
\]

RR-a says that no verb allows an actant specified non-emphatic, non-nominative to occur before it. This means in effect that if there is a topic, i.e., a [-NM] constituent preceding
the verb, it must be emphatic, or carrying [+emphasis] feature. In the grammar, a noun must be specified as to whether it is [+emphasis] or [-emphasis]. This is handled by a rule such as SR-a above.

Compared to the non-ditransitive verbs, the ditransitive verbs are fewer in number. The following are some of the ditransitive verbs:

thaam "ask" sàn "order" lâw "narrate"
khïn "return" sôŋ "send" khâay "sell"
sî "buy" hây "give" čâek "distribute"

3.3.1.1.2 Location Agentive Verbs

Besides the difference in potential occurrence of the dative case, agentive transitive verbs also exhibit a difference in the requirement for the locative case. What this means is that there are some agentive transitive verbs that grammatically require the locative case in their case frames. These agentive transitive verbs are referred to as location agentive transitive verbs. The required locative case is referred to as the "inner locative". There are two types of inner locatives: strict inner locative and non-strict inner locative (see Section 2.4.9).

In Thai, agentive transitive verbs that obligatorily require the strict inner locative are referred to as strict location agentive transitive verbs. They are for example, /sày/ "put", and /tøm/ "add". For these verbs, the
locative case must be present and can be omitted only in the proper context of situation. The following sentence is ungrammatical and not acceptable out of context:

11. *dAECE n I say nAM lAECEw
     Dang put water already

The above sentence is acceptable if the omitted locative actant expressing the place where the water is put is provided by the context of situation, which could be the previous discourse.

Agentive transitive verbs in Thai which are location verbs but which allow the grammatical optionality of the locative case are referred to as non-strict location agentive transitive verbs. These verbs are for example, /khwAECE/ "hang", /cOt/ "to take note:

12(a) cháN khwAECE rùup lAECEw čå? taAM pay
     I hang picture already will follow go
     I will follow you after I have hung the picture.

(b) cháN khwAECE rùup thîI praîtuu lAECEw čå?
    I hang picture at door already will
    taAM pay
    follow go
    I will follow (you) after I have hung the picture at the door.

13(a) pûk čOt čhîI ?aahãn lAECEw
     Pook take name dish already
     notes
     Pook took notes of the name of the dishes already.
(b) pûk çòt čhîi ?aahâan nay sa?mùt lêm nán
Pook take name dish in note- clf that
notes

Pook took notes of the name of the dishes in
that note-book.

In the example above, the (a) sentences do not contain
locative actant but unlike sentence 11, they are grammatical
and acceptable out of context. The location agentive verbs
such as /khwāæn/ "hang" differ from the non-location
agentive verbs such as /yin/ "shoot" which also allow the
optional occurrence of the locative case, in that the former
class of verbs presupposes the particular location for the
objective actant even if the locative actant is not present
in the string. Thus, in sentence 12(a) and 13(a) above,
the locative actant is presupposed even though no locative
actant is present in the string. Verbs like /yin/ "shoot"
on the other hand, do not presuppose the location of [+OBJ]
actant. Instead, the locative actant of these verbs express
the location of the whole action, usually with the agent
also present in the location. In the following example,
/khāw/ "he" the agent to the verb is present in the location,
/thîi praâčin/ "at Prachin":

14. khâw yin nûk tua nán thîi praâčin
   he shoot bird clf that at Prachin
   He shot that bird at Prachin.

In short, the non-strict location verbs such as /khwāæn/
"hang" are different from the strict location verbs such as
"put" in their allowance for the optional occurrence of the inner locative actant; they differ from the non-location verbs such as /yin/ "shoot" in that the latter verbs do not presuppose a locative actant as they do.

To account for the distinction between location agentive verbs and non-location agentive verbs and for their difference as to optionality of the locative case, the following rules are set up:

SR-4: \[ +V \quad \begin{align*} \quad \quad & \quad -[+NM] \\ & +([+AGT]) \\ & -(+[+DAT]) \end{align*} \quad \rightarrow \quad [+ \text{location}] \]

SR-5: \[ [+\text{location}] \quad \rightarrow \quad [+\text{strict}] \]

RR-4: \[ [+\text{strict}] \quad \rightarrow \quad \begin{align*} \quad \quad & \quad +[+\text{LOC}] \\ & +[+\text{LOC}] \\ & +([+\text{LOC}] \quad +[\text{emphasis}]) \quad \end{align*} \]

RR-5: \[ [-\text{strict}] \quad \rightarrow \quad [+\_([+\text{LOC}])] \]

SR-4 is a rule adapted from the rule introduced in Section 2.4.9. It is modified so that only those transitive verbs that make the distinction between [+location] and [-location] features are specified in the input. These are agentive, nonditransitive verbs. SR-5 says that if a verb is a location verb, it must be specified as to whether it is a strict or non-strict verb. If it is a [+strict] verb, [+LOC] is required to occur. This [+LOC], as indicated by [+\_([+LOC])] in RR-4, can only occur after the verb; consequently, there
is no possibility for its topicalization. By RR-4, however, a strict location verb allows another locative, which may be topicalized as shown by $+[\text{+LOC}]_\text{emphasis}$. This topicalized locative actant is an instance of the outer locative which is introduced for all verbs by some other redundancy and subcategorization rules (see RR-i, SR-iii, SR-iv and RR-iv, Section 2.4.9). RR-5 shows that the locative actant of the non-strict location verbs is also required to occur after the verb but that the locative actant is optional. Because of the aforementioned redundancy and subcategorization rules for all verbs, the non-strict location verbs also allow the outer locative actant.

The locative agentive transitive verbs are for example:

say "put" tæm "add" khwæaen "hang"
tít "glue" khian "write" thêt "fry"

Following are some lexical matrices of agentive transitive verbs in respect to the "location" and the "strict" features:

<table>
<thead>
<tr>
<th>say &quot;put&quot;</th>
<th>khwæaen &quot;hang&quot;</th>
<th>yin &quot;shoot&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>$+[V]$</td>
<td>$+[V]$</td>
<td>$+[V]$</td>
</tr>
<tr>
<td>$+([+NM])$</td>
<td>$+([+NM])$</td>
<td>$+([+NM])$</td>
</tr>
<tr>
<td>$+([+AGT])$</td>
<td>$+([+AGT])$</td>
<td>$+([+AGT])$</td>
</tr>
<tr>
<td>-([+DAT])</td>
<td>-([+DAT])</td>
<td>-([+DAT])</td>
</tr>
<tr>
<td>+location</td>
<td>+location</td>
<td>-location</td>
</tr>
<tr>
<td>+strict</td>
<td>-strict</td>
<td></td>
</tr>
</tbody>
</table>

The following is a tree diagram showing all the sub-classes of agentive transitive verbs, resulting from the application of SR-1 to SR-5:
3.3.2 Dative Transitive Verbs

The second possible case to be realized as the nominative case form in the case frame of transitive verbs is the dative case. Transitive verbs that have the dative case realized as [+NM] constitute the second category of transitive verbs.

3.3.2.1 General Characteristics

Verbs that require the dative case to be realized in the [+NM] case form differ from the agentive transitive verbs in at least four points.

First, verbs that require [+NM] do not allow a manner adverb which expresses voluntariness or purpose such as
/yàaŋ tânčay/ "attentively, on purpose" while the agentive transitive verbs do allow such an adverb. The following sentence containing the dative verb /hën/ "see" and /yàaŋ tânčay/, a manner adverb of purpose, is ungrammatical:

15. *dææn hën măa yàaŋ tânčay
   Dang see dog attentively
   *Dang sees the dog attentively.

Second, verbs that require [+NM, +DAT], unlike agentive verbs, cannot occur after a causative verb:

16. *dææn bök pük hën măa
    Dang tell Pook see dog
    *Dang told Pook to see a dog.

Third, verbs that require [+NM, +DAT] do not, in general, allow the instrumental case in their case frames. Only a few [+NM, +DAT] verbs do, and even then, the instrumental case allowed is restricted to that which involves inalienable possession; this instrumental actant is also modified in some way. In sentence 17 below, /dûay taa plàw/ "with naked eyes" is an instrumental actant which expresses an inalienable possession. /taa/ "eye", the N in the PP construction is modified by /plàw/ "naked". The following sentence 18 illustrates the impossibility of having [+INS] actant which does not express an inalienable possession with a dative transitive verb.

17. dææn hën čhíaröok dûay taa plàw
    Dang see germs with eye naked
    Dang sees the germs with (his) naked eyes.
18. *dææn hen čhÍarõok dũay wææn khayãay
Dang see germs with glass magnifying
*Dang saw the germs with the magnifying glasses.

Verbs that allow [+NM +DAT] and [+INS] are /hën/ "see" and /dåyyin/ "hear". These two verbs are thus distinguished from other [+NM +DAT] verbs.

Fourth, verbs that allow [+NM +DAT] do not allow [+BEN] in their case frames. Thus, one may not have:

19. *dææn ča? khåwçay lêek häy nõn
Dang will understand mathematics for sister
*Dang will understand mathematics for sister.

With all these characteristics, these verbs are considered to constitute a distinct subcategory differing from the agentive transitive verbs discussed above. SR-3, repeated below, accounts for this subcategory:

\[ \text{SR-3: } [+([+NM])] \rightarrow [+([+AGT])] \]

One of the possibilities, [-([+AGT]), +([+DAT])], describes the dative transitive verbs.

The dative transitive verb category or the [-([+AGT]), +([+DAT])], includes verbs such as:

rãk "love" čhâp "like" hën "see"
sõnsäy "doubt" liim "forget" dâyyin "hear"
khåwçay "understand"
These verbs referred to as dative transitive verbs will be specified in the lexicon with \[+((+\text{AGENT}))\] for their identification.

Since the dative case in these verbs is found only in the nominative case form, the following redundancy rules are set up:

RR-6: \[[-([+\text{AGENT}]) \rightarrow [-[+\text{AC}}, [+\text{C}]]\]

RR-7: \[[-[+\text{AC}}, [+\text{C}]] \rightarrow [+[-[+\text{DAT}\] ]

RR-6 says that a dative transitive verb has the dative actant realized not in [+AC] or [+C] case forms. What this means is that the dative case in the dative transitive verbs must realize in the [+NM] case form only. RR-7 says that the dative actant in a dative transitive verb must occur only before the verb.

3.3.2.2 Sub-classification of Dative Transitive Verbs

Similar to agentive transitive verbs, dative transitive verbs can be further classified into sub-categories. The following sections discuss these sub-categories:

3.3.2.2.1 Verbs of Perception, Emotion and Cognition

In the previous section, the two transitive verbs /hěn/ "see" and /dāyyin/ "hear" are mentioned as allowing the
instrumental case in their case frames. These verbs also allow the comitative case while other dative transitive verbs do not:

20. ḍaeən hɛn riəbin tɔk kâp phɔm
    Dang see plane fall with I (male speaker)
    Dang saw the plane crash with me (i.e., and so did I).

21. ćhən dəyyin phleen ni⁰ khrəŋ râæk kâp khun
    I hear song this time first with you
    I first heard this song with you.

22. *dææn liim nənsix kâp pûk
    Dang forget book with Pook
    Dang forgets the books with Pook.

With the co-occurrences of the instrumental and the comitative cases, /hɛn/ "see" and /dəyyin/ "hear" differ from other dative transitive verbs in such a way that a sub-category can be set up for them. Since semantically these two verbs are related to perception, they will be referred to as "percep" (perception) verbs. Other dative verbs will be referred to as "non-percep" (non-perception) verbs. Subcategories of dative verbs can be set up accordingly. The following subcategorization rule accounts for this subcategorization:

SR-6: \([-([+AGT])]\) \(--\to\) [± percep]

The feature "percep" (perception) is used as a syntactic-semantic feature in the same way as [+dir] in Section 2.4.9.
The examination of dative transitive verbs reveals that two further syntactic-semantic sub-classes can be set up in the non-perception category. One sub-class includes the dative transitive verbs which convey the meaning of emotion activity such as /rák/ "love", /čhɔp/ "like", /bìa/ "be tired of". These verbs will be referred to as "emot" (emotion) dative transitive verbs.

The other sub-class includes dative transitive verbs which convey the meaning of cognition activity such as /khɔwčɔy/ "understand", /rúu/ "know", /čháa/ "believe". These verbs will be referred to as "cog" (cognition) verbs. The two sub-classes are distinct from each other not only semantically but also syntactically. As shall be seen in Chapter V where transitive verbs that co-occur with the /wāa/ prepositional phrase are discussed, the emotion dative transitive verbs do not allow the occurrence of the /wāa/ prepositional phrase while the cognition dative transitive verbs do:

23. *dææn čhɔp wāa fɔn tɔk tɔɔnyen
   Dang like saying rain fall evening
   Dang likes that it rains in the evening.
24. dææn khɔwčɔy wāa khɔw ča? maa
   Dang understand that he will come
   Dang thinks that he will come.

To capture this further sub-classification, the following subcategorization rule is set up:
SR-7: [-percep] ——— [± emot]

The [-emot] dative verbs are those that are cognition verbs. The following redundancy rule can be set up to account for this fact:

RR-8: [-emot] ——— [+cog]

According to SR-6, SR-7 and RR-8 thus, the dative transitive verbs are sub-classified into three groups: [+percep], [+emot], and [+cog].

3.3.2.2.2 The Possession Dative Verb /mii/ "have"

One of the verbs in Thai that fits the definition of transitive verbs defined as [+(+[NM]), +OBJ]] is /mii/ "have" as in:

25. pûk mii nôñî sôñû khôn
Pook have sister two clf

Pook has two sisters.

The problem with the sentence above is the assignment of case relation to /pûk/ "Pook". Sentence 25 conveys the meaning of possession and corresponds in meaning to a phrase /nôñî sôñû khôn khôñû pûk/ "Pook's two sisters" of which /khôñû/ is a genitive case marker.

According to Fillmore (1968a), the [+DAT] can be assigned to the "possessor". /pûk/ "Pook" in the phrase /nôñî sôñû khôn khôñû pûk/ "Pook's two sisters" can thus be specified with [+DAT]. On the basis of semantic relation,
/pünk/ in sentence 25 above may be reasonably marked with the [+DAT] case which is realized as [+NM]. With [++[\text{NM}]+{\text{DAT}}], /mii/ is a dative transitive verb. To account for /mii/ as a dative transitive verb, the subcategorization rules 6 and 7 posited above will have to be modified. Another subcategorization rule will also be added:

\begin{align*}
\text{SR-6a: } & [-(\{+\text{AGT}\})] \rightarrow [+_\text{possess}] \\
\text{SR-7a: } & [-_\text{possess}] \rightarrow [+_\text{percep}] \\
\text{SR-8: } & [-_\text{percep}] \rightarrow [+_\text{emot}] 
\end{align*}

SR-6a above reads that dative transitive verbs must be specified as to whether they are [+possess] or [-possess] verbs. This rule is changed from the original SR-6 given above showing that the possession category is higher in the hierarchy than the perception category. SR-7a reads that verbs that are non-possession verbs are divided into either [+percep] or [-percep] verbs. By SR-8, non-perception verbs are specified as to whether they are emotion verbs or non-emotion verbs. If they are non-emotion verbs, RR-8 which has already been introduced, will be applied to show that a [-possess, -percep, -emot] verb is a cognition verb.

Thus, dative transitive verbs are sub-classified into four subcategories: possession, perception, emotion and cognition verbs.
There is a sentence which is parallel to sentence 25 but shows a new problem:

26. ḥən̓ n̓i̓ n̓i̓ m̓i̓ n̓a̓k̓ r̓ ian̓ s̓i̓ p kxon
    room this have student ten clf

This room has ten students (but these ten students do not have to be present physically).

If /m̓i̓ i/ is taken as a dative transitive verb, /ḥən̓ n̓i̓ n̓i̓/ in sentence 26 must be assigned [+[^NM] +[DAT]]. This raises an objection because [+DAT] is defined as an animate being, but /ḥən̓ n̓i̓/ "room" is not. The explanation for this occurrence is that /ḥən̓ n̓i̓/ in sentence 26 does not mean "room", the actual location, but "the body of students", an abstract animate noun, in which case it may carry dative case.

Sentence 26 has another meaning: "In this room, there are ten students" (students are present physically). For this interpretation, /ḥən̓ n̓i̓ n̓i̓/ is considered an accusative actant and /m̓i̓ i/, an existential verb, a verb that is specified as [-(+NM)].

The justification for the claim that /ḥən̓ n̓i̓ n̓i̓/ is an accusative locative actant is the possibility that /ḥən̓ n̓i̓ n̓i̓/ occurs as [+LOC] in another sentence which is identical in meaning to sentence 26 with the second reading:

27.  n̓ay ḥən̓ n̓i̓ n̓i̓ m̓i̓ n̓a̓k̓ r̓ ian̓ s̓i̓ p kxon
    in room this have student ten clf

There are ten students in this room.
As can be seen, /hɔːŋ níː/ occurs as a locative actant. The difference is only that in the latter sentence, it is preceded by a noun auxiliary. The presence and absence of a noun auxiliary is dependent on whether the occurrence of the locative case is in a topicalized position or not, as will be discussed below.

It can be thus said that there are two verbs /míː/. The first is a dative transitive verb, specified in the lexical entry as [+V, +([+NM]), -([+NM]), -( [+AGT]), +([+DAT])]. An example of this verb /míː/ is found in sentence 25 and in the first reading of sentence 26. The second verb /míː/ is an existential verb which is marked in the lexicon with the features [+V, -([+NM])] among other features. An example of the existential verb /míː/ is found in the second reading of sentence 26 and in sentence 27.

There is an observation that should be made in connection with the topicalization of the locative actant in the case frame of the existential verb /míː/: if the locative actant is marked by the noun auxiliaries such as /thîː/ "at" or /náy/ "in" which suggest the meaning of inclusion, the noun auxiliaries can optionally be absent when the locative actant is topicalized, as in the second reading of sentence 26 or in the following sentences:

27(a) náy kʰút míː nám
    in   bottle exist water

    In the bottle, there is water.
(b) khuat mii nâm
bottle exist water

In the bottle, there is water.

If the noun auxiliary does not express the meaning of
inclusion, it must be retained in topicalization:

28. bon tô? mii nā̂̄nšī lēm nīṇ
on table exist book clf one

On the table, there is one book.

29. * tô? mii nā̂̄nšī lēm nīṇ
table exist book clf one

On the table, there is a book.

One other comment that should be made is that histori-
cally /mii/ "have" is probably related to /mii/ "exist", an
existential verb. Further research must be made to justify
this hypothesis. Synchronically, however, it seems that to
have two /mii/ as separate and unrelated lexical items can
more easily explain the range of synchronic occurrences of
/mii/ than to have only one /mii/. Besides, native speakers
do not accept the following sentence:

30. *mii taa sǔay thii pük
exist eye pretty at Pook

This sentence if accepted, could be taken as a paraphrase of
/pük mii taa sǔay/ "Pook has pretty eyes". In such an
instance, /pük/ "Pook" in 30 and in /pük mii taa sǔay/
could be similarly taken as the [+LOC] actant. Since the
sentence is unacceptable, /pük/ in /pük mii taa sǔay/ is
more reasonably considered [+DAT] actant and thus /mii/ in the sentence is a dative transitive verb.

The dative transitive verbs are thus sub-classified into four sub-classes. The following tree illustrates these sub-classes:

```
[+V]
  \-- [+([+OBJ])]  [-([+NM])]  [+([+NM])]  [-([+NM])]  [+([+DAT])]  [-([+DAT])]  [+possess]  [-possess]  [+percep]  [-percep]
       \-- [+emot]  [-emot]  [+cog]
```

The following are examples of the lexical entries of some dative transitive verbs from the four sub-classes discussed above. The various syntactic differences that correspond to the semantic-syntactic features such as the "perception" feature are added to the lexical matrices by redundancy rules that predict case frame features in terms of syntactic-semantic features (see Chapters V and VI).
3.3.3 Instrumental Transitive Verbs

A third possible case relation to be realized as the nominative case form is the instrumental case relation.

Given the two following sentences, different case assignments can be given:

31. piin kra?bok níi yîn nîk la?ay tua laæuw
gun clf this shoot bird several clf already

This gun shot several birds already.

32. fay may pàa
fire burn forest

Fire burned the forest.

Following Fillmore (1968a), the same case, instrumental case, will be assigned to both /piin/ "gun" in sentence 31 and /fay/ "fire" in sentence 32. Following Huddleston (1970) however, different cases would be assigned: instrumental case for /piin/ but "force" for /fay/. The assignment of different cases comes from the observation that while a
sentence such as 31 presupposes an agency, a sentence such as 32 does not. It is found that in Thai, several verbs behave like /mây/ in 32:

33. ปื้นา "soil" คหมน ปื้น ใสา
mud soil shirt

The mud soiled the shirt.

34. บัด "wound" มิิิป บัด มิิี่ ดแอแง่
knife wound hand Dang

The knife wounded Dang's hand.

35. ตาม "puncture" ตา?พู ตาม ยาน
nail puncture tire

The nail punctured the tire.

These verbs do not allow the agentive case:

36. *ขัน ปื้น ใสา
I soil shirt

I soiled the shirt.

37. *ขัน บัด มิิี่
I wound hand

I wounded my hand.

38. *ขัน ตาม ยาน
I puncture tire

I punctured the tire.

Despite all this evidence, I have posited the instrumental case only. There are two reasons for this decision. The first is pointed out by Fillmore (1971), that force cannot occur with the instrumental case. This restriction can be explained if we assume that "force" is itself the instrumental case. Such an assumption can explain why sentences 31 to 35
cannot have an instrumental case in the predicate. The second reason is that the difference between /yin/ "shoot" and /mây/ "burn" is that /yin/ implies an agency while /mây/ does not, can be explained by saying that /yin/ is a derived instrumental verb which has a corresponding verb that allows the agentive: /yin/ "shoot" (see Section 4.1.3). For such verbs, agency is presupposed whereas no agency is presupposed for non-derived instrumental transitive verbs such as /mây/ "burn".

The instrumental sub-category can be accounted for as different from the agentive and dative transitive verbs by the following subcategorization and redundancy rules:

SR-3: \[ +([+NM]) \rightarrow [+([+AGT])] \]

RR-9: \[ -( [+DAT]) \rightarrow [+([+INS])] \]

SR-3, as can be seen, can give many possibilities. The one that describes the instrumental transitive verbs is \[ -([+AGT]), -([+DAT]) \] which by RR-9, gets the \[ +([+INS]) \] feature. The instrumental transitive verbs can be divided into those that are derived and those that are non-derived as mentioned in the previous paragraph. This difference is shown in the lexical matrices of the verbs, that is, the derived instrumental verbs such as /yin/ "shoot" will be specified with [+derv] whereas the non-derived instrumental
transitive verbs such as /bàat/ "wound" are not specified with this feature.

Since the [+INS] transitive verbs always have the [+INS] in the [+NM] case form, occurring before them, the following RR is set up:

\[
RR-10: \quad \left[ -[+AC, +I, +C] \right] \rightarrow [+INS] \\
\]

This rule presumes the following rule:

\[
\left[ -([+AGT]) \right] \quad \rightarrow \quad \left[ -[+AC, +I, +C] \right] \\
\left[ -([+DAT]) \right] \quad \rightarrow \quad \left[ [+INS] \right] \\
\left[ +( +INS) \right] \quad \rightarrow \quad \left[ +[+INS] \right] \\
\]

This rule says that an instrumental transitive verb requires that the instrumental case be realized in other case forms than [+AC, +I, +C]; that is, it can be realized only in the [+NM] case form. By RR-10, the instrumental case in an instrumental transitive verb is required to occur only before the verb.

The tree diagram presented below illustrates the instrumental transitive verb category:
The following matrices illustrate the lexical matrices of the instrumental transitive verbs:

<table>
<thead>
<tr>
<th>bāat</th>
<th>yīn</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;wound&quot;</td>
<td>&quot;shoot&quot;</td>
</tr>
</tbody>
</table>

3.4 Conclusion

The definition of transitive verbs as verbs that require \([+([+NM]),-[+NM]+OBJ]]\) includes three types of transitive verbs: agentive transitives, dative transitives, and instrumental transitives. These types of transitive verbs are distinguished from each other by the case relation which is realized in the \([+NM]\) case form.
Among the three types of transitive verbs, dative and instrumental transitive verbs are not likely to be recognized by Halliday as included in verb class 2. The inclusion of more types of verbs as transitive verbs seems advantageous, however. It avoids the conflict that arises from the semantic definition of transitive verbs by which verbs such as /dâyyin/ "hear", and /khâwčay/ "understand" must be excluded since they do not express the effect of the action as passing over from an agent to a patient. These verbs are felt however by native speakers to be just as "transitive" as verbs such as /khâa/ "kill", which passes over the effect of the action from the agent to the patient. Such a conflict is dispensed with in the present study, since verbs such as /dâyyin/ "hear" which have the features \(+([+NM]), [-^{+NM}_{+OBJ}]\), are as qualified to be transitive verbs as /khâa/ "kill", also marked with \(+([+NM]), [-^{+NM}_{+OBJ}]\). The two differ by the fact that they carry different case relations which are similarly realized in the [+NM] case form.

In short, the definition given in this study satisfies the general feeling for transitive verbs that native speakers have, and at the same time provides the possibilities of differentiating these verbs on other grounds.

The indication of the feature \(+[AC]_{+OBJ}\) in the transitive verbs indicates that the objective actant cannot be absent grammatically. The absence of the accusative objective actant in the transitive verb case frame is considered to
involve the context of situation. In other words, the object of a transitive verb can be omitted only if the appropriate COS is provided. This has been discussed in different types of COS. A certain type of COS allows the absence of the object with no requirement that a particular situation exist or that a particular previous discourse be referred to. This type of COS is known as native speakers' common knowledge of the world.

The three types of transitive verbs are sub-classified into smaller groups according to the potential occurrence of certain other case relations in the case frames, for example, the sub-class of ditransitive verbs which allow [+DAT] in their case frames. The obligatory requirement of a certain case in the case frame also sub-classifies verbs. For example, the requirement for the presence of a locative actant in the case frame of a verb distinguishes the location verbs from the non-location verbs.

Figure 2 illustrates all the sub-classes of transitive verbs discussed so far.
Figure 2

Subcategories of Transitive Verbs Based Upon Case Co-occurrences
CHAPTER IV
TRANSITIVE VERBS AND THEIR DERIVATIONAL PROPERTIES

4.0 Introduction

Fillmore (1968a: 28) mentions that verbs are distinguished from each other not only by the specification of their case frames but by other syntactic properties such as transformational or other idiosyncratic properties. This statement can be taken to imply that there are properties of verbs other than case features. Following this idea, transitive verbs will be discussed in this chapter in connection with their derivational properties and their potential occurrence in the "passive" constructions.

The purpose of this discussion is firstly to show that transitive verbs differ in their derivational properties. Secondly, it is to illustrate that some homophonous transitive and intransitive verbs are distinct lexical items and that their relationship can be correctly and explicitly handled by a derivational process. This latter purpose also helps to reveal the importance of the positing of transitive verbs as constituting a distinct and significant category of verb in the language.

The discussion of transitive verbs in connection with derivational properties will be limited to the more general processes of transitivization and intransitivization, and
also the derivational process in the /dooy/ passive construction. This restriction is due to the fact that a thorough discussion of the derivation of verbs requires a separate study that goes well beyond the scope of this study.

Except for the /thûk/ "passive" construction, which involves embedding, this chapter is confined in scope to simple sentences.

4.1 Transitivization and Intransitivization

In Thai, there are pairs of sentences which show differences and similarities in a systematic way so that they can be considered related. To illustrate:

(a) Dang opens the door every day.

(b) The door opens every day.

\[
\begin{align*}
1(a) & \quad dae\text{aen} & p\text{\=at} & pr\text{a}t\text{uu} & th\text{\=uk} & wan \\
& \begin{array}{c}
\begin{array}{c}
[+N] \\
[+NM] \\
[+AGT]
\end{array}
\end{array} & \begin{array}{c}
\begin{array}{c}
[+V] \\
[+([+NM])] \\
[-[+OBJ]]
\end{array}
\end{array} & \begin{array}{c}
\begin{array}{c}
[+N] \\
[+AC] \\
[+OBJ]
\end{array}
\end{array} & \begin{array}{c}
\begin{array}{c}
[+N] \\
[+AC] \\
[+TIM]
\end{array}
\end{array} \\
\begin{array}{c}
Dang \\
open \\
door \\
every \\
day
\end{array}
\end{align*}
\]
2(a)  

Dang washed the clothes this morning.

2(b)  

The clothes wash easily.

With regard to the first pair of sentences above, at least three observations can be made. First, both sentences in the pair contain homophonous verbs /pəat/ which share the basic meaning of "open". In spite of this similarity in form, the two verbs /pəat/ in the two sentences differ in their case frame features. In sentence 1(a), /pəat/ has the features [+([+NM]), -[[+NM] +OBJ], +(+[AGT])] which identify it as an agentive transitive verb. In sentence 1(b), /pəat/ has the features [+([+NM]), +(+[NM] +OBJ)] which identify it as an intransitive verb. Second, the two sentences are related in meaning: both share the meaning of "opening of the door". Third, the two sentences contain other similar constituents besides /pəat/: /pra?tuu/ "door", /thuk wan/ "every day". These constituents consistently bear the same case relations to the verb /pəat/. The similarities and differences between
the two sentences are too obvious to be neglected. They indicate a relationship between the two sentences which should be accounted for. In this study, it will be handled through the features in the lexical matrices of the two /pɔːt/ and of other relevant items such as nouns. The relationship of the two verbs is handled by a lexical derivational process referred to as transitivization.

The second pair of sentences can be described in the same manner in relation to their similarities and differences except that in sentence 2(b) an additional difference appears. This is the obligatory requirement of an adverb of manner after the verb.

Although the similarities and differences of the second pair of sentences can be listed in the same way, it will be claimed that the relationship between the two sentences of the second pair needs a different treatment from that of the first pair, that is, it needs the derivational process of intransitivization (see Section 4.1.2).

4.1.1 Transitivization

Homophonous verbs which can occur in pairs of sentences such as 1(a) and (b) above have been handled differently by grammarians. In the following sub-sections, a brief summary of how the above pair of verbs and other similar pairs of verbs are handled in the literature in general and in the Thai grammar in particular will be given.
4.1.1.1 In the Literature in General

Jespersen (1969: 116-117) talks about verbs with double employment, that is, verbs that may occur as transitive verbs and intransitive verbs. He gives examples in English of the following sentences to illustrate verbs that have double employment:

3(a) Open the door.
(b) The door opened, and a stranger entered.

The examples above are parallel to the examples with /pået/ "open" in Thai as shown in sentences 1(a) and 1(b) above.

Jespersen's use of "double employment" and his explanation that "we speak of a verb as transitive if it has an object,..." (Jespersen 1969: 116) make it seem that he treats the occurrence of verbs like transitive or intransitive as a matter of surface structure. However, if some verbs occur with double employment while others do not, they presumably constitute a third category differing from other verbs. Jespersen does not mention any new category nor does he make himself clear on this point.

For Chomsky (1965), verbs such as "open" in English and presumably /pået/ "open" in Thai, when they occur in sentences such as 3(a) and 3(b) or sentences 1(a) and (b) respectively, are considered to be two separate lexical items. For the (a) sentences, the verbs are described as [+NP] and are referred to as transitive verbs. For the
(b) sentences, the verbs are described as [+___#] and are referred to as intransitive verbs. Such treatment however does not account for the relation between the two verbs in each pair of sentences.

To account for the relationship between transitive and intransitive verbs that are homophonous and are semantically related, Chomsky (1965: 189) suggests that a transitive "grow" as in "He grows corn" be shown as related to an intransitive "grow" as in "Corn grows" by having the transitive verb derived from an underlying sentence of the form "He caused S" where S has the corresponding intransitive verb "grow" as the main verb. However, he makes no concrete suggestion as to how such an analysis can be formally incorporated into a transformational grammar.

This idea has presumably been adapted by the generative semanticists who probably would explain the relationship between such pairs as "He grows corn" and "Corn grows" or between sentences such as 3(a) and (b) and presumably 1(a) and (b) by a transformational process. In such an approach, "grow" or "open" or /pæət/ in the first sentence of each pair would be derived transformationally from the identical verb in the second sentence of the pair. This can be formally stated by having the sentence containing the intransitive verb embedded under a higher verb or a "causative" proverb (Lakoff 1970: 41-43 and 91-98).
Following this, the underlying structure of 1(a) and 3(a) would presumably be:

![Diagram of the underlying structure of sentences]

1(a): daæn
   - Dang

3(a):
   - door open

By a set of transformation rules, including "causative" transformation (Lakoff 1970: 42), the underlying sentences are transformed into /daæn pəət pra?tuu thuk wan/ "Dang opens the door every day" and "Open the door" respectively.

The hypothesis that a transitive verb is derived from an underlying structure with an embedded corresponding intransitive verb under a causative proverb stemmed originally from the assumption that a transitive verb such as "open" is synonymous with the paraphrase "to cause to open". The analysis, based on this assumption has been criticized on many grounds. Fodor (1970: 429-38) points out the
non-equivalence in meaning between the derived transitive verbs and their presumably related causative paraphrases. A solution to this weakness is to have the proverb of causation as an abstract proverb, as in the tree shown above instead of an actual lexical item "cause". According to Babara Partee (1971) however, the analysis of the derived causative transitive verbs is weak if no account of the relationship between the lexical item "cause" in the paraphrase and the abstract proverb is taken.

Another weakness in the use of abstract causative proverb is given by D. A. Cruse (1972), who shows that to assume the derivation of transitive verbs from the underlying structure with an abstract proverb can make one lose the generality in meaning of the verbs, especially in the instances of transitive verbs which are polysemous. One has to assume a "CAUSATIVE" underlying structure for every one of these meanings and by doing this, one may lose the generality that all these variants of the transitive verbs share the same basic meaning.

Fillmore (1968a) accounts for the relationship between sentences such as 3(a) and (b) above by means of subject choice and optionality of certain cases in the verb case frames. In his framework "open" is described as having the case frame +[__O (I)(A)] (Fillmore 1968a: 27) which means that for this verb, only O is obligatory; the other cases
are optional. If A is chosen, it will be subjectivalized and one gets "open" in the transitive use: "Someone opens the door". If neither A nor I is chosen, one gets "The door opens" which is an instance of an intransitive verb. Thus, for Fillmore, the notion of transitive and intransitive for verbs that can function as both can be considered a surface notion resulting from the choice of a certain case for subject and the optionality of cases in the case frame of verbs. The analysis Fillmore gave seems to have several weaknesses when used to account for the relationship of verbs in 1(a) and (b). First, /pəət/ "open", occurring when A ([+AGT] in lexicase) is not chosen, has different syntactic properties from /pəət/ when A is chosen. For example, the verb /pəət/ "open" occurring with A present, allows the comitative case to co-occur; /pəət/ "open" occurring with neither A nor I and having 0 ([+OBJ] in lexicase) as subject does not allow the comitative case relation. To illustrate:

4(a)  dææen pəət pra?tuu kâp pûk thûk wan
Dang open door with Pook every day

\[
\begin{array}{c}
[+N] \\
[+NM] \\
[+AGT]
\end{array}
\quad
\begin{array}{c}
[+P] \\
[+C] \\
[+AC] \\
[+COM]
\end{array}
\]

Dang opens the door with Pook every day.
It should be noted in passing that the co-occurrence of cases such as the above could be handled only at the expense of a very cumbersome complication of the case frames of every verb, since there is no means available within the Fillmorean framework for stating generalizations with respect to co-occurrences of cases in a case frame.

Secondly, if A and I are not chosen, one may also have a sentence such as:

5. pra?tuu pǝǝt mǝačhaw níi
    door open morning this

The above sentence contains an intransitive /pǝǝt/ which has different syntactic and semantic properties from the intransitive /pǝǝt/ "open" which occurs without A or I as in 1(b) and also from the transitive /pǝǝt/ which occurs with A as in 1(a). /pǝǝt/ such as in sentence 5 is a stative verb and therefore cannot occur with /kamlan/, a word that signifies progressive action, while the /pǝǝt/ such as in 1(b) being a process verb and /pǝǝt/ such as in 1(a) being an action verb can, as long as the sentence does not contain an incompatible time actant such as /thuk wan/ "every day". Besides, like the intransitive verb /pǝǝt/ in 1(b), /pǝǝt/ such as in 5 cannot occur with comitative case:
The door was being open at nine o'clock.

The door was open with Pook at nine o'clock.

The fact that the subject choice and the optionality of case frames of verbs can allow three /pɔːt/'s "open" as in 1(a), 1(b) and 5 without making any distinction between them in regard to their different syntactic and semantic properties indicates a weakness in the Fillmorean analysis. In this study, it is proposed that /pɔːt/ in sentence 5 is derived from /pɔːt/ in sentence 1(b) by a derivational process which relates the process verb to a stative verb. /pɔːt/, a transitive verb in 1(a) is derived from /pɔːt/, a process intransitive verb in sentence 1(b).

In short, it can be said that the verbs /pɔːt/ with and without A and I differ in syntactic and semantic properties. The positing of one lexical item with optional cases in the case frame: +[___0(I)(A)] implying that /pɔːt/ has the same properties whether it occurs with or without the A or the I is thus misleading.

4.1.1.2 In Thai Grammar

According to Phyaa Uppakit (1968: 84), /pɔːt/ in sentences such as 1(a) is a transitive verb but in sentences
such as 1(b) it is an intransitive verb. /pɔːt/ is presumably a verb that may belong to either the transitive or intransitive category.

Vichin Panupong (1970: 123), using testing sentence frames to classify verbs, talks about homophonic verbs. The homophonic verbs are of two types: intransitive/transitive homophones and transitive/double transitive homophones. The first type, which is relevant to the discussion here, contains verbs that may occur in the testing frames for both intransitive and transitive verbs. These verbs include, for example, /pɔːt/ "open", and /khɛn/ "go up in price".

Udom Warotamasikkhatit (1963: 10) in the framework of generative transformational grammar of 1957 has verbs such as /pɔːt/ "open" and /hàk/ "break" in a sub-category of verbs called "ambivalent" verbs. These verbs "show transitive potential, if they are preceded by human or animate nominals and, ... will show intransitive potential if they are preceded by an inanimate nominal" (Warotamasikkhatit 1963: 10).

Lekawatana (1970), following Fillmore's case grammar, accounts for verbs such as /pɔːt/ "open" or /hàk/ "break" by means of optionality in the case frames. /pɔːt/ in 1(a) is the result of choosing A from the case frame: +[____O(I)(A)] and having this chosen A subjectivalized. /pɔːt/ in 1(b)
and 5 results from not making any optional choice and having 0 subjectivalized.

In summary, the previous Thai grammatical studies illustrate various analyses that differ mainly in positing or not positing a separate category for verbs such as /paaat/ "open". The grammarians that do not posit a new category differ in whether they see /paaat/ as belonging to a single category or to two categories: transitive and intransitive. Phyaa Uppakit, in the traditional framework, has /paaat/ and presumably similar verbs in two categories: transitive and intransitive. Panupong, using testing sentence frames, also has /paaat/ in two categories, with the additional information that these verbs are homophonous. Lekawatana, in the Fillmorean case framework, differs from the former two grammarians in that she has only one verb category. The transitive and intransitive sentences are only different surface structures containing the same basic verb. Thus, for Lekawatana, /paaat/ is a verb belonging in the category of verbs that share +[___0(A)]\textsuperscript{1} case frame feature. Whether the verb is transitive or intransitive depends on whether or not A is chosen. Warotamasikkhadit's analysis, written in the framework of generative transformational grammar, differs from those of the above three linguists in positing a new verb category "ambivalent" for verbs such as /paaat/; the other three analyses do not recognize this category.
It seems that the treatment of transitive and intransitive in connection with verbs such as /pət/ "open" still has certain problems. The analysis which accounts for the relation between transitive and intransitive occurrences of certain verbs by saying that there are two verbs which are homophonous does not state the syntactic or semantic relationship that exists between the two items. What is stated is only that there are two verbs that happen to be identical in form. The "double employment" analysis of verbs raises the problem of whether these double employment verbs constitute a category of their own or whether they are considered transitives with double employment or intransitives with double employment. The analysis Chomsky offered in 1965 does not account for the constant relationship between the intransitive and the transitive either. The solution given by the generative semanticists encounters problems in the use of proverbs as mentioned before. Lastly, the Fillmorean analysis does not seem sufficient, as has been pointed out in the previous section.

4.1.1.3 The Transitive Verb Derivational Rule

Because of a lack of satisfactory explanation for the relationship between verbs in sentences such as 1(a) and (b), an alternative analysis will be attempted in this study.

The proposal is that in pairs of sentences such as 1(a) and (b) (reproduced below),
(a) dææn pæat pra?tuu thûk wan
Dang opens the door every day.

(b) pra?tuu pæat thûk wan
The door opens every day.

deææn pæat pra?tuu thûk wan
Dang open door every day.

(b) pra?tuu pæat thûk wan
door open every day

the relationship between the homophonous verbs /pæat/ is
accounted for by means of a derivational rule which treats
the verbs as separate lexical items, while simultaneously
and formally accounts for the syntactic and semantic simil­arities between them. This derivational rule may be
written as:

\[
\begin{align*}
\text{DR-1:} & \quad \left[ +V \\
& \quad [+\text{NM} \\
& \quad [+\text{OBJ} \\
& \quad \beta F_j ] ] \\
& \quad -\text{deriv} \\
& \quad +\text{process} \\
& \quad \alpha F_m \\
\right] & \quad \rightarrow & \quad \left[ +V \\
& \quad +\text{deriv} \\
& \quad +([+\text{NM}]) \\
& \quad -[+\text{NM}] \\
& \quad [+\text{OBJ} \\
& \quad \beta F_j ] \\
& \quad +[+\text{AGT}] \\
& \quad \alpha F_m \\
\right]
\end{align*}
\]

This derivational rule reads that given an intransitive verb
which is a non-derived process verb, a corresponding tran­
sitive verb of the agentive category, i.e., [+([+AGT])],
can be derived from it. The marking of the input verb as a
non-derived verb excludes inchoative process verbs which are
derived from stative verbs, for example, the derived incho­ative verb /sûn/ "become tall" in /dèk khon nán sûn khûn/
"that boy has become taller"; or derived continuative process verbs such as /sūnə/ "becoming tall" in /dèk kamlaŋ sūnə/ "the boy is in the state of getting tall" from undergoing DR-1. The indication of the input as possessing [+process] also excludes stative verbs such as /sūnə/ "be tall" in /tônmay sūnə/ "the tree is tall" from undergoing DR-1. With these restrictions, the fact that one cannot have the following sentence can be explained:

7. *khàw sūnə tônmây
   he tall tree

/sūnə/ is basically a stative intransitive verb. Although it may occur as a process intransitive verb, /sūnə/ is then a derived verb as mentioned above. Thus, it cannot undergo DR-1.

The symbol βF_j in the input and the output represents identical selectional restrictions imposed by both verbs on their [+OBJ] actants. αF_m indicates any syntactic or semantic features that the two lexical verbs, the output and the input share. In effect, the αF_m in the output can be considered as the features carried over from the input lexical item. Since the features represented by αF_m appear without any change on both sides, a general convention can be set up which says that all features of the verb in the input will be automatically carried over to the output lexical item unless indicated otherwise. With this notion, αF_m does not have to be included in the rule. The feature
[+derv] in the output indicates that the item is not a basic lexical item, and will lead one to look for the corresponding underived verb and the relevant derivational rule that states how the two verbs are related.

Since derivational rules are the devices used in the proposed analysis, some discussion of their properties will be given here. The derivational rules are a set of rules which constitutes a part of the lexicon. These rules are identified by a fletched arrow, $\rightarrow$, different from the subcategorization rules or redundancy rules which are not written with this kind of arrow. The derivational rules account for a set of lexical items which are created according to a systematic analogy from another set of items already in the lexicon (Starosta, personal communication). In DR-1 above, the derived transitive verb comes into existence, based on the intransitive verb, as a result of the derivational rule. Derivational rules differ in their regularity and in the accuracy of their prediction of the properties of the derived items. For some derived items, their properties can be completely predicted by such a rule; for example, the verbs derived from adjectives in Thai: /dam/ (Adj) "black" $\rightarrow$ /dam/ (V) "be black". In such instances, there is no need to list the derived items in the lexicon. Consequently, the listing of items in the lexicon is reduced. For other derived items however, their
properties cannot be completely predicted. This fact is also mentioned by Halle: 
"... not all properties of words can be readily accounted for with such simple rules. Particular difficulties arise in connection with the treatment of idiosyncratic characteristics that a given word shares with few other words or even with none" (Halle 1973: 4). In such instances, both lexical items must be listed in the lexicon. The derivation rule in such instances exists consequently in the language as a rule that accounts for the relation between the two items, both of which exist in the language. Many other lexical items may satisfy the requirement in the input of the rule and be eligible to undergo the rule, but if the derived items or the outputs are not listed in the lexicon, these items cannot appear in a terminal string. They can only remain as potential lexical items. In short, DR rules are not "generative" in the same sense that phrase structure rules are; instead, each application of the rule to create a new lexical item is a separate event in the history of the language, an event which must be recorded in the lexicon.

The derived items behave like any other lexical items. That is, once they enter the language, they are subjected to any semantic or phonological rules that the latter have to undergo.
Since the derived transitive verb /pəət/ "open" has certain properties that cannot be predicted from the process intransitive verb from which it is derived, both lexical items will be listed in the lexicon:

\[
\begin{array}{c|c}
\text{pəət} & \text{pəət} \\
\text{"open"} & \text{"open"} \\
\end{array}
\]

\[
\begin{array}{l|l}
\text{+V} & \text{+V} \\
\text{+[+NM]} & \text{+[+NM]} \\
\text{+[+OBJ]} & \text{+[+OBJ]} \\
\text{α}_F \text{m} & \text{α}_F \text{m} \\
\text{ϕ}_{F_b} & \text{ϕ}_{F_a} \\
\text{-derv} & \text{+derv} \\
\text{+( [+NM])} & \text{+( [+AGT])} \\
\text{aF}_m & \text{γ}_F \\
\end{array}
\]

ϕ_{F_b} represents semantic or syntactic features or any idiosyncratic features that belong to the input intransitive verb /pəət/ but which are not carried over to the derived item. γ_{F_a}, in the same manner, represents the idiosyncratic features that the output transitive verb /pəət/ has but that its corresponding intransitive verb does not. That the related intransitive and transitive verbs have certain idiosyncratic features which call for ϕ_{F_b} and γ_{F_a} can be exemplified by the instance of /təəek/ "break" a process verb, and /təəek/ "make into smaller pieces" a derived transitive verb. The derived transitive verb /təəek/, unlike other derived transitive verbs, has a limited use. One can say /təəek sataəŋ/ "make smaller change (money)" or /təəek ləəek/ "break up a number into smaller numbers", but one cannot use the derived /təəek/ in general to mean...
to break any object. The following sentence is ungrammatical:

8. *khāw tāæk kāæw
  he break glass

This type of irregularity and non-predictability which is typical of derivational processes in all languages, supports the need for listing the idiosyncratic features in the lexicon. It also shows why derivation cannot be handled by transformation except by the use of extremely adhoc devices such as rule features and non-attested underlying forms. The listing of the idiosyncratic features, i.e., γFₐ in the lexical matrix of a transitive verb /tāæk/ "break" immediately distinguishes the verb from other transitive verbs and also from /tāæk/ "break" the corresponding intransitive verb.

αFₗ in the input and the output represents the features that are common to the underived item and the derived item. The feature [+(+[AGT])] in the output indicates the agentive transitive category that the verb in the output belongs to. The [+deriv] in the output matrix, standing for "derived" shows that the output verb is a derived item. The feature [+process] in the lexical matrix of the intransitive /pəeət/ distinguishes it from the stative intransitive /pəəət/ "be open" which will be marked with [+stative]. It is only the process verb /pəəət/ "open" that undergoes DR-1 and is derivationally related directly to the transitive verb /pəəət/ "open".
The case features and the common semantic features in the lexical matrices of the two /pɔt/'s and on other relevant lexical items such as nouns show the relationship between sentence 1(a) and (b) and other similar sentence pairs:

1(a) Dang open door every day

Dang opens the door every day.

(b) The door opens every day.

The transitive derivational process captured by derivational rule 1 above shows that certain transitive verbs are not basically transitive. They are items derived from a certain type of intransitive: non-derived process verbs. The following list shows some other derived transitive verbs
besides /pət/ "open". Examples of sentences in which these verbs occur are given together with their corresponding intransitive verbs:

<table>
<thead>
<tr>
<th>Intransitive verbs</th>
<th>Derived transitive verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) pit &quot;close&quot;</td>
<td>a) pit &quot;close&quot;</td>
</tr>
<tr>
<td>pra?tuu pit ṭay</td>
<td>daeæn pit pra?tuu</td>
</tr>
<tr>
<td>door close</td>
<td>Dang close door</td>
</tr>
<tr>
<td>often</td>
<td></td>
</tr>
<tr>
<td>The door closes often.</td>
<td>Dang closes the door.</td>
</tr>
<tr>
<td>b) phan &quot;fall down&quot;</td>
<td>b) phan &quot;tear down&quot;</td>
</tr>
<tr>
<td>båan phan miaʔhaw</td>
<td>daeæn phan båan</td>
</tr>
<tr>
<td>home fall down</td>
<td>Dang tear down home</td>
</tr>
<tr>
<td>morning</td>
<td></td>
</tr>
<tr>
<td>The house fell down this morning.</td>
<td>Dang tore down the house.</td>
</tr>
<tr>
<td>c) dapp &quot;die out&quot;</td>
<td>c) dapp &quot;extinguish&quot;</td>
</tr>
<tr>
<td>fay kamlan dapp</td>
<td>khåw dapp fay</td>
</tr>
<tr>
<td>fire -ing die out</td>
<td>he extinguish fire</td>
</tr>
<tr>
<td>The fire is dying out.</td>
<td>He extinguished the fire.</td>
</tr>
<tr>
<td>d) hakk &quot;break&quot;</td>
<td>d) hakk &quot;break&quot;</td>
</tr>
<tr>
<td>kînmây hakk bøy bøy</td>
<td>pük hakk kînmây</td>
</tr>
<tr>
<td>branch break</td>
<td>Pook break branch</td>
</tr>
<tr>
<td>often often</td>
<td></td>
</tr>
<tr>
<td>The branch breaks often.</td>
<td>Pook broke the branch.</td>
</tr>
</tbody>
</table>

The process verbs such as those listed above have the corresponding homophonous stative verbs. For an example, /pət/ "open" as a process verb can have /pət/ as a stative
verb meaning "be open" as in sentence 5 repeated below:

5. pra?tuu  pɔːt  míaʔháw  níi
     door  open  morning  this

     The door was open this morning.

The stative verbs corresponding to these process verbs can be considered as derived from the process verbs by a separate derivational rule. This derivation rule accounts for the end result of the process action. Since this derivational process is solely concerned with the intransitive verbs and thus is not relevant to this study, it will not be discussed any further.

The account of verbs such as /pɔːt/, which has homophonous forms by a derivational process, appears to avoid the problems encountered by other solutions. Besides, it also reveals that there are syntactic properties distinct to each of the two sub-classes of intransitive verbs, process and stative. Only the intrinsic process verbs can undergo the transitivization derivation. The relationship of /pɔːt/ as a stative intransitive verb, /pɔːt/ as a process intransitive and /pɔːt/ as a transitive verb can be seen from the diagram below. This study only formally accounts for the derivation process between the latter: process to transitive. It has however suggested that another derivational process can account for the relationship between the former: stative and process intransitive verbs.
4.1.2 Intransitivization

In contrast to the transitive derivational process such as the one which derives a transitive verb from an intransitive verb in the previous section, there is a derivational process of intransitivization by which intransitive verbs are derived from transitive verbs. This derivational process, since it involves "potential" meaning, will be referred to as "potential intransitivization".

Halliday (1968: 47) discussed a type of clause in English called a process-oriented receptive clause. The characteristic of this type of clause is that it pre-supposes a "causer" but does not allow the causer to be present in the clause. Halliday gives an example in English of "The clothes washed easily" in which an agent is presupposed: "It is easy for someone to wash the clothes". As Halliday points out, this type of clause is restricted in its range of tense and modals and is frequently found in the simple present tense, particularly in negative potential. This type of clause is also usually interpreted as "potential".
In Thai, there are some intransitive verbs that behave in a parallel manner to verbs that occur in Halliday's process-oriented receptive clause, for example:

9. praʔtuu nán pàat yâak
doors that open difficult

That door opens with difficulty.

10. phâa sák n̄ay
clothes wash easily

The clothes wash easily.

For each of the sentences above, three observations can be made. First, there is one nominal actant in the sentence. This nominal actant occurs before the verb, and one might suppose it to be a case of topicalized objective actant with a missing nominative actant, as in the following example where /čhān/ "I" as a nominative actant is missing and /wannii/ "to-day" is a topicalized actant:

11. wannii sák phâa l̄aæw
to-day wash clothes already

To-day (I) washed (my) clothes already.

The claim that the nominative actant is missing is valid for sentence 11 since one can have the following sentence with the nominative actant present but with no basic change in meaning from sentence 11:

11(a) wannii čhān sák phâa l̄aæw
to-day I wash clothes already

To-day I washed the clothes already.
The supposition for the nominative actant is not tenable for sentences 9 and 10 above, since one cannot put in a nominative actant before the verbs in these two sentences:

9. pra?tuu nán pət yâak
doors that open difficult

That door opens with difficulty.

(a) *pra?tuu nán pûk pət yâak
doors that Pook open difficulty

10. phâa sák ŋâay
clothes wash easily

The clothes wash easily.

(a) *phâa pûk sák ŋâay
clothes Pook wash easily

The impossibility of putting in an agent indicates that /pra?tuu/ "door" and /phâa/ "clothes" are subjects of their respective verbs and not the topicalized objects of transitive verbs. Consequently the verbs in 9 and 10 are intransitive verbs.

The second observation is that the intransitive verbs under discussion presuppose an agent, although in the string, no agent appears. In sentence 9, the meaning of the sentence is "That door is hard for people to open"; similarly, sentence 10 has the meaning of "The clothes are easy for someone to wash".

The third observation is that the intransitive verbs under discussion are obligatorily followed by a potential
manner adverb such as /yâak/ "hard" and /nâay/ "easily". The following sentences without the potential manner adverbs are ungrammatical or carry different meaning:

12. pra?tuu nân pêat
    door that open
That door is open/is opening.

13. *phâa sák
    clothes wash
Clothes wash.

Sentence 12 looks similar to sentence 9 except that there is no potential manner adverb after the verb. The absence of the potential manner adverb makes sentence 12 different in meaning from sentence 9. It means "That door is open" or "That door is opening", with no presupposition of an agent as there is in sentence 9. As for sentence 13, it is completely ungrammatical. Thus, the potential manner adverb can be considered obligatory for intransitive verbs such as those in sentences 9 and 10.

The three observations made above show that /pêat/ and /sâk/ in sentences 9 and 10 are intransitive verbs, and that, having the unique syntactic properties mentioned, they are a special type of intransitive verb.

As intransitive verbs, /pêat/ and /sâk/ in sentences 9 and 10 differ from the homophonous transitive verbs in sentences 14 and 15 that follow:
14. daææn pæat pra?tuu nán
Dang open door that
Dang opens that door.

15. daææn sák phaɑ mâåghåw
Dang wash clothes morning
Dang washed clothes this morning

There are several differences in properties between /pæat/ in 9 and 14, and /sák/ in 10 and 15; following are some of them. First, while /pæat/ and /sák/ in 9 and 10 obligatorily require a potential manner adverb, /pæat/ and /sák/ in 14 and 15 cannot take one:

14(a) *daææn pæat pra?tuu nán ðåay
Dang open door that easily

15(a) *daææn sák phaɑ ðåay
Dang wash clothes easily

Second, /pæat/ and /sák/ in sentences 9 and 10 express the existence of a particular state of an entity while /pæat/ and /sák/ in 14 and 15 express not the state but the action. /pæat/ and /sák/ in 9 and 10 do not allow the occurrence of /kamlåŋ/, a word expressing the progressive action. There are however sentences such as 17 which contain /kamlåŋ/ and a construction or item expressing a span of time. Most native speakers do not agree as to the acceptability of these sentences. For those who accept the sentences, /kamlåŋ/ still does not express the progressive action but the state of an entity during a particular span of time:
16. *pra?tuu nán kamlan pəət yəak
   door that -ing open difficult

17. ? pra?tuu nán kamlan pəət yəak tcoon ńi
   door that -ing open difficult span this

That door is hard to open during this time.

Sentence 16 is ungrammatical which illustrates that /pəət/ is a state verb. In 17, /tcoon ńi/ expresses a span of time; /pəət/ with the occurrence of /kamlan/ in this sentence does not mean the action in progress but the difficult state of the door to open during this particular moment. A sentence similar to 17 with a time phrase stating a particular point of time, and not the span of time is ungrammatical:

18. *pra?tuu nāa bāan kamlan pəət yəak
    door front home -ing open difficult

weelaa sii moon tron
when four o'clock sharp

Despite the differences, /pəət/ and /sāk/ in sentences 9 and 14, and 10 and 15 are undeniably related semantically and syntactically. This relationship must be accounted for. An analysis in which /pəət/ in sentence 14 or /sāk/ in sentence 15 are transformationally derived from deep structures with a higher verb or CAUSATIVE proverb and embedded intransitive verbs in the lower sentences as outlined for /pəət/ in the previous section, seems to face certain problems. One of the problems can be exemplified by the
instance of /pəat/: which intransitive /pəat/ should be in the embedded sentence in the deep structure to derive the transitive verb /pəat/, since, apparently, there are at least three intransitive verbs /pəat/, each with distinct syntactic properties:

9. pra?tuu nān pəat yâak
door that open difficult
That door opens with difficulty.

1(b) pra?tuu pəat thûk wan
door open every day
The door opens every day.

5. pra?tuu pəat mîačhâw nî
door open morning this
The door was open this morning.

The verbs /pəat/ in the above three sentences are intransitives but are of different types: /pəat/ is a "potential" intransitive verb in 9, a process intransitive in 1(b), and stative intransitive verb in 5.

In the framework of Fillmorean case grammar, the case frame of /pəat/ is likely to be +[____0(I)(A)]. If (I) and (A) are not chosen, three possible verbs such as illustrated in sentences 9, 1(b) and 5 above, will occur without any distinction. Thus, the analysis loses the significant information that the three intransitive /pəat/'s display different semantic and syntactic properties.

This study proposes a derivational rule as a device to capture the relationship between /pəat/ in sentences 9 and
14. This derivational rule, presented below, when added to the derivation rule that accounts for the relationship between the process verb /pɔt/ in (b) and stative verb /pɔt/ in sentences such as 5, and to the derivational rule 1 (DR-1) discussed in the previous section which accounts for the relationship between the process verb /pɔt/ in sentences such as (b) and the transitive verb /pɔt/ in sentences such as 14, shows a history of derivation that explains differences among the intransitive verbs /pɔt/ and the differences and relation between each of these intransitive verbs with the transitive verb /pɔt/.

The following derivational rule or DR-2 shows the converse process of derivation from that shown by DR-1:

\[
\text{DR-2:} \quad \begin{array}{c}
\left[ +V \\
+([+NM])
\end{array} \begin{array}{c}
\left[ AC
\end{array} \begin{array}{c}
\left[ OBJ
\end{array} \begin{array}{c}
\left[ \beta_F \right]
\end{array} \rightarrow \begin{array}{c}
\left[ +V \\
+MIDL
\end{array} \begin{array}{c}
\left[ +\text{deriv}
\end{array} \begin{array}{c}
\left[ +NM
\end{array} \begin{array}{c}
\left[ +OBJ
\end{array} \begin{array}{c}
\left[ \beta_F \right]
\end{array} \begin{array}{c}
\left[ +\text{ADV}
\end{array} \begin{array}{c}
\left[ +\text{manner}
\end{array} \begin{array}{c}
\left[ +\text{potential}
\end{array} \begin{array}{c}
\left[ \text{stative}
\end{array}
\end{array}
\end{array}
\end{array}
\end{array}
\end{array}
\end{array}
\end{array}
\]
\]

By \([+([NM])]\) and \([+AC_{\text{OBJ}}]\) in the input, this derivational rule says that given a transitive verb of any type, a middle verb \([+MIDL]\) which has identical selectional
restriction on the OBJ actant can be derived. By \([+^{NM}\,^{+OBJ}]\) feature, the middle verbs are intransitive. They are however different from other intransitives. In the first place, they differ from other intransitives such as /daan/ "walk" by their derivational property as indicated by the feature \([+\text{deriv}]\). This \([+\text{deriv}]\) feature shows their relationship to transitive verbs and thus accounts for the fact that they presuppose the involvement of an agent even though the agent cannot be grammatically expressed. In addition to this, they have a syntactic requirement for a potential manner adverb to follow, as shown by the frame
\[
[+\text{ADV}
\begin{array}{c}
[+\text{manner}] \\
[+\text{potential}]
\end{array}]
\]. Lastly, the derived intransitive verbs are stative verbs as shown by the feature \([+\text{stative}]\).

It has been observed that a sentence containing a middle verb expresses potential meaning with respect to how the subject can undergo the action expressed by the verb. Since the obligatory adverb of manner has the meaning of potentiality, one may reasonably ask whether the meaning of potentiality in the sentence is conveyed solely by the presence of these adverbs or not. To answer this question, intransitive verbs which are not \([+\text{MIDL}]\) verbs are examined, the result of which shows that when the verbs are followed by these adverbs, the potential meaning is also present in the sentence:
19. phâa čhanít níi kàw yàak
cloth kind this old difficult

This kind of cloth does not wear out easily.

In the above sentence /kàw/ "be old" is an intransitive stative verb but not a middle verb. When it occurs with an adverb of manner, /yâak/ "difficult", the sentence conveys the potential meaning. It is concluded therefore that the potential meaning is attached to the adverb, and that the [+MIDL] verb requires such an adverb.

In short, middle intransitive verbs such as /pàat/ in sentence 9, are intransitives that require a potential manner adverb. Because of this obligatory requirement, middle intransitive verbs may also be referred to as "potential" intransitive verbs.

As it stands, DR-2 allows a transitive verb of any class to undergo the rule. An examination of transitive verbs, however, shows that some transitive verbs do not undergo the rule. In the instrumental transitive verb class, some underived instrumental transitive verbs such as /bàat/ "wound" and /tam/ "puncture" do not allow the application of DR-2. This is evident from the fact that these verbs have no corresponding "potential" intransitive verbs:
The knife wounded (his) hand.

(b) *mii bat nāay
hand wound easily

In addition to this restriction, it is found that the dative transitive verbs of the emotion sub-class, for example /rāk/ "love" in sentence 21 and the possession dative verb in sentence 22 below do not have corresponding potential intransitive verbs either:

21(a) dānē rāk dēk
Dang love child

Dang loves children.

(b) dēk rāk nāay
child love easily

A child loves easily.

/dēk rāk nāay/ in sentence 21(b) above means "A child loves easily" and not "A child is lovable" as it should if /rāk/ is a potential intransitive verb. Besides, /dēk/ has
[+NM +DAT] case relation with /rák/ for which it means that /rák/ is a transitive verb and not a potential intransitive verb.

22(a) ɗe̱en mii ɗe̱en
Dang have money

\[
\begin{array}{c}
+V \\
+([+NM]) \\
+AC \\
+OBJ \\
\end{array}
\begin{array}{c}
+[N] \\
+[NM] \\
-[+OBJ] \\
-(+[AGT]) \\
+(+[DAT])
\end{array}
\begin{array}{c}
+[N] \\
+[AC] \\
+OBJ
\end{array}
\]

Dang has money.

(b) *ɗe̱en mii ɗâay
money have easily

In order to account for these two types of restrictions, the derivational rule will have to be modified as:

\[
\begin{array}{c}
+V \\
+([+NM]) \\
+AC \\
+OBJ \\
\end{array}
\begin{array}{c}
+[N] \\
+[NM] \\
-[+OBJ] \\
-(+[AGT]) \\
+(+[DAT])
\end{array}
\begin{array}{c}
+[V] \\
+MIDL \\
+derv \\
+[NM] \\
+OBJ \\
\end{array}
\begin{array}{c}
+[V] \\
+MIDL \\
+derv \\
+[NM] \\
+OBJ \\
\end{array}
\]

According to the above rule, agentive transitive verbs, underived, non-wound instrumental verbs, non-emotion verbs or non-possession verbs have corresponding potential intransitive verbs.

In relation to the feature [-wound] in the input, it can be assumed that the instrumental transitive verbs are
subcategorized into those that have the [+wound] feature and those that have the [-wound] feature. A verb that has [+wound] feature carries the meaning of an instrument that can wound the patient. A subcategorization rule such as the following may be expected to be relevant to instrumental transitive verbs:

\[
\begin{align*}
-([+AGT])] \\
-([-[+DAT]])
\end{align*} \rightarrow [+wound]
\]

This subcategorization rule will be seen later as not accurate, i.e., the subclass in relation to the "wound" feature are not high in the hierarchy as such. It is found that the [+wound] verbs are always [+affect, -fct] verbs and thus the following rule should present a more accurate subcategorization in the instrumental transitive verb category:

\[
\begin{align*}
-([+AGT])] \\
-([-[+DAT]]) \\
\text{+affect} \\
\text{-fct}
\end{align*} \rightarrow [+wound]
\]

4.1.3 Comment on Transitivization and Intransitivization

The study of transitive verbs in relation to a process of transitivization and a process of intransitivization reveals that transitive verbs differ in their derivational properties. However, except for the subcategories [+wound]
and [-wound] which can be posited in the instrumental transitive category, the difference of verbs in relation to the derivational properties can be said to result in categories that agree with those based on case co-occurrences already posited in Chapter III.

The account of the relationship between homophonous transitive and intransitive verbs by derivational processes has revealed that intransitive verbs are of different types with different syntactic properties and with different relationships among themselves as well as with their corresponding transitive verbs. The process intransitive verb /pəət/ "open" is more closely related to the non-potential intransitive verb /pəət/ "be open" than to the potential intransitive /pəət/ "open", which is derived from the agentive transitive verb /pəət/ "open". The derivational process between the potential intransitive verb and the corresponding transitive verb can explain why an agent is presupposed in the potential intransitive verb although no agent can overtly occur.

Although this study has not accounted for the relationship between the sentences in the following pair:

23(a)  pùk pəət pra?tuu níi dúay kunčææe dɔɔk nán
Pook open door this with key clf that
Pook opened this door with that key.

(b)  kunčææe dɔɔk nán pəət pra?tuu níi
key clf that open door this
That key opens this door.
it can be said that the relationship can be handled by having /pₜₐt/ in (b) derived from /pₜₐt/ in (a) with the justification that the /pₜₐt/ in (b), although it does not allow [+( [+AGT])], presupposes it.

It is apparent that to account for all the syntactic properties and the relationships among all these verbs, the use of the Fillmorean case frame with the optionality of certain cases in the case frames of verbs and the choice of subject is not sufficient. The case frame for /pₜₐt/ as +[___0(I)(A)] cannot account for the fact that at least three intransitive verbs can be recognized, each with its own significant properties. The derivational processes on the other hand can capture all these relations in a simple and explicit way. Following is the diagram showing the history of derivation of /pₜₐt/ "open" which occurs in the sentences given:

a) pra?tuu pₜₐt yùu
doors open stay
The door is open.

b) pra?tuu pₜₐt ñòoy
doors open often
The door often opens.

c) khₜₜw pₜₐt pra?tuu
he opens door
He opens the door.
d) pra?tuu pəət 蕤ay
    door open easily

    The door opens easily

e) kunčææ dɔ̂k nii pəət pra?tuu 蕤a båan
    key clf this open door front home

    This key opens the front door.

The derivational process in the broken lined squares are
those that are not discussed explicitly in the chapter but
are suggested as the likely derivational processes.

The transitivization and intransitivization derivational
processes discussed in this chapter are necessarily incomplete
since a thorough study of verb derivation in the language
obviously requires a separate study that goes beyond the
scope of this present work. Further research on
transitivization and intransitivization can be expected to reveal more specific processes for a more specific group of verbs. For example, only certain instrumental transitive verbs have been observed to have corresponding intransitive verbs:

24(a) fay máy bàn
fire  burn  home

Fire burned the house.

(b) bàn máy
home  burn

The house burned.

The derivational process that accounts for the relationship between the two /mây/'s in 24(a) and (b) is perhaps the "stative" intransitivization: Instrumental transitive verbs $\rightarrow$ stative verbs. Such a process is the converse of agentive transitivization by which a non-derived process intransitive verb derives an agentive transitive verb as in DR-1. This is not an unlikely assumption considering that the instrumental transitive verbs such as /mây/ "burn" have a unique characteristic in not allowing an agent in their environment.

4.2 "Passive" Constructions

In this section, transitive verbs are examined in relation to the "passive" constructions. The term "passive" construction must not be taken as equivalent to the passive construction in English, in which any transitive verb can
generally occur. It shall be seen that in Thai the passive constructions are much more restricted in occurrence and can be allowed only with a certain subset of transitive verbs. Because of this restriction, differences in the behaviour of transitive verbs in relation to the occurrences in the passive constructions can be assumed, and thus, a subcategorization of transitive verbs can be expected. In the following sections, two types of "passive" constructions will be discussed with respect to the way they provide a basis for subcategorizing transitive verbs.

4.2.1 The /dooy/ Passive Construction

It has been mentioned in Section 2.4.2 that certain semantic features are relevant to the objective case of the verbs:

25. dææn khâa nók tua nán  
   Dang kill bird clf that
   Dang killed that bird.

26. dææn ?àan naŋsìì dúay khwaamtâŋčay  
   Dang read book with intention (concentration)
   Dang reads the book intently.

27. dææn wâat rûup tônmây rûup nán  
   Dang draw picture tree clf that
   Dang drew that picture of a tree.

It can be seen that the objective cases in the above three sentences are not exactly parallel semantically. In sentence 27, /rûup/ "picture" is the result or product of
the action expressed by /wâat/ "draw". In contrast, /nôk/ "bird" in sentence 25 is not the result of the action. It exists before the action and gets affected by the action expressed by the verb /khâa/ "kill". /nânsîi/ "book" in sentence 26 is neutral to either concept. It is neither the result nor is it affected by the action expressed by the verb /?ân/ "read". If the feature "fct" for "factitive" and "affect" for "affected" are used to distinguish the semantic differences among the three verbs above, /wâat/ will be specified with [+fct], since it expresses the result of the action; /khâa/ with [+affect] since it expresses the action that can affect the patient but not one that creates it; and /?ân/ with [-affect] since it does not affect the object at all, much less bring it into existence.

As will be discussed immediately below, the use of these two features, "fct" and "affect", shows not only the semantic differences of three types of agentive verbs, but it also shows the relevant syntactic differences among the three verbs in connection with their occurrences in the "passive" constructions: the /dooy/ and the /thûuk/ constructions. The syntactic justification for the feature "fct" will be discussed first, in relation to the /dooy/ passive construction, while the syntactic justification for the "affect" feature in relation to the /thûuk/ passive construction will be discussed later.
In Thai, in the agentive transitive verb category, there are verbs which, similar to /wåat/ "draw" in sentence 27 above, express the objective actant as the result of the action. Some of these verbs besides /wåat/ "draw" are /khIan/ "write", /tàt/ "tailor", /yëp/ "sew" and /såan/ "build". These verbs taking into account the feature "fct" discussed above will be marked as [+fct] verbs.

Pairs of sentences which are structurally different but which similarly contain [+fct] verbs and are semantically related are found in Thai. For example:

28(a) nákkhIan mii čhîi khIan rîaŋ nán
writer have name write story that

\[
\begin{align*}
&[+N] \\
&[+NM] \\
&[+AGT] \\
&[\xi F_n] \\
&[+V] \\
&[+([+NM])] \\
&- [+OBJ] \\
&[+([+AGT])] \\
&[+fct] \\
&[\alpha F_m] \\
&[+N] \\
&[+AC] \\
&[+OBJ] \\
&[\alpha F_k] \\
\end{align*}
\]

A famous writer wrote that story.

(b) rîaŋ nán khİan dooy nákkhIan mii čhîi
story that write by writer have name

\[
\begin{align*}
&[+N] \\
&[+NM] \\
&[\alpha F_k] \\
&[+V] \\
&[+([+NM])] \\
&[+M] \\
&[+P] \\
&[+N] \\
&[+AC] \\
&[+AGT] \\
&[\xi F_n] \\
&[+OBJ] \\
&[+([+OBJ])] \\
&[+fct] \\
&[\alpha F_m] \\
\end{align*}
\]

That story is written by a famous writer.

Sentence 28(a) is common in the language, while sentence 28(b) is less common and is considered a translation of an
English passive sentence. Such sentences are included here in spite of this fact for two reasons. The first is that sentences such as 28(b) are often heard on television or radio programs and are found in written work as well. Secondly, granted that the sentence structures are borrowed, it is interesting that the borrowing is restricted to only a certain type of verb, i.e., those verbs that are specified with the feature [+fct]. Such restriction of the /dooy/ passive construction indicates that the factitive transitive verb class does have psychological reality and thus, the use of "fct" feature is semantically as well as syntactically motivated.

The relationship of sentences 28(a) and (b) above is apparent. Both sentences contain similar nominal constituents bearing a constant case relationship to the verbs which are homophonous and related in meaning: /nākkhīan mii Čhi’s/ "a famous writer" has the AGT case with the verbs in both sentences while /rān nān/ "that story" has the [+OBJ] case relation to the verbs. These nominal constituents however show differences in case realization. In one sentence, the [+AGT] is realized as [+NM], the [+OBJ] as [+AC], in the other sentence the [+AGT] is realized as [+M] and the [+OBJ] as [+NM]. The similarity and the differences in case relationships indicate the relationship between the homophonous verbs in these two sentences. This relationship should be accounted for. To this end, a derivational
process is used in this study. The following is the derivational rule that formally expresses this derivational process:

\[
\begin{align*}
\text{DR-3:} & \quad \begin{bmatrix}
+V \\
+\text{AC} \\
+\text{OBJ} \\
\beta F_j \\
[+\text{NM}] \\
+\text{AGT} \\
\xi F_o \\
+\text{fct} \\
\alpha F_m
\end{bmatrix} & \quad \rightarrow & \quad \begin{bmatrix}
+V \\
+\text{derV} \\
[+\text{NM}] \\
+\text{OBJ} \\
\beta F_j \\
[+\text{M}] \\
+\text{AGT} \\
\xi F_o \\
+\text{fct} \\
\alpha F_m
\end{bmatrix}
\end{align*}
\]

This rule reads that any factitive agentive verb can derive an intransitive verb which is obligatorily followed by an agentive case which is realized in the [+M] case form. The features \([\beta F_j]\) and \([\xi F_o]\) indicate identical selectional restrictions the two verbs require on their objective and agentive actants respectively. As can be seen, the case relations of the input and the output display different case forms. The feature \([\alpha F_m]\) represents other semantic or syntactic features that are carried from the input verb to the output verb. These carried-over features represented by \([\alpha F_m]\) can be taken out of the rule under the convention that all features from the input are automatically carried to the output, unless indicated otherwise.
The feature "fct" can be considered as the feature that subclassifies agentive transitive verbs into two types: those that carry the [+fct] feature and those that do not. The first type can derive the corresponding intransitive verbs which require the manner agentive case to follow. The second type, which is marked [-fct], does not have any corresponding intransitive verb as such.

It is observed from the data that the agentive transitive verbs that carry the [+fct] feature and have a corresponding intransitive verb that requires [+M +AGT] to follow are non-ditransitive agentive verbs which are not [+strict] verbs. To account for this information, the following rules are set up:

SR-9: \[
\begin{array}{c}
[-\text{strict}] \\
[-\text{location}] \\
\end{array} \rightarrow [+\text{affect}]
\]

SR-10: [+affect] \rightarrow [+fct]

SR-9 says that non-strict verbs and non-location verbs can be either [+affect] or [-affect] verbs. SR-10 says that the [+affect] verbs can be further subcategorized as to whether they are [+fct] or [-fct] verbs. According to these rules, the non-ditransitive agentive verbs of the non-strict and non-location subclasses can be further subclassified into those that are [-affect], those that are [+affect] but [-fct] and those that are both [+affect] and
[+fct]. Only the third sub-class can have corresponding intransitive verbs which occur in the /dooy/ passive construction. In the grammar, a redundancy rule of the following type is needed to indicate that other transitive verbs are [-affect]:

$$\text{RR-11: } \{[+[\text{DAT}]]\} \rightarrow \text{[-affect]}$$

This rule says that verbs that have the dative case relation in their environments, i.e., the ditransitive verbs and the dative verbs, and verbs that are [+strict] verbs are all non-affected verbs.

The subcategorization rules 9 and 10 indicate that verbs that are [+fct] and [-fct] are grouped together under [+affect] categories in opposition to the [-affect] group. What this means is that verbs that inflict changes on the status of the patient that has already existed ([+affect, -fct] verbs) and verbs that create the object or bring it into existence ([+affect, +fct] verbs) are verbs that commonly express a certain action that has an effect on the object whether the effect is inflicting or creating. The [-affect] verbs on the other hand are neutral to the effect on the object of the verbs. That the verbs which carry the [+affect] feature are closely related is syntactically supported by the fact that verbs specified both [+affect,
+fct] and [+affect, -fct] similarly allow the resultative verb complement (see Section 6.3.2).

The following are some examples of the lexical entries of the [+fct] agentive transitive verbs which have corresponding verbs that can occur in the /dooy/ passive construction:

\[
\begin{array}{c|c}
\text{khān} & \text{sāan} \\
\text{"write"} & \text{"build"} \\
\hline
(+V) & (+V) \\
(+[+NM]) & (+[+NM]) \\
(+NM) & (+NM) \\
([-OBJ]) & (-[+OBJ]) \\
([+AGT]) & (+[+AGT]) \\
([-DAT]) & (-[+DAT]) \\
+location & -location \\
+affect & +affect \\
+fct & +fct
\end{array}
\]

Figure 3 illustrates verb sub-classes in connection with the [+fct] feature. As can be seen, Figure 3 also illustrates the subcategorization in the instrumental subcategory in connection with the [+affect] and [-fct] features. This subcategorization is related to the wound feature discussed in the previous section (see Section 4.1.2). The examination of instrumental verbs reveals that instrumental verbs are all affected verbs and are either [+fct] or [-fct]. This information calls for the following RR:

\[
\text{RR-12: } [-([+AGT])] \rightarrow [+affect]
\]
Figure 3
Subcategories of Transitive Verbs in Relation to "Affected" and "Factitive" Features
The above rule says that all instrumental transitive verbs are affected verbs. The [+affect, -fct] instrumental verbs cannot undergo DR-3 however, as may be explicitly seen from the requirement of features in the input of DR-3 above.

4.2.2 The /thùuk/ Passive Construction

There is in Thai another type of sentence pair such as:

29(a)  daææn  tii  nɔɔn  màaçhàw  
        Dang  beat  brother  morning

              Dang beat (his) brother this morning.

29(b)  nɔɔn  thùuk  daææn  tii  màaçhàw  
        brother  Dang  beat  morning

       Brother was beaten by Dang this morning.

The sentences in the above pair are related in meaning: they express the same event: "beating of the brother by Dang", although sentence 29(b) additionally conveys an adversative meaning. Structurally, the two sentences show almost identical constituents. Yet there are differences between them. The first difference is that sentence 29(a) does not contain /thùuk/. Sentence 29(b), on the contrary, contains /thùuk/, the status of which is controversial, since linguists do not agree as to whether it is a lexical verb or a grammatical non-lexical item. Depending on which of these two alternatives is chosen, the structure of sentence 29(b) is either a complex sentence (if /thùuk/ is a lexical verb with the meaning of an unpleasant effect on
the object of the verb) or a simple sentence (if /thùuk/ is not a verb but a grammatical non-lexical item). The second difference is that 29(a) and (b) although containing identical constituents, have different constituent ordering.

In addition to this complication, sentence 29(b) is related to another sentence that looks almost identical to it:

29(c) น้อง ทุก ติ่ม ติ่ม ติ่ม ติ่ม มือ ที่ ม้า ติ่ม
brother ติ่ม ติ่ม ติ่ม ติ่ม ติ่ม ติ่ม

Brother was beaten this morning.

Sentences 29(b) and (c) have been analyzed in many ways depending on the analysis of the word /thùuk/. In Chaiyaratana (1961: 173), /thùuk/ is analyzed as a morpheme carrying solely syntactic meaning. A transformational rule which transposes the object of a certain type of transitive verbs to the beginning of a sentence simultaneously introduces /thùuk/ into a position before the original NP "subject of" which becomes optional. This means that if the NP subject is present, one has sentence 29(b) and if it is missing, one gets sentence 29(c). The verbs that allow the insertion of /thùuk/ are referred to by Chaiyaratana as Vt2 or "passive" verbs. They are verbs that carry the meaning of unpleasant effect on the object of the verb. This idea that /thùuk/ occurs with verbs carrying some unpleasant meaning is also held by Phyaa Uppakit Silpasarn (1968: 126), for whom /thùuk/ is considered an auxiliary verb. However,
there is counter-evidence to the constraint that /thùuk/ occurs only with verbs conveying unpleasant meanings. Some verbs that do not carry unpleasant meaning such as /čʰɔən/ "invite" also occur with /thùuk/:

30. dæææn thùuk čʰɔən ?iik ƚæɛw
    Dang invite again already

Dang is invited again.

Both Warotamasikkhadit (1963) and Lekawatana (1970) analyze /thùuk/ as a verb, but there are certain differences between them. Warotamasikkhadit sees /thùuk/ as a V cp which is a type of causative verb. As a V cp, /thùuk/ is obligatorily followed by a complement (COMP) which contains only a certain type of verb. A transformation rule which requires that the NP occurring with /thùuk/ be identical with the NP object in the embedded sentence is then applied to derive the /thùuk/ construction from these two strings.

Lekawatana sees /thùuk/ as a lexical verb meaning "to suffer or experience something unpleasant". This verb allows O (objective) and E (experiencer) in its case frame. In analyzing the following sentence:

31. sudaa thùuk phɔ phɔt ɔtɔtəmɔay
    Sudaa father open letter

Sudaa's letter was opened by father.

Lekawatana (1970: 137) gives the following as the underlying structure:
A subjectivalization rule applies to E in the higher S and A in the embedded sentence to yield /sudaa thùuk phòt pèet còtmaay/. This analysis is interesting in that it can account for the fact that Sudaa, which is not the direct object of the verb /pèet/ "open", can still be the subject of /thùuk/. This fact was not accounted for in the transformational analysis proposed by Chaiyaratana or in Thai grammar in general where the analysis of the /thùuk/ construction has been limited usually to instances where the direct
patient of the verb in the embedded S becomes the subject in the /thûuk/ sentence, for example:

32. čôtמְאָי thûuk pʰɔː pət
    letter father open

The letter was opened by father.

In this sentence, /čôtמְאָי/ "letter" is the direct patient of the action of /pət/ "open" that has become the subject of the sentence containing /thûuk/. Although the solution for sentences such as 31 is interesting and attractive, Lekawatana has not mentioned the sentence with /thûuk/ which does not have an E for example:

33. ʰɔːŋ níi thûuk tamrûat khôn
    room this police search

This room was searched by the police.

The case frame given for /thûuk/ as +[O S E] (Lekawatana 1970: 188) does not seem to allow the above sentence in which /ʰɔːŋ níi/ will have to be analyzed as O and thus there is no E present.

By having /thûuk/ as a verb, both linguists presumably consider /thûuk/ sentences to be complex sentences.

Like Lekawatana, this study also treats /thûuk/ as a lexical verb and therefore sentences such as 29(b) are considered complex sentences. As a verb, /thûuk/ belongs to the intransitive verb category and it carries the meaning of "undergo an unpleasant experience". It also requires an
embedded finite verb complement. The verb in this embedded verb complement is obligatorily required to be specified [+affect, -fct]. Besides these two obligatory requirements, there are other requirements that are unique to /thùuk/, for example, the requirement that the object of the embedded verb be co-referential with its subject. This object is usually required to be absent but if the object conveys the meaning of inclusion, it is allowed in the sentence; for example, in the sentence /sudaa thùuk ph３ pèšt ćôtmaay/ "Sudaa's letter is opened by father", /ćôtmaay/ "letter" is allowed because it is possessed (one sense of inclusion) by Sudaa, the nominative actant of /thùuk/. These restrictions that /thùuk/ illustrates will not be discussed here since they are rather involved with the more specific analysis of passive constructions than just the examination of the occurrences of transitive verbs in the /thùuk/ passive construction intended in this study.

The fact that /thùuk/ allows only transitive verbs that are [+affect] and [-fct] to occur following it can be used as an evidence to support the two features as significant syntactically and semantically. These two features subcategorize transitive verbs: into [+affect, -fct]; [+affect, +fct]; and [-affect]. It is only the first group that may occur in the passive /thùuk/ construction. In the previous section, two subcategorization rules: SR-9 and
SR-10 and two RR rules: RR-11 and RR-12 have been posited to account for these three groups of transitive verbs. These rules are repeated here:

SR-9: \([-\text{strict}] \{-\text{location}\}\) \rightarrow [+\text{affect}]

RR-11: \{+[([+\text{DAT}])]\) \rightarrow [-\text{affect}]

RR-12: \{-([+\text{AGT}])]\ \rightarrow [+\text{affect}]

SR-10: [+\text{affect}] \rightarrow [+\text{fct}]

Because /thùuk/ requires that the verb in the embedded sentence occurring after it be specified [+affect, -fct], verbs that are specified with [-affect], or [+affect, +fct] cannot occur in the /thùuk/ construction. Thus, one cannot have:

37. *kìhàw thùuk thìa rák
   he undergo she love
   unpleasant experience [+V
   -[+NM
   -[+OBJ]
   -([+AGT])
   +([+DAT])
   [-affect]

38. *sìa tua nìi thùuk sìa miawaan
   shirt clf this undergo buy yesterday
   unpleasant experience [+V
   -[+NM
   -[+OBJ]
   +([+AGT])
   +([+DAT])
   [-affect]
It can be said then that transitive verbs behave differently in connection with the /thùuk/ construction. Such differences allow the positing of subcategories of transitive verbs as discussed above and as illustrated by Figure 3.
4.3 Conclusion

As may be seen, the derivational processes of transitivization and intransitivization are active in the language. Transitive verbs differ in their potential to undergo these processes. The differences allow one to subcategorize transitive verbs. As mentioned, this subcategorization agrees with that based on case-occurrences although it may provide additional subcategories in the major categories, for example in the instance of the [+wound] feature.

The examination of transitive verbs in connection with the /dooy/ and /thùuk/ passive constructions shows that subclasses can be set up based on the features "affect" and "fct". The feature [+affect], [+fct], can be found among non-ditransitive agentive verbs and instrumental verbs while other transitive verbs are specified [-affect].
Footnotes to Chapter IV

1 Lekawatana has /pǝt/ as [+ 0(A)] in the lexicon with the assumption that I can be predicted from the presence of A although as previously mentioned, the Fillmorean framework does not seem to provide any mechanism for stating such a prediction formally.

2 /θuu̯k/ in the passive /θuu̯k/ construction can be replaced by /doon/ "hit against". /doon/ is considered by some native speakers as being more colloquial than /θuu̯k/. In this study, all statements made about the grammatical properties of /θuu̯k/ apply also to /doon/.
CHAPTER V

5.0 Introduction
In this chapter, transitive verbs are examined in relation to their occurrences with a particular prepositional phrase type and a particular type of noun phrase. The first is a PP which begins with a preposition /wâa/ meaning "saying". This prepositional phrase will be referred to as the /wâa/ PP. The second is a noun phrase which begins with a noun /thîi/ and which will be referred to as the /thîi/ NP.

These two constructions are particularly chosen to study in connection with transitive verbs because transitive verbs can be differentiated on the basis of potential occurrence with them.

5.1 The /wâa/ Prepositional Phrase
In Thai, there are sentences with transitive verbs as matrix verbs followed by a construction that begins with the word /wâa/. For example:

1. pûk phûut wâa khâw ña? pay ta?lâat wannî
   Pook say saying she will go market to-day
   Pook said that she would go to the market to-day.

2. pûk bûuk wâa bon lêt tûu
   Pook tell saying on back cabinet
   Pook told (us) that (it was) on the top of the cabinet.
3. pùk bòk wàa dìawkòn
   Pook tell that a moment
   Pook said, "In a moment".

4. pùk ráɔn wàa hòɔ
   Pook cry saying sound indicating boredom
   Pook said, "Ho-hum".

5. pùk lâw rian rót wàa man taay rîay
   Pook tell story car saying it die often
   Pook told (us) about the car often breaking down.

There are at least two observations to be made in relation to the above sentences. The first observation is that the matrix verbs of the above sentences are verbs of speaking. As will be seen later however, the matrix verb is not restricted only to verbs of speaking, it can also be a verb of reading or of thinking. The second observation is that the matrix verbs are followed immediately, except in the case of sentence 5, by the word /wàa/, which is in turn followed by a certain type of string. These strings differ in structure: in sentences 1 and 5, what follows /wàa/ is a sentence; in 2, a PP; in 3 and 4 single words. Despite these differences in structure, these strings beginning with /wàa/ share a common characteristic in that they express what is told or said or produced by the action of speaking expressed by the matrix verbs. The strings after /wàa/ can generally be considered a kind of quote which has an objective case relation with the matrix verb.
Carrying [+OBJ] case, the string after /wâa/ is considered as constituting a single unit: a noun or [+N]. Accepting this, a derivational rule such as the following will be needed in the language:

\[
\text{DR-4: } [X] \rightarrow [+N \text{ +deriv} \text{ +quote} [+info]]
\]

This derivational rule, adapted from "the camel belching rule" used by Taylor (1971), says that a noun which has the feature [+quote] and [+info] (information) can be derived from a string "X" which is a string of anything utterable or thinkable. That a quote noun can be derived from a string of anything is evident from the examples above, where what comes after /wâa/ can be a sentence, a phrase, a lexical word, or an exclamation sound. In some instances not presented in the examples above, it may even be a foreign sentence. In sentence 1, /khâw ča? pay ta?lâat/ "She would go to the market" is a derived quote noun which carries [+OBJ] case relation to the main verb /phûut/ "say". Occurring after /wâa/, which is a co-verb (see Section 5.1.1 below), the derived quote noun is analyzed as the object of the preposition /wâa/ and thus marked with [+AC] case form.

DR-4 above is admittedly very powerful. Yet it correctly presents a true picture of the language, which is powerful in being able to treat any sound as a quote nominal
constituent, and without such a rule, no grammar will be able to handle the problem raised by Quang (1971).

With /wâa/ as [+P] and /khâw ča? pay ta?lât wannii/ as [+N, +deriv, +quote, +info, +AC, +OBJ], /wâa khâw ča? pay ta?lât wannii/ is a prepositional phrase. The following tree diagram for sentence 1 is presented to illustrate the structure of this PP in a sentence:

```
S
| NP | V |
  | P  |
   | PP |
      | NP |
         | N |
   pûk | phûut | wâa | khâw | ča? | pay | ta?lât | wannii

Pook say saying she will go market to-day

[+P] [+N +deriv +quote +info +AC +OBJ]

Pook said that she would go to the market to-day.

From the discussion above, the /wâa/ PF can be considered a unique PP since it is composed of a specific derived preposition /wâa/ followed by a special type of noun: a derived quote noun.
5.1.1 Characteristics of /wâa/

In the previous section, two characteristics of /wâa/ have been mentioned: that /wâa/ is a P and that it must be followed by a quote noun. Besides these two characteristics, /wâa/ has other characteristics that should be mentioned. The first is that it is homophonous to /wâa/, a transitive verb meaning "say" or "scold". The following sentences exemplify /wâa/ as a verb and as a preposition:

6. khruu wâa dêk khon nân bôy bôy
teacher scold child clf that often often

[+V]

The teacher scolded that child often.

7. khruu bôn wâa dêk khon nân khîkîat
teacher complain saying child clf that lazy

[+P]

The teacher complained that that child was lazy.

8. ðhăn wâa làææw wâa fon ða? tôk
I say already saying rain will fall

[+V] [+P]

I said that it would rain (didn't I?).

Both sentences 6 and 7 contain /wâa/ but while in sentence 6 /wâa/ is a verb, in sentence 7, it is a preposition. Although homophonous, /wâa/ in the two sentences differ in degree of stress: where /wâa/ as a verb is strongly stressed, as a preposition /wâa/ is weakly stressed. This difference in degree of stress between /wâa/ such as in sentences 6 and 7 above is also observed by Mary Haas (1964: 502).
In sentence 8, both types of /wâa/ are present. The first /wâa/ is a verb and it receives a strong stress; the second /wâa/ is a preposition and it receives a weak stress. Thus, another characteristic of /wâa/ as a preposition is that it is weakly stressed when it is in a sentence.

When two lexical items are phonologically identical, a common question asked is whether they are two separate lexical items that need two separate lexical entries with no relation of any type indicated; or whether they need separate lexical entries but have a certain relation between them that must be accounted for in some way or other; or whether they are entered under the same entry, each as a sub-entry. In connection with /wâa/, the second type of entry seems most correct. Native speakers share the feeling that /wâa/ as a verb and as a preposition are related in meaning although they insist that they are different words. The relationship in meaning is that both /wâa/'s share the same meaning of "saying". To account for this semantic relation and for the syntactic difference between the two words, this study proposes a derivational process which treats /wâa/ as a P derived from /wâa/ as a verb. Another characteristic of /wâa/ is thus, that it is a derived preposition, that is, a coverb, derived in essentially the same way as other coverbs.
As a P, /wâa/ is also a case marker. As a case marker, it must be specified with a certain case form. In this study, [+R] (Range) case form is assigned to /wâa/. This is a special case form for the objective case occurring only when the objective actant has the meaning of quote. With all these characteristics discussed above, /wâa/ may enter the lexicon as:

wâa
"saying, that"

\[
\begin{array}{c}
[+p] \\
+derv
\\
+R
\\
+[+OBJ] \\
+N
\\
+quote
\\
+info
\\
+info
\end{array}
\]

According to this lexical matrix, /wâa/ is, by [+derv], a derived preposition, carrying [+R] case form, requiring the [+OBJ] case relation to follow and the following actant to be a quote noun; it also carries the [+info] (information) feature which is carried over from the information verb /wâa/ and which indicates that the two words are semantically related.

5.1.2 Transitive Verbs and the /wâa/ PP

The examination of transitive verbs that can occur with /wâa/ prepositional phrase distinguishes the verbs to be called "information" verbs from others. These verbs include
the following types of transitive verbs:

(a) Some ditransitive verbs such as:

phûut "speak"  lâw "narrate"  nâ?nam "advise"
thâam "ask"  tôp "answer"  sàn "command"

These verbs, as can be seen from the glosses are verbs of saying or speaking. Since not all ditransitive verbs are "information" verbs, sub-categorization takes place. To account for it, a subcategorization rule such as the following is needed:

\[ SR-lll: \quad +(\{+AGT\}) \quad \rightarrow \quad +[\text{info}] \]

This subcategorization rule says that ditransitive verbs can be subcategorized into information verbs such as those in the above list and non-information verbs such as /khâay/ "sell", /si'ii/ "buy". Following are examples of lexical entries showing ditransitive verbs that differ from one another by the feature [+info]:

<table>
<thead>
<tr>
<th>Verb</th>
<th>[+info]</th>
<th>[+NM]</th>
<th>[+AGT]</th>
<th>[+DAT]</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;tell&quot;</td>
<td>[+V]</td>
<td>[+]</td>
<td>[+]</td>
<td>[+]</td>
</tr>
<tr>
<td>&quot;sell&quot;</td>
<td>[+V]</td>
<td>[+]</td>
<td>[+]</td>
<td>[+]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verb</th>
<th>[+info]</th>
<th>[+NM]</th>
<th>[+AGT]</th>
<th>[+DAT]</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;sell&quot;</td>
<td>[+V]</td>
<td>[+]</td>
<td>[+]</td>
<td>[+]</td>
</tr>
<tr>
<td>&quot;tell&quot;</td>
<td>[+V]</td>
<td>[+]</td>
<td>[+]</td>
<td>[+]</td>
</tr>
</tbody>
</table>
(b) Some agentive non-ditransitive verbs, such as:

\[
\text{kh\d{o}n} \ "write" \ \text{?\d{a}an} \ "read" \ \text{pl\d{e}\d{e}} \ "translate" \\
\text{t\d{a}\d{e}\d{n}} \ "compose"
\]

As can be seen from the above list, these verbs are verbs of writing and reading. They are either [+affect, +fct] such as /kh\d{o}n/ "write", or [-affect] such as /?\d{a}an/ "read". Since only certain verbs in the agentive non-ditransitive verbs are information verbs, further subcategorization in the non-ditransitive category can be expected. The following SR-rule is set up to account for this subcategorization:

\[
\text{SR-11b: } \left[ +V \ \right. \\
\text{+([+AGT])} \\
\text{-([+DAT])} \\
\left. +fct \ \right\{+affect\} \rightarrow [+info] \\
\]

This rule reads that the non-ditransitive verbs which are [+fct] or [-affect] can be further subcategorized as to whether they are [+info] or [-info] verbs. Among the non-ditransitive verbs that are [-affect] verbs, the [+strict] verbs are found to be all [-info] verbs. A redundancy rule such as:

\[
\text{RR-13: } [+\text{strict}] \rightarrow [-\text{info}]
\]

can account for this fact.
The "info" feature has further subcategorized non-ditransitive verbs as may be seen from the lexical matrices of verbs below:

<table>
<thead>
<tr>
<th>sûy &quot;put&quot;</th>
<th>khăn &quot;write&quot;</th>
<th>wàat &quot;draw&quot;</th>
<th>củt &quot;take notes&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>+V</td>
<td>+V</td>
<td>+V</td>
<td>+V</td>
</tr>
<tr>
<td>+([+NM])</td>
<td>+([+NM])</td>
<td>+([+NM])</td>
<td>+([+NM])</td>
</tr>
<tr>
<td>+NM</td>
<td>+NM</td>
<td>+NM</td>
<td>+NM</td>
</tr>
<tr>
<td>+([+AGT])</td>
<td>+([+AGT])</td>
<td>+([+AGT])</td>
<td>+([+AGT])</td>
</tr>
<tr>
<td>-([+DAT])</td>
<td>-([+DAT])</td>
<td>-([+DAT])</td>
<td>-([+DAT])</td>
</tr>
<tr>
<td>+location</td>
<td>+location</td>
<td>+location</td>
<td>+location</td>
</tr>
<tr>
<td>+strict</td>
<td>-strict</td>
<td>-strict</td>
<td>-strict</td>
</tr>
<tr>
<td>-info</td>
<td>+affect</td>
<td>+affect</td>
<td>+affect</td>
</tr>
<tr>
<td></td>
<td>+fct</td>
<td>+fct</td>
<td>+fct</td>
</tr>
<tr>
<td></td>
<td>+info</td>
<td>-info</td>
<td>+info</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>tánh &quot;compose&quot;</th>
<th>yép &quot;sew&quot;</th>
<th>?àan &quot;read&quot;</th>
<th>ruam &quot;gather&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>+V</td>
<td>+V</td>
<td>+V</td>
<td>+V</td>
</tr>
<tr>
<td>+([+NM])</td>
<td>+([+NM])</td>
<td>+([+NM])</td>
<td>+([+NM])</td>
</tr>
<tr>
<td>+NM</td>
<td>+NM</td>
<td>+NM</td>
<td>+NM</td>
</tr>
<tr>
<td>+([+AGT])</td>
<td>+([+AGT])</td>
<td>+([+AGT])</td>
<td>+([+AGT])</td>
</tr>
<tr>
<td>-([+DAT])</td>
<td>-([+DAT])</td>
<td>-([+DAT])</td>
<td>-([+DAT])</td>
</tr>
<tr>
<td>-location</td>
<td>-location</td>
<td>-location</td>
<td>-location</td>
</tr>
<tr>
<td>+affect</td>
<td>+affect</td>
<td>-affect</td>
<td>-affect</td>
</tr>
<tr>
<td>+fct</td>
<td>+fct</td>
<td>+fct</td>
<td>+fct</td>
</tr>
<tr>
<td>+info</td>
<td>-info</td>
<td>+info</td>
<td>-info</td>
</tr>
</tbody>
</table>

SR-11a and SR-11b can be collapsed as:

SR-11: \[
\begin{align*}
[+([+AGT]) & \rightarrow [+info] \\
{+fct} & \\
{-affect} & \\
{+[+DAT]} & \\
\end{align*}
\]

This rule can take care of the subcategorization in the ditransitive and non-ditransitive agentive verbs with respect to the "info" feature.
(c) [+cog] (cognition) dative transitive verbs such as:
khít "think" khâwĕay "understand"
liim "forget"
Neither emotion verbs nor perception verbs allow the /wâa/
prepositional phrase:
9. *khâw čhâop wâa thâe phûut phrâ? he like saying she say beautiful
   He likes that she speaks nicely.
10. *khâw hên wâa thâe thûuk rôt čhon mîawaan he see saying she car hit yesterday
    He saw that she was hit by a car yesterday.
11. *khâw dâyyin wâa thâe phûut phaasâa thay he hear saying she say language Thai
    He heard (physical hearing) that she spoke Thai.

However, there are sentences that contain /hên/ and
/dâyyin/ followed by /wâa/:
12. čhân hên wâa thâe khuan pay I see saying she should go
    I think that she should go.
13. čhân dâyyin wâa khâw ruay I hear that he rich
    I learned that he was rich.

It is claimed in this study that in the last two
sentences, /hên/ and /dâyyin/ are not [+percep] verbs.
This can be seen from the translation: /hên/ in sentence
12 does not mean physical seeing; similarly /dâyyin/ in
sentence 13 does not mean physical hearing. Instead, they
convey the meaning of mental "seeing" and "hearing" or "think" and "learn" respectively. Thus, it is reasonable to say that in sentences 12 and 13, /hěn and /dâyyin/ are cognition verbs. In the lexicon, two entries will be needed for each of these two verbs.

Since in the dative category of transitive verbs, cognition verbs are also information verbs, a following rule is set up:

RR-14: [+cog] → [+info]

As may be recalled from Chapter III, the cognition subcategory was set up on the basis of other criteria. Thus, in the dative category no further subcategorization occurs. The occurrence of /wâa/, allowed only by cognition verbs, however, reinforces the previous subcategorization.

The information verbs such as /phûut/ "say", /khîan/ "write", or /khît/ "think" are observed to take the nominal objective actant that also carries the meaning of information. The /wâa/ PP as can be seen from the discussion, carries the meaning of information, both through the coverb /wâa/ and through the derived quote noun which is specified [+info]. The objective actant after the information verbs does not however have to be just the /wâa/ PP, the following sentences illustrate the information verbs followed by a noun phrase:
14. khăw phūt rān mīān thay
he talk story city Thai

He talked about Thailand.

15. khăw khīn rān mīān thay
he write story city Thaī

He wrote about Thailand.

16. khăw khīt rān mīān thay
he think story city Thaī

He thinks about Thailand.

To account for the fact that the objective actant of the information verbs carry also the meaning of information, the following rules are set up:

RR-15: \([+\text{info}] \rightarrow [+[\text{info}]]\)

RR-16: \([+[\text{OBJ}] \rightarrow [+[\text{OBJ} \land \text{AC}]}]\)

The first rule says that a verb specified with the [+info] feature requires the objective actant also to carry the [+info] feature. According to this rule, the actant that carries the objective relationship must be specified with the [+info] feature. Certain nouns in the langauge such as /rān/ "story", /khăaw/ "news" and the quote nouns will be marked with [+info]. These nouns are distinguished from other nouns in that they may occur with the information verbs without the use of other information nouns, for example:
17. khăw bŏk khăaw năn thee rĭi yaŋ
she tell news that you Q yet

Has she told you that news?

One cannot say the following sentence in which the objective actant is not an information noun:

18. *khăw bŏk bāan thee rĭi yaŋ
she tell home you Q yet

To have the sentence grammatical, one will have to use the information noun /rîan/ "story" as the head noun of the construction:

19. khăw bŏk rîan bāan thee rĭi yaŋ
she tell story home you Q yet

Has she told you about the house yet?

According to RR-16, the objective actant which carries also [+info] feature can have either [+R] or [+AC] case form. Sentences 17 and 19 illustrate the objective actant of information verbs that are realized in the [+AC] case form. If the objective actant is realized in the [+R] case form, one will have the /wâa/ PP as in sentences 1-5 above.

Thus, it can be said that the occurrence of /wâa/ PP is dependent on whether the realization of [+OBJ] actant of the information verb is [+R] or not.

As can be seen, the study of /wâa/ prepositional phrase in relation to transitive verbs reveals that transitive verbs differ in their ability to co-occur with the
This difference is the result of the fact that some transitive verbs are inherently information verbs whereas others are not. This difference has further subcategorized the agentive category into information and non-information agentive verbs. In the dative category, the occurrence of only cognition verbs with /wåa/ distinguishes the cognition verbs from emotion and perception verbs. Figure 4 illustrates all subcategories set up in connection with the /wåa/ PP.

5.2 The /thîi/ Noun Phrase

5.2.1 The Definition of the /thîi/ NP

The /thîi/ NP is defined as a construction under a node NP which is a sister category of V. This construction, generated by PSR-3, introduced in Chapter II and reproduced here;

PSR-3: NP ——— N( {NP (S I Num clf S) ) } (Dem)

has /thîi/ as the head N of the construction. This head N is obligatorily followed by S, and has a general meaning of "that". By "general" is meant that /thîi/ can sometimes mean "story, matter", and in such an occurrence it allows /rîan/ "story" to precede it; sometimes /thîi/ means "the fact" and in such an occurrence, it allows /kaan/ "matter" to precede it. /thîi/ does not mean exactly the same as
Figure 4
Subcategories of Transitive Verbs in Relation to the "Information" Feature
/ʁIan thîi/ or /kaan thîi/. In the following pair of sentences with /thîi/ and /kaan thîi/ the difference in meaning is agreed upon by native speakers:

20. čhăn čhɔːp thîi khɔw yîm
   I like that she smile
   I like it that she smiled (at a particular time).

21. čhăn čhɔːp kaan thîi khɔw yîm
   I like that she smile
   I like it that she smiles.

While sentence 20 refers to a particular event in which she smiled, sentence 21 refers to the smiling, with no implication of any particular event.

What is important in connection with the occurrence of /thîi/ with /kaan/ and /ʁIan/, then, is the fact that /thîi/ can occur by itself, and with a meaning that is not exactly the same as /kaan thîi/ and /ʁIan thîi/. This fact together with the fact that /kaan/ and /ʁIan/ have different meanings although they both can occur with /thîi/, does not seem to support the idea that /thîi/ is the surface realization of the underlying forms of /kaan thîi/ or /ʁIan thîi/ where /kaan/ and /ʁIan/ get deleted. For one thing, one cannot tell from /thîi/, when it occurs alone, whether it is /kaan/ or /ʁIan/ that should be in the underlying form.

/thîi/ as the head of the construction carries the case relation and case form with respect to the matrix verb. As the head of the construction, the case relationship that
/thîi/ carries is applicable to the whole construction.

The structure of the /thîi/ NP can be seen from the following tree diagram of sentence 22 below:

22. pûk չհար pûk thîi nákrian khayân
    Pook like that student diligent

    Pook likes (the fact) that students are diligent.

In the above tree diagram, /thîi/ carries the [+[+AC] +OBJ] case relation with reference to /չհար/ "like".

The justification for considering the construction /thîi nákrian khayân/ as carrying [+OBJ] case is the fact that it can be topicalized. The above sentence, for example, can also occur as:
22(a) thîi nákrian khayăn pûk čhàp
that student diligent Pook like

That students are diligent is what Pook likes.

It should be observed that for the topicalization of the /thîi/ NP, it is preferable but not necessary to have a demonstrative pronoun /nîi/ "this" or /nân/ "that" after the /thîi/ NP:

22(b) thîi nákrian khayăn nân pûk čhàp
that student diligent that Pook like

That students are diligent, that, is what Pook likes.

The /nîi/ "this" and /nân/ "that" as demonstrative pronouns are also seen occurring after the /thîi/ NP even if the /thîi/ NP is not topicalized:

22(c) pûk čhàp thîi nákrian khayăn nân
Pook like that student diligent that

Pook likes that, that students are diligent.

The /thîi/ NP to be used in subcategorizing transitive verbs must be distinguished from the /thîi/ relative clause and the /thîi/ reason construction. The first construction, the /thîi/ relative clause, as can be seen from sentences 23 and 24 below, has at least three differences from the /thîi/ NP.

23. daëæ̂n čhàp mğa thîi kât pûk
Dang like dog that bite Pook

Dang likes the dog that bit Pook.
24. daeæn čhɔɔp ʔa thîi pûk kliat
    Dang like dog that Pook dislikes
    Dang likes the dog that Pook dislikes.

The first difference is that /thîi/ in the /thîi/ relative clause such as in sentences 23 and 24 can be replaced by /sistants/ "that, which", a relative pronoun:

23(a) daeæn čhɔɔp maaa sinants kât pûk
    Dang like dog that bite Pook
    Dang likes the dog that bit Pook.

24(a) daeæn čhɔɔp maa siants pûk kliat
    Dang like dog that Pook dislike
    Dang likes the dog that Pook dislikes.

/thîi/ in the /thîi/ NP cannot be replaced by /siants/: 

22(d) *pûk čhɔɔp siants nákrian khayăn
    Pook like that student diligent

Secondly, /thîi/ in the /thîi/ relative clause has the case relationship with the verb in the clause that follows it. In sentence 23, /thîi/ has the nominative agentive case relation with /kât/ "bite", the verb in the clause that follows it. /thîi/ in the /thîi/ NP on the other hand does not have any case relationship with the verb in the sentence under it. Instead, it has the case relationship with the matrix verb.

Thirdly, while the /thîi/ relative clause can occur with any type of verb, the /thîi/ NP may occur only with certain types of verb.
With these differences, it can be considered that the /thîi/ NP is distinct from the /thîi/ relative clause.

The /thîi/ NP must also be distinguished from the /thîi/ reason construction. The latter construction can be seen from the following sentence:

25. pûk tîi dêk thîi tham kâæw tææk
   Pook beat child that make glass break
   Pook beat the child for breaking the glass.

In this sentence, /thîi tham kâæw tææk/ is claimed to be a different construction from the /thîi/ NP described at the beginning of this section for the following reasons.

First, while the /thîi/ NP may occur as a topicalized actant (see sentence 22(a) above), the /thîi/ reason construction cannot:

25(a) *thîi tham kâæw tææk pûk tîi dêk
      that do glass break Pook beat child

Secondly, while the /thîi/ reason construction conveys the meaning of reason, the /thîi/ NP does not. As a support to this, the /thîi/ reason construction in sentence 25 can be replaced with the question word /thammay/ "why":

26. dææn tii dêk thammay
    Dang beat child why
    Why did Dang beat the child?

Such is not the case with the /thîi/ NP in sentence 22:
Thirdly, while the /thîi/ reason construction can be omitted without making the sentence ungrammatical, the /thîi/ NP cannot be omitted from the sentence:

25(b)  pûk  tîi  dêk
Pook  beat  child
Pook beats the child.

Fourthly, while the /thîi/ reason construction can occur with any action verb if reason for the action is to be expressed, the /thîi/ NP on the other hand has a co-occurrence restriction with certain verbs.

Thus, the /thîi/ reason construction, as well as the /thîi/ relative clause, is distinguishable from the /thîi/ NP under study.

5.2.2 On the Features of /thîi/ in the /thîi/ NP

In Section 5.2.1, /thîi/ has been described as the head noun of an NP construction with the general meaning of "that". As the head of the construction, /thîi/ obligatorily requires that an S follow it. In the grammar, this must be accounted for. /thîi/ will be entered in the lexicon as:
The feature [+actual] is considered a semantic feature of /thîi/ referring to an actual happening of an event expressed by a finite clause after it. This feature distinguishes /thîi/ in the /thîi/ NP from other /thîi/'s which presumably will not have this semantic feature but instead other semantic features. The frame feature [+V[+finite]] indicates the obligatory requirement for a sentence containing a finite verb. This means that the sentence after /thîi/ must grammatically have a [+NM] actant. An example of this can be seen from sentence 22 above where /nâkrian/ is [+NM] actant of the verb /khâyân/ "diligent". The feature [+N] that the /thîi/ in the /thîi/ NP carries distinguishes it from the /thîi/ in the relative clause, which is probably a derived pronoun. The fact that the /thîi/ in the /thîi/ NP does not have a reason feature distinguishes it from /thîi/ that introduces the /thîi/ reason construction and which presumably carries the feature "reason"

In connection with the frame feature [+V[+finite]], which indicates that the embedded S after /thîi/ must have a nominative actant, there are, however, sentences that do not show a nominative actant in the /thîi/ NP; for example;
28. khảw chốp thîi kęp đêkmây dây
    she like that pick flowers can

For the above sentence, at least two interpretations can be given. One interpretation is "She likes that someone she knows (or anyone non-specific) can pick the flowers." The other interpretation is "She likes it that she herself can pick the flowers." These two interpretations depend on different subjects in the sentence after /thîi/. The fact that a subject can be put in, that different subjects are possible and that the missing subject is recoverable from the context of situation indicates that this missing constituent has all the characteristics of the nominative actant of an independent sentence, that is, a sentence with a finite main verb. Since the optionality of the subject depends on the context of situation or context of discourse, it is a matter of performance and not competence and therefore is not relevant in this study, which deals only with competence in a strict sense.

The frame feature [+\[+V_f\]] takes account of the fact that /thîi/ requires a subject out of context; and it is always grammatically possible to insert a subject after this /thîi/ if one is not overtly present in the string in actual performance.
5.2.3 Transitive Verbs and the /thîi/ NP

Transitive verbs that allow the occurrence of the /thîi/ NP described in Section 5.2.1 include cognition dative transitive verbs such as /khâwçay/ "understand", /rûu/ "know, learn"; emotion dative transitive verbs such as /râk/ "love", /bîa/ "be tired of"; some non-ditransitive verbs such as /khlian/ "write", /?aan/ "read"; some ditransitive verbs such as /bâc/ "tell", /phûut/ "say".

Following are some examples of these verbs as matrix verbs followed by the /thîi/ NP in sentences:

29. daeæn khâwçay thîi nákrian nûan
Dang understand that students sleepy

\[
\begin{array}{c}
+V \\
+( [+NM]) \\
+NM \\
-[ +OBJ] \\
-([- [+AGT]]) \\
+( [+DAT]) \\
-possess \\
-percep \\
-emot \\
+cog \\
+info
\end{array} \\
[+N \\
+V \\
+[finite]
\text{actual}]
\]

Dang understands the fact that students are sleepy.

30. daeæn bîa thîi pâa bôn kən
Dang tired of that aunt grumble a lot

\[
\begin{array}{c}
+V \\
+( [+NM]) \\
+NM \\
-[ +OBJ] \\
-([- [+AGT]]) \\
+( [+DAT]) \\
-possess \\
-percep \\
+emot
\end{array} \\
[+N \\
+V \\
+[finite]
\text{actual}]
\]

Dang is tired of (the fact) that auntie grumbles a lot.
31. đắc)San lảw thỉi thẹa tôn
Dang tell that you must

khảy bàn hay chăñ făng lẹăew
sell home let I hear already

Dang told me (the fact) that you had to sell the house.

32. đắc)San ?ần thỉi khasil bơck
Dang read that he tell

khảy bàn lẹăew
sell home already

Dang read (the fact) that he has announced the selling of the house.

33. đắc)San kḥían thỉi nákriャn máy
Dang write that student not
Dang wrote (the fact) that students should not have burnt the police booths.

As can be seen from the lexical matrices of the main verbs in the sentences above, transitive verbs that allow the /thīi/ NP are information verbs or emotion verbs. In order to account for the fact that information verbs and emotion verbs but not other verbs allow the /thīi/ NP, the following rules are set up:

SR-ii: $\begin{align*}
&[+V \\
&+(+[+NM]\)} \\
&-^[+NM]
&+[OBJ]} \\
&{[+[info]} \\
&{[+[emot]}]
\end{align*}$ $\rightarrow$ [+actual]

RR-17: $[+V]$ $\rightarrow$ [-actual]

RR-18: $[+V$ $\rightarrow$ $[+][+N$ $\rightarrow$ $[+][+actual]]$

RR-19: $[+V$ $\rightarrow$ $[-][+N$ $\rightarrow$ $[+][+actual]]$

SR-ii reads that information verbs and emotion verbs can occur as either [+actual] or [-actual] verbs. RR-17 tells that all other verbs are non-actual verbs. By RR-18, an actual verb requires that a noun which is specified with the [+actual] feature follow. The [+actual] N is in effect /thīi/ "that", which, in turn, requires that a finite S
follow it. By RR-19, a verb which is specified with
[-actual] does not have the [+actual] N or /thîi/ following.

SR-ii allows only [+emot] verbs and [+info] verbs to
occur also as actual verbs; it does not allow the perception
verbs to occur as actual verbs:

34. *dèk khon nán hèn thîi khonráay khāa
child clf that see that criminal kill
māæ khāw
mother he

That child saw that which was the event that the
criminal killed his mother.

35. *pùk dâyyin thîi khāw bôn
Pook hear that she complain

Pook heard (physical hearing) that she was
complaining.

But /dâyyin/ as [+cog] verb allows the occurrence of the
/thîi/ NP. This is because [+cog] is also a [+info] verb.
The following contains /dâyyin/ as a [+cog] verb:

36. pùk dâyyin thîi pâa bôn kēn
Pook hear that auntie complain a lot

Pook learned about the fact that Auntie complains
a lot.

The examination shows no example of /hèn/, as a cognition
verb, followed by the /thîi/ NP. Therefore, as cognition
verb /hèn/ will be considered idiosyncratic and will be
marked as not allowing the /thîi/ NP; that is, it will be
marked with [-actual] in its matrix.
The study of transitive verbs in connection with the /thîi/ NP does not show any new sub-category but it confirms that information and emotion are significant features and that the categories set up on their bases are syntactically well motivated.

5.3 Summary of Transitive Verbs and the /wâa/ and /thîi/ Constructions

The study of transitive verbs in relation to the /wâa/ and /thîi/ constructions reveals that certain transitive verbs allow either construction; others allow either one or the other but not both; and some others allow neither. The difference can be said to be dependent on the syntactic-semantic feature [+info] (information). Those that allow the /wâa/ PP have [+info] as an inherent feature and can be referred to as information verbs. Taking the three major categories: agentive transitives, dative transitives, and instrumental transitives posited on the basis of case co-occurrences in Chapter III, one may say that the "information" feature cross-classifies the three categories. This is because, by "information" feature, some agentive transitive verbs are grouped together with cognition dative transitive verbs into the set of information verbs.

The "information" feature can also be considered a feature that helps make finer distinctions in the agentive category. For example, it helps sub-classify the ditransitive verb category and the [+fct] or [-affect]
non-ditransitive verb categories into information verb and non-information verb subcategories.

In Section 3.3.2.2.1, a class of cognition verbs was set up on the basis of criteria independent of considerations discussed in these sections above. The potential occurrence of cognition verbs with /wâa/ PP discussed in this chapter gives further evidence for the positing of a distinct class of cognition verbs in the dative transitive category.
CHAPTER VI
TRANSITIVE VERBS AND VERB COMPLEMENTS

6.0 Introduction

In the last two chapters the classification of transitive verbs and their derivational properties have been discussed within the scope of a simple sentence. In this chapter, the scope of the analysis will be extended to a complex sentence, that is, a sentence that contains two sentences: the matrix sentence that will contain a transitive verb, and a single constituent sentence, or as referred to in this study, a verb complement. The purpose of extending the scope of the study of transitive verbs to include complex sentences is to see whether transitive verbs behave differently or similarly in connection with their occurrence with different types of verb complements. It is shown that different transitive verbs behave differently with regard to what types of verb complements they can take and should therefore lend themselves to subcategorization on this basis. The pertinent question is then whether this kind of subcategorization agrees or disagrees with the subcategorization of transitive verbs on the basis of case co-occurrence which was presented in Chapter III.
6.1 Definition of a Verb Complement

The term "verb complement" is used to refer to an embedded sentence which is a sister category of V, both of which are directly dominated by the initial symbol S. Verb complements have a common characteristic in that they each contain a non-finite verb, that is, a verb which does not allow a nominative actant to co-occur with it. Such a verb may be referred to formally as [+V, -finite]. The matrix verb of a complex sentence which is followed by a verb complement can be thus formally described as [+V, -finite]]. This frame feature means that the matrix verb is followed by a non-finite verb, or, in effect, a verb sentential complement.

The general structure of a complex sentence containing a transitive verb as the matrix verb and a non-finite verb as the constituent verb can be illustrated by the following tree diagram:
6.2 The Missing Complement Subject

In talking about complex sentences which contain verb complements, a discussion about the complement subject cannot be excluded. A non-finite verb complement after a matrix transitive verb has no overt subject, and can be referred to as a complement with a missing subject. In the interpretation of a complex sentence, however, everything that a native speaker knows about the identity and referent or antecedent of such a missing subject without appealing to a particular context must be accounted for in a complete grammar. This has been done differently by different linguists.

In the following sub-sections, a brief discussion will be presented on how the missing complement subject, or henceforth, the MCS, has been treated in the literature, and how it is handled in this study.

6.2.1 The Generative Transformational Framework

The problem of accounting for the missing subject of a verb centers around two questions in the generative transformational framework. The first concerns how to state co-referentiality between the MCS and its antecedent; the second concerns the identification of the antecedent of the missing subject.

The first problem, the problem of how to state co-referentiality, has been handled by having the missing
subject present in the deep structure and making it identical in form with the NP that it is co-referential with in the matrix sentence. The requirement that the missing subject and its antecedent be identical not only shows the coreferential relation but also serves as the condition for the "equi NP" deletion transformation to operate. The requirement that the missing subject and its antecedent be identical fulfills a principle held in the transformational school that a deleted item must be recoverable. The fact that the complement subject is missing in the surface string is explained by saying that it has been deleted by the equi-NP deletion rule and is recoverable from its antecedent in the matrix sentence.

The second problem, namely the identification of the antecedent of the missing complement subject, is handled differently in the generative transformational school by different linguists. The first question in connection with the identification of the antecedent is to decide which NP in the main clause is the antecedent of the MCS. Again, there are different principles used in making a decision. Rosenbaum (1970: 26), for example, proposes the principle of minimal distance, in which one counts the number of nodes between items; the item nearest to the MCS is identified as the antecedent of the MCS. The second question concerning the identification of the antecedent is the constraint on
co-reference. Lakoff (1970) talked about the equi-subject constraint and the non-equi-subject constraint which seem to restrict the choice of the MCS to one of the NP's in the main clause. The equi-subject constraint requires that the MCS be co-referential with the matrix subject, and that the equi-NP deletion transformation obligatorily take place. An example of the equi-subject constraint is "John tried to leave" where the missing subject of "leave" which must be obligatorily co-referential with "John" is obligatorily deleted by the equi-NP deletion transformation. The non-equi-subject NP constraint requires that the complement subject be different from the matrix subject, and thus the equi-NP deletion transformation cannot operate. Thus, in "John implored Mary to come", the complement subject is necessarily different from "John", the result of which is the non-applicability of the equi-NP deletion transformation. Lakoff uses the device of absolute exception to handle the constraints. For example, verbs such as "try" which require the equi-subject constraint will be marked with "positive absolute exceptions" (Lakoff 1970: 52) to the structural description (SD) of the equi-NP deletion rule. This means that when these verbs are used, the structural description of an equi-NP deletion must be met and the transformation must apply. Consequently, no ill-formed sentences such as "*John tried Bill to leave" are produced.
Perlmutter (1971) has illustrated that the constraints on the well-formedness of a sentence stated in terms of absolute exception as proposed by Lakoff may cause certain problems. The marking of certain verbs, such as "scream" as obligatorily not meeting the SD of the equi-NP deletion rule so that the equi-NP deletion cannot apply, can block a well-formed sentence. For example, the sentence "I screamed to be allowed to shave myself" cannot be produced, since "scream" is a verb that is marked for not meeting the SD of the equi-NP deletion rule and consequently the rule absolutely cannot apply. There is thus no way to delete the complement subject "I" in "I be allowed" in the pre-terminal string: [I scream [I be allowed to shave myself]]. This problem, according to Perlmutter, can be avoided if one treats the non-equi-subject constraint as a deep structure constraint rather than the transformation constraint. This means that for the sentence "I screamed to be allowed to shave myself", its underlying structure [I scream [someone allows me [I shave myself]]] indicates that "scream" satisfies the structural description of the non-equi-subject constraint. Thus, in the pre-terminal string [I scream [I be allowed to shave myself]], the equi-NP deletion may operate and delete the complement subject "I". In other words, Perlmutter has pointed out that the non-equi-subject constraint may operate independently from the equi-NP
deletion transformation, and that the constraint can be considered as operating at the deep structure level.

These two proposals are found to have weaknesses which have been pointed out in the literature and therefore will not be repeated here (see for example the weakness of the Lakoff solution in Perlmutter (1971) and the weakness of the Perlmutter solution in Jackendoff (1972)).

6.2.2 The Interpretive Theory

In the Interpretive theory (Jackendoff 1972: 178), co-reference is a semantic property which no syntactic rule can be contingent upon. There is, instead of syntactic rules, an interpretive rule or complement subject rule to account for the co-reference of the complement subject. The interpretive rules, operating on the string at the deep structure level which contains an embedded S that has an empty node for the missing subject, enter the empty node as coreferential with an NP in a higher sentence in the table of coreference. This empty node, symbolized by $\Delta$, is a non-terminal node at the end of a branch. As a non-terminal node, no phonological interpretation is given to it; nor is any lexical item inserted under it. What is special about this empty node is that although it will not contain semantic information, the sentence containing it is not considered ill-formed if the semantic interpretation rules can give readings to the empty node.
The use of \( \Delta \) indicates that co-referentiality exists between a missing complement subject and a certain NP which functions as the antecedent in the main clause. The pertinent problem is then the determination as to which NP will be the antecedent. In relation to this, Jackendoff talks about two independent factors: which NP in the main clause is co-referential with the complement subject, and whether the co-reference is obligatory or optional. According to him, verbs differ in the interaction of these two factors. For example "hope" is marked for the first factor as "subject controller" and for the second factor as "optional control". The information of "subject controller" indicates that for "hope", the complement subject is co-referential with the matrix subject; thus, in the sentence "I hope to finish", the missing subject of "to finish" is co-referential with "I", the matrix subject. The information of "optional control", indicates that for "hope" the co-reference between the matrix subject and the complement subject is not the only possibility. One may therefore have a sentence such as "I hope for John to finish", in which the matrix subject and the complement subject are not co-referential. "Hope" on the other hand differs from "try" which is marked as "subject controller" and "obligatory control". This means that in a complex sentence which contains "try" as the matrix verb, the complement subject must be co-referential with the subject of "try". Since this
co-reference is obligatory, one may not have a sentence such as "*John tries for Bill to leave". Verbs that require obligatory control, such as "try", are verbs that have a co-reference restriction. For them, a "network of co-reference", i.e., information about which NP is the antecedent, or in Jackendoff's term, "controller", and information that the co-reference is obligatory with the deletion of the complement subject, is given in their lexical entries. In connection with the first type of information, the information about which NP is the antecedent, Jackendoff discusses the use of thematic relation (Jackendoff 1972: 215) as a device to determine it.

6.2.3 The Missing Complement Subject in This Study

As has been mentioned, a characteristic shared in common by all types of verb complements of transitive verbs is that they contain a non-finite verb. Since, by definition, a non-finite verb is a verb that occurs with no [+NM] in the environment, a verb complement thus appears with no subject. Without the overt presence of the complement subject, however, the interpretation of a complex sentence always presupposes the complement subject. This is because potentially any verb except an existential verb such as /mii/ "exist" can occur in the environment of a subject or [+NM]. Consequently, although the subject may not overtly appear, it is presupposed. The intrinsic potential which allows the
presupposition may be expressed by the following rules:

\[[+V] \rightarrow [+([+NM])]\]

\[[+V] [+([+NM])] \rightarrow [+\text{finite}]\]

\[[\text{-finite}] \rightarrow [\text{-[+NM]}]\]

The first rule says that the verbs can be subcategorized into those that potentially require the subject in their environment and those that cannot have the NM in their environment. The latter can be referred to as existential verbs (see Section 3.2.1). By the second rule, verbs that potentially require the nominative actant, or non-subjectless verbs, can occur either as finite or non-finite verbs. The third rule says that a non-finite verb does not allow a nominative actant to occur. The use of parentheses around the \([+NM]\) feature in the second rule above indicates that a type of verb that potentially requires \([+NM]\) also allows the optionality of it. This occurs if the verb is non-finite as indicated by the third rule. The optional potential of \([+NM]\) feature implies the presupposition of the subject even if the subject does not occur overtly. In other words, in the lexicase framework, to state in the lexical matrix of a verb that it can occur with a nominative actant is equivalent to stating that the actant or state designated by the verb
presupposes a participant bearing the [+NM] relation to the action, regardless of whether the [+NM] actant actually appears in the sentence or not.

Assuming that a non-finite verb presupposes a subject, there is no need for a deeper level where the complement subject exists explicitly (Rosenbaum) or non-explicitly (Jackendoff) to account for the meaning of the complex sentence that apparently involves the subject of a verb complement. That is, the feature [-finite] can be used as a basis for the presupposition of the missing subject in much the same way that Jackendoff uses $\Delta$ or that Rosenbaum uses an identical item in the deep structure, without additionally complicating the PS rules which the introduction of $\Delta$ or of special deletion transformations would entail.

In order to obtain an interpretation of the whole complex sentence that contains the verb complement, the referent or the antecedent of the MCS together with its relationship to the verb in the complement sentence must be determined. In this study, it is claimed that the MCS is generally co-referential with a certain actant in the matrix sentence. The decision as to which actant it is identical to, if any, is made either solely on the basis of the matrix transitive verb, or on the basis of the matrix verb together with the type of verb in the following verb complement. This chosen actant with which the MCS is co-referential and
which is referred to as an antecedent, may or may not overtly appear in the string. If it does, the referent of the MCS is identical to that of its antecedent. If it does not, a reading of the MCS will be gotten from a semantic interpretation based on the COS (context of situation) and from the grammatical requirement of the transitive main verb that it have a subject and an object. That is, the chosen actant, be it subject or object, is presupposed by the main verb which requires it and allows its optionality under the proper context of situation. Thus, if one does not see this actant which functions as the antecedent of the MCS overtly in the string, one can nevertheless ascertain the missing actant from context. To illustrate: /hây/ "order, cause, allow" is a transitive verb of a causative type which requires, when functioning as the matrix verb, that the MCS be co-referential with its object. If the object is present in the string, the referent of the MCS will be decided through this object, which functions as the antecedent of the MCS. In the following sentence, the referent of the MCS of /hûn/ is decided through /pûk/ "Pook", its antecedent which is at once the object of /hây/ "order":

1. daææn hây pûk hûn khâaw
   Dang order Pook cook rice

   Dang ordered (or had) Pook cook rice.
If the objective actant is not present, one will have to look in the COS and find the referent for the MCS. The fact that /hây/ is a verb which grammatically requires an object but situationally allows its optionality leads one to find the object of /hây/ in the COS. The referent of the situationally missing object of /hây/ "cause, order, allow" is also shared by the MCS:

2. dææn hây hûn khâaw
   Dang order cook rice

Dang ordered \{(a) someone known to the speaker and the hearer\}
\{(b) someone non-specific\}
to cook rice.

According to interpretation (a) the referent of the missing object is specific; according to interpretation (b), the
the referent is non-specific. Either way, the object is allowed to be missing situationally.

Thus, in connection with the missing antecedent, it can be said that although this grammar does not claim to account for the co-reference outside of linguistic context, it has left room for the possibility of contextually conditioned identification of the complement subject, without complicating the grammar. That is, just as the complement subject is presupposed, one can also presuppose the matrix object, due to the fact that although the verb requires an object, its occurrence on the surface is contextually optional. Allowing the referent of the MCS to be contextually conditioned as well as linguistically conditioned seems almost impossible in an analysis where one posits a deep structure in which everything that a speaker knows about the sentence which does not appear in the surface structure is present. In sentence 2 with reading (a) above, no complete information can be given if one does not allow the possibility that the antecedent may be absent and that the referent outside the linguistic context does not necessarily appear through any antecedent in the linguistic context. Even saying that the MCS and its antecedent are "someone" in the deep structure would be incorrect since that would constitute a claim that they are both indefinite (i.e., reading (b)), whereas the sentence with reading (a)
would only be used when the antecedent is definite and contextually redundant. The only other solution a grammar which posits a deep structure can offer is the totally ad hoc one of positing an entire sentence in the deep structure, a sentence that never appears on the surface and that only exists to provide a "linguistic" antecedent for a complement subject, since without this linguistic antecedent, an interpretation of the sentence is impossible.

Jackendoff seems to recognize the fact that there is a possibility for the referent to be outside the string, as can be seen from his analysis of "one" as a generic indefinite subject in "Mary told Bill that helping him could be difficult" (Jackendoff 1972: 185). Jackendoff explains that this possibility can be obtained by the use of another rule distinguished from the complement subject rule. However, Jackendoff did not show how this rule is formalized. Besides, it is not clear to me why Jackendoff limits the possibility to the indefinite subject "one" since there can certainly be a referent not present but which is not necessarily a generic noun.

It seems that the approach proposed in this study not only can provide for the identification of a complement subject as satisfactorily as other approaches do, but also seems to be able to provide for the identification of the referent in non-linguistic context without complicating the grammar; on this basis, it should be a preferred solution.
6.3 Types of Verb Complements

The types of verb complements to be discussed in this chapter include purposive verb complements and non-purposive resultative verb complements as the two major types. The purposive complement is sub-divided into two sub-types: causative and non-causative purposive. All these various types will be discussed below.

6.3.1 The Purposive Verb Complement

What is meant by the purposive verb complement is the kind of verb complement that states the purpose of the action expressed by its matrix verb. The matrix verb may refer to an action the purpose of which is required to be fulfilled by an entity other than the agent of the matrix verb; or it may assert an action the purpose of which can be fulfilled by the agent of the action itself. The first type of purposive verb complement is referred to as causative-purposive verb complement and the second as non-causative purposive verb complement.

These two types of purposive verb complements will be discussed immediately below.

6.3.1.1 The Causative-Purposive Verb Complement

Following the definition that the causative-purposive verb complement expresses the purpose of an action to be fulfilled by an entity other than the agent of the matrix verb, verbs that can function as matrix verbs are necessarily
causative verbs. These verbs obligatorily require a verb complement which contains a non-finite action verb to follow. Action verbs are either verbs that have a nominative agentive actant in their case frames, for example, /kin/ "eat", /khian/ "write", or verbs that have a nominative objective actant in their case frames but are neither non-stative verbs nor process verbs, for example, /pay/ "go", /maa/ "come", /huarāʔ/ "laugh". That is, they are verbs that share the semantic property that the actions they refer to can be under the active control of their subjects. When these verbs occur in verb complements, they are obligatorily non-finite, and thus never occur with a nominative actant.

The following examples (with sentence 1 repeated) illustrate complex sentences containing causative verbs as matrix verbs obligatorily followed by action verbs in the verb complements:

1. dēææn hay pūk hūn khāaw
   Dang order Pook cook rice

   [+V [+caus]
    [+V +([+NM])
    +[+NM]
    -[+OBJ]
    +([+AGT])
    -([+DAT])
    -finite
    +action ]

   Dang ordered Pook to cook rice.
3. dææn hay pûk dæn rew rew
   Dang order Pook walk fast fast

\[ [+V \quad [+\text{caus}]] \]
\[ \begin{align*}
&(+[+[NM]]) \\
&(+[+[OBJ]]) \\
&-\text{finite} \\
&+\text{action}
\end{align*} \]

Dang ordered Pook to walk fast.

4. dææn bɔk nákrian wâat rûup phuukhàw
   Dang tell student draw picture mountain

\[ [+V \quad [+\text{caus}]] \]
\[ \begin{align*}
&(+[+[NM]]) \\
&-\text{finite} \\
&+\text{action}
\end{align*} \]

Dang told the students to draw a picture of a mountain.

The obligatory requirement for a following verb complement characterizes the causative verbs. This characteristic can be formally stated by a redundancy rule such as:

RR-20: \[ [+\text{caus}] \rightarrow [+\text{finite}] \]

This redundancy rule says that any verb specified [+caus] is obligatorily followed by a non-finite action verb. It requires the following subcategorization rule to be in the grammar:
This rule says that the non-location, non-ditransitive verbs of either [-fct] or [-affect, -info] subcategories must be specified whether they are [+caus] or [-caus] verbs. The features [-(+[DAT])], [-location] and [-fct] or [-affect, -info] in the input indicate that the causative verbs constitute a special sub-group in the transitive verb category.

To illustrate the operation of the rules, let us take /hây/ "cause, order, allow" as an example. /hây/ as a causative verb is entered in the lexicon as [+V, +([+NM]), [+NM], +([+AGT]), -([+DAT]), -location, +affect, -fct, +caus]. Since the features of /hây/ fit in with the features required in the input of the subcategorization above, the rule can apply to it. The rule is applied to the lexical matrix vacuously however since /hây/ is already marked lexically with [+caus]. Then RR-20 applies. The application of RR-20 provides the more fully specified matrix of /hây/:
Since causative verbs only allow non-finite action verbs and not other types of verbs to follow, a means must be provided to prevent them from occurring with other types of verbs than just the action verbs. The following rule is set up:

\[
\text{RR-21: } [+V -\text{finite}] 
\rightarrow [-V +\text{finite}] 
\rightarrow [-V -\text{finite}] 
\]

According to this rule, no finite verb or non-action, non-finite verb can occur after the causative verbs. Since a verb in the verb complement after a transitive verb can never be a finite verb, a general rule like the following may be set up to capture this fact:
With this redundancy rule, the first half of the output in RR-21 can be eliminated, thus:

\[
\text{RR-21a: } \left[ +\text{___}\left[ ^{-}\text{finite}\right] \right] \xrightarrow{\text{[+__][+finite]}} \left[ -\text{___}\left[ ^{-}\text{finite}\right] \right]
\]

A causative verb also conveys the meaning of purpose as may be assumed from the name of the verb complement that follows it. A redundancy rule to capture this meaning is set up:

\[
\text{RR-23: } [+\text{caus}] \xrightarrow{\text{[+purpose]}}
\]

This rule says that any causative verb is also a purposive verb. This redundancy rule adds the feature [+purpose] to the matrix of a causative and thus, /hây/ above will be specified after the use of this rule, RR-20, RR-21a and RR-22 as:
According to SR-12 above, only non-ditransitive verbs can be subcategorized into [+caus] or [-caus] verbs. Since it is non-ditransitive, a causative verb does not allow a dative case to occur with it and therefore the following sentences are either not acceptable with the causative meaning or ungrammatical:

5(a) dææn hay pük hũŋ khâaw káp čhǎn
Dang order Pook cook rice with I

Dang ordered Pook to cook rice with me.

(b) *dææn hay káp čhǎn pük hũŋ khâaw
Dang order with I Pook cook rice

Dang ordered to me that Pook cook rice.

Sentence 5(a) is acceptable if one interprets /káp čhǎn/ "with me" as a comitative actant to the verb /hũŋ/ "cook"
for which the reading is "Dang ordered Pook to cook rice with me."

Since it is transitive, a causative verb allows the optionality of an object if given a proper COS. The following sentence for sentence 1 above illustrates the absence of the object:

6. đàm ra hay hũ khâaw
    Dang order cook rice

    Dang ordered (someone) to cook rice.

As mentioned before, COS conditions are outside the scope of this study which only deals with grammar, or competence, and not with the context of situation.

6.3.1.1.1 The Missing Subject of the Causative-Purposive Verb Complement

It has been mentioned in Section 6.2.3 that the antecedent of the MCS may be determined from the type of verbs that occur in the matrix sentence. When the matrix verb is causative, it is observed that the antecedent of the MCS is always co-referential with the object of the matrix verb. This can be seen from the tree diagram of sentence 1, repeated below:
Dang ordered Pook to cook rice.

As shown in the tree diagram, the broken line illustrates the MCS of /hūŋ/ "cook" as coreferential with /pūk/ "Pook" which is the matrix object and is present in the string. If /pūk/ "Pook" is not present in the string, that is, if one has /daææn hay hūŋ khāaw/ "Dang ordered (someone) to cook rice" as in sentence 6 above, the information that the missing subject is co-referential with the matrix object is still applicable. One will have to look in the non-linguistic context for the referent of the missing object, which is pre-supposed by the fact that /hây/ is a transitive verb
which requires an object grammatically although allows the omission of the object situationally. This will then be the referent of the MCS in the usual way.

Since the co-reference of the MCS and the matrix object is consistent, it may be formally represented by the following redundancy rule:

\[ [+\text{caus}] \rightarrow [+\text{object control}] \]

This redundancy rule says that every [+caus] specified verb has the feature [+object control] added to its matrix. This feature allows the interpretation rule in the semantic interpretation component to give the appropriate reading to the missing complement subject. The interpretation rule relevant to the reading of the complement subject may read:

"In a complex sentence in which the matrix verb is marked with the feature [+object control], the missing complement subject is co-referential with the object of the matrix verb."

The above redundancy rule may be combined with RR-23 which says:

\[ \text{RR-23: } [+\text{caus}] \rightarrow [+\text{purpose}] \]

since both rules specify the unique characteristics of [+caus] verbs and since both rules share the same feature in the input; thus, we have:
As can be seen from the discussion in Section 6.3.1.1, only a particular group of agentive verbs can occur followed by a causative-purposive verb complement. Other types of transitive verbs: ditransitive verbs, dative verbs and instrumental verbs, cannot occur with the causative purposive verb complement. This occurrence restriction distinguishes the non-ditransitive verbs that are causative verbs from the others that are not. The consequence of this distinction is the further subcategorization of non-ditransitive verbs into those specified with the [+caus] feature which subsequently require a non-finite action verb to follow and the MCS to be co-referential with their objects, and those specified with the [-caus] feature. All of this information is captured by SR-12, RR-20, RR-21a, RR-22 and RR-23a. Since the other types of transitive verbs are all non-causative, the following redundancy rule can be set up to account for this fact:

\[
\text{RR-24: } \begin{cases} 
[+([+\text{DAT}])] \\
[+\text{location}]
\end{cases}
\begin{cases} 
[+\text{fct}]
\end{cases}
\begin{cases} 
[+\text{info}]
\end{cases}
\begin{cases} 
[+\text{AGT}]
\end{cases} \\
[-([+\text{DAT}])]
\] 
\rightarrow [-\text{caus}]
This rule reads that ditransitive verbs, dative verbs, location verbs, non-location verbs of either factitive or information subcategories and instrumental verbs are all non-causative verbs. An alternative to RR-24 which is rather tedious is to have a rule such as:

\[ [+V] \rightarrow [-caus] \]

This redundancy rule will be required to apply after SR-12. Such a requirement brings in a constraint in the ordering of the rules, and therefore creates different types of redundancy rules so that one has those that apply before the SR rules and those that apply after the SR rules. The advantages and disadvantages of this alternative against RR-24 have not yet been explored in this study.

The [+caus] subcategory includes transitive verbs such as /hây/ "order, cause, allow", /bôk/ "order", /chày/ "order", /săn/ "command". These verbs are in contrast with the non-ditransitive, non-causative verbs such as /kin/ "eat" or /khâa/ "kill" which outnumber them.

It will be shown in Sections 6.3.1.1.2 and 6.3.1.1.3 below that some of these listed verbs are intrinsic causative verbs and some are derived causative verbs.

6.3.1.1.2 The Intrinsic Causative /hây/

According to SR-12 above, the non-ditransitive agentive verbs are further sub-categorized into [+caus] and [-caus]
subcategories. In the former subcategory, further sub-
division can be made according to whether causative verbs
are intrinsic or derived. An example of an intrinsic
causative agentive verb is /hây/ "cause, make, allow"; other causative verbs such as /bêk/ "order" are derived.

/hây/ as a causative verb is phonetically identical
to the non-causative verb /hây/ "give". It is to be claimed
however, that the former is an intrinsic causative verb
with no derivation relation to the latter /hây/ "give".

Two reasons that support the claim which is made in
this study that /hây/ "order, cause, allow" and /hây/ "give"
are separate lexical items with no derivational relation are:

First, the intuition of the native speakers that the
two verbs are not related in meaning and,

Secondly, the unique characteristics of /hây/ "cause, order, allow" as opposed to those of some other causative
verbs which although similar to /hây/ in having corresponding
homophonous non-causative items are derivationally related
to their corresponding forms, for example, /sân/ "command"
a causative verb and /sân/ "order" a non-causative verb.
These characteristics are outlined below.

Similar to other pairs of causative non-causative
verbs, /hây/ "cause, order, allow" and /hây/ "give" are
syntactically distinct by the fact that the former does not
allow a dative case in its case frame whereas the latter
does. In the following pair of sentences, /hây/ in the first sentence of the pair is considered a causative verb with /raw/ "we" as [+AC, +OBJ] and /dìım bia/ "drink beer" as a following causative-purposive verb complement; /hây/ in the second sentence of the pair is a ditransitive verb with /bia/ "beer" as [+AC, +OBJ] actant, /raw/ "we" as [+C, +DAT] actant:

7(a) khĺw hây raw dìım bia
    he order we drink beer

He ordered/allowed us to drink beer.
{ He had us drink beer.

(b) khăw hây bia kàp raw
    he give beer with we

He gave beer to us.

/hây/ "give" in sentence 7(b) occurs without a verb complement. Whereas this is possible for /hây/ "give" as a non-causative ditransitive verb, it is impossible for the causative verb /hây/ "order, cause, allow" to occur without
the verb complement. That is, sentence 7(a) cannot occur as */khaw hāy raw/ "He caused us". By this syntactic evidence, it is reasonable to say that /hây/ "order, cause, allow" and /hây/ "give" are two separate lexical items.

The two /hây/’s are not only considered to be two separate lexical items, they are further claimed to be derivationally unrelated. This claim distinguishes them from other pairs of causative--non-causative verbs which are considered to be derivationally related. Since the claim that the two /hây/’s are not derivationally related is a considerably strong claim, the differences between the causative verb /hây/ and other derived causative verbs will be given to show the unique characteristic of /hây/; a causative verb as an independent verb. These independent characteristics will be used to support the hypothesis that /hây/ a causative verb is derivationally unrelated to /hây/ "give", its non-causative verb homophone.

The first difference is that /hây/ as a causative verb can be used as a verb in the first embedded verb complement in a sentence of two embedded verb complements, for example:

8. dææŋ ča? râk pûk hây klûmčay thammay
   Dang will love Pook cause worry why

   Why does Dang make himself restless by loving Pook?
9. daæœaŋ ča? kin khâaw hây ?ìm
Dang will eat rice cause full

Dang will eat to make himself full.

This use of /hây/ is unique; no other causative verb shares this potential. The claim that /hây/ is an underived causative verb whereas others are derived may help explain this unique characteristic of /hây/.

The second difference between /hây/ and other causative verbs is that /hây/ allows not only action verbs but also process verbs in the verb complements that follows:

10. ðæø ča? hây čhæn taay rew rîi
you will make I die fast Q-word

Do you want to make me die soon?

11. daæœaŋ hây ma?mûañ sûk (ma?mûañ kâ? sûk)
Dang order mango ripe mango then ripe

Dang ordered the mangoes to turn ripe (and then the mangoes turned ripe).

Some native speakers may hesitate to accept sentence 11 as a well-formed sentence, but given an appropriate
situations, for example, that Dang is a magician, the sentence is acceptable. The hesitation can be said thus to be due to the context of situation, here due to the lack of imagination and not to any grammatical constraint. Process verbs cannot occur in verb complements with other causative verbs, regardless of the context of situation:

12. *dææn čháy ma?múan sük
   Dang order mango ripe

   Dang ordered the mangoes to become ripe.

13. *dææn sàŋ ma?múan sük
   Dang command mango ripe

   Dang commands mangoes to become ripe.

14. *thæ čà? sàŋ čhãn taay rew rii
    you will command I die fast Q word

    Will you command me to die soon?

Thus, /hay/ is syntactically a unique causative verb. This agrees with the native speakers' feeling that the relationship of /hay/ "cause, order, allow" and /hay/ "give" is different from the relationship between members of other pairs of causative verbs such as /sàŋ/ "order" and /sàŋ/ "command": while there is no relation in meaning between the two verbs in the first pair, there is for the second pair. The evidence that /hay/ as a causative verb is unique and distinct in its occurrence from other causative verbs may help support the claim that /hay/ as a causative verb is a separate lexical item derivationally unrelated to the homophonous non-causative verb /hay/. This does not
exclude the possibility that the two items may be related historically. A cross-linguistic study might in fact lend evidence in support of this (see, for example, "cho" in Vietnamese, Clark, forthcoming).

The uniqueness of /hây/ "cause, order, allow" is apparently idiosyncratic and should be specified in the lexicon. However, if /hây/ is marked in the lexicon as:

\[ [+V, +([+NM]), -[+NM_{OBJ}], +([+AGT]), -([+DAT]), -\text{location}, +\text{affect}, -\text{fct}, +\text{caus}, +[V_{-\text{finite}}], +\text{finite}_{-\text{stative}}] \]

there will be a conflict with RR-21a which is common for any [+caus] verb. The rule is reproduced here:

\[
\text{RR-21a: } [+V_{-\text{finite}} \rightarrow [-V_{-\text{finite}}]]
\]

This is because the feature [+caus] in the lexical matrix of /hây/ will bring in the frame feature

\[ [+V_{-\text{finite}} \rightarrow +\text{finite}_{-\text{stative}}] \]

to the matrix from RR-20. This frame feature will bring in the negative features from RR-21a and RR-22 above. The frame feature introduced by RR-21a:

\[ [-V_{-\text{finite}} \rightarrow +\text{finite}_{-\text{stative}}] \]

is thus in conflict with the feature

\[ [+V_{-\text{finite}} \rightarrow +\text{finite}_{-\text{stative}}] \]

marked in the lexical entry of /hây/,
since [-action] excludes process verbs as well as stative verbs while [-stative] only excludes stative verbs but allows process verbs. A solution to this conflict is to modify RR-20 to:

\[
\text{RR-20a: } [+\text{caus}] \longrightarrow [+ \left[ +V \right. \neg\text{finite}] ^\text{-stative} \]
\]

with the assumption that derived causative verbs will be marked before by the causative derivational rule as \([\neg\text{finite}] ^\text{+process}\]. This means that derived causative verbs such as /sàn/ "command" will not allow either process verbs (by a derivational rule, see DR-5) or stative verbs (by RR-20a) to follow. The case frame feature of the derived causative verbs which does not allow process verbs (DR-5) will narrow down the choice of non-stative verbs (RR-20a) to only action verbs which are [-stative, -process] verbs.

RR-21a which introduces the negative feature will be modified as:

\[
\text{RR-21b: } [+ \left[ +V \right. \neg\text{finite}] ^\text{-stative} \longrightarrow [- \left[ +V \right. \neg\text{finite}] ^\text{+stative} \]
\]

With the modification of RR-20 and RR-21a, the lexical matrix of /hày/ will be:
6.3.1.1.3 Derived Causative Verbs

It has been mentioned before that some causative verbs are derived. These derived verbs are naturally phonetically and semantically related to the correspondent verbs from which they are derived. Consider the following pairs of sentences:

15(a) dææn bɔok pùk hǔn kʰâaw
Dang ordered Pook cook rice
Dang ordered Pook to cook rice.

(b) dææn bɔok hǔn kʰâaw kàp pùk
Dang told Pook about cooking the rice.

16(a) dææn sàn pùk hǔn kʰâaw
Dang commanded Pook cook rice
Dang commanded Pook to cook rice.

(b) dææn sàn hǔn kʰâaw kàp pùk
Dang gave an order to Pook about cooking the rice.
The verbs in the (a) sentences are claimed to be causative verbs while those in the (b) sentences are non-causative ditransitive verbs. The reason for this claim is based on two grounds: semantic and syntactic. On semantic grounds, the two sentences in each pair differ in meaning. Sentence 15(a) means "Dang ordered Pook to cook rice and Pook was the one who cooked it". In 15(b), Pook did not necessarily cook the rice but got an order from Dang that rice be cooked. Parallel readings can be given to sentences 16(a) and (b): in 16(a), Pook was commanded and she cooked rice; in 16(b), she got the order but she might not have cooked the rice herself. The difference in meaning between the sentences in each pair suggests that sentence (b) is not a paraphrase of sentence (a). On the basis of this difference, it is hypothesized that /bɔɔk/ "ordered" in 15(a) and (b) are two separate lexical items. This idea is justified by the syntactic fact that /bɔɔk/ in 15(a) does not allow a dative actant whereas in 15(b) the dative actant may be present, indicating /bɔɔk/ as a non-causative ditransitive verb with /hûŋ khâaw/ "cooking rice", as a nominalized S carrying an objective case in relation to it. The justification for having /hûŋ khâaw/ as a noun under NP is that /hûŋ khâaw/ behaves as a unit and can be topicalized in 15(b) but not in 15(a):
15(c) ᶦ汉语 khàaw daeæn bœk kàp pûk
cook rice Dang tell with Pook

Cooking rice is what Dang told Pook.

For the above reason, it can be said that /bœk/ "order" in 15(a) and /bœk/ "tell" in 15(b) are two separate lexical items: causative verb in 15(a) and non-causative ditransitive verb in 15(b). Both, however are agentive transitive verbs. The analysis given to sentences 15(a) and (b) is also applicable to /sän/ in sentences 16(a) and (b).

Despite this syntactic distinction which requires two separate lexical entries for /bœk/ "tell" and /bœk/ "order", native speakers feel that the verbs are related semantically. Such semantic relation is part of a speaker's knowledge about his language and should not be neglected. In this study, it will be captured by a derivational rule such as:

DR-5: \[
\begin{align*}
&\begin{cases}
+V \\
+\text{initiating}
\end{cases} \quad \alpha F^m \\
\end{align*}
\rightarrow

\begin{align*}
&\begin{cases}
+V \\
+\text{deriv}
\end{cases} \\
&+\text{caus} \\
&+\text{initiating} \\
&-\text{info} \\
&-([+\text{DAT}]) \\
&-\text{-finite} \\
&+\text{process}
\end{cases} \quad \beta F^a
\end{align*}
\]
This derivational rule says that a verb specified with the feature [+initiating] may derive [+caus] verb which does not allow a dative actant and which may not be followed by a non-finite process verb. αF_m indicates semantic or syntactic features commonly shared by the input and the output items. The feature αF_m can, by a convention that all features are carried over from the input to the output unless marked otherwise, be omitted from the rule. Such features shared, for example, by both /bɔ́k/ "tell" and /bɔ́k/ "order" would include the feature [-affect], which shows that they are both verbs that do not occur in the passive constructions. The input and the output items differ however in other features as indicated by βF_a, which represents features possessed by the output but not the input. The feature [+initiating] indicates that only transitive verbs that are specified with [+initiating] can undergo the rule. This implies that there are other verbs that do not have this feature and therefore do not undergo DR-5 and do not have the corresponding causative verbs. To account for the fact that certain verbs are specified [+initiating] while others are not, the following subcategorization rule is set up:

\[
\text{SR-13: } \begin{bmatrix} +([+AGT]) \\ +([+DAT]) \\ +\text{info} \end{bmatrix} \rightarrow [+\text{initiating}] 
\]
According to the above rule, only the ditransitive verbs of the information type are subcategorized into either [+initiating] or [-initiating]. Those that are specified [+initiating] are for example: /sàn/ "order", /bòok/ "tell". The information ditransitive verbs that are specified [-initiating] are for example: /tòør/ "answer". These latter verbs do not undergo DR-5 and do not have the corresponding causative verbs.

As can be seen from DR-5, the output shows several features that call for some observation. First, it carries [-([+DAT])] feature. This case feature shows the syntactic difference between the input item, that is, the information ditransitive verb which allows [+(([+DAT])]) and the output item, that is the causative verb that does not allow a dative actant.

Secondly, the [-info] feature in the output of DR-5 specifies that the derived causative verbs are not information verbs and, therefore do not occur in the /wâa/ prepositional phrase.

Thirdly, the feature [+derv] in the output of DR-5 states the derivational status of the output item; the feature [+caus] requires that RR-20a and the consequent RR-21b and RR-22 which state the requirement for a certain type of verb to occur in the verb complement be applied.

In order to see how the rules work, /sàn/ "order", a transitive verb with the following lexical matrix will be...
taken as an example:

\[
\begin{align*}
\text{sàn} & \quad \text{"order"} \\
(+V & ) \\
(-([+NM]), & ) \\
(+([+AGT]), & ) \\
(+([+DAT]), & ) \\
+\text{info} & \\
+\text{initiating} & \\
\end{align*}
\]

The feature [+initiating] tells that it is potentially possible to have an item corresponding to /sàn/ "order". This corresponding item has features as indicated by the output of DR-5:

\[
\begin{align*}
\text{sàn} & \quad \text{"command"} \\
(+V & ) \\
+d\text{erv} & \\
(+([+NM]), & ) \\
(+NM, & ) \\
-([+OBJ]) & \\
(+([+AGT]), & ) \\
-([+DAT]) & \\
+\text{caus} & \\
+\text{initiating} & \\
-\text{info} & \\
+\text{finite} & \\
+\text{process} & \\
\end{align*}
\]

The feature [+caus] requires the item to undergo RR-20a which adds [+finite] to the matrix. The case frame feature in turn introduces the negative feature [-finite].
to the matrix by RR-21b and \([-____^{+V}\] by RR-22. The feature \([+caus]\), by RR-23, brings \([+purpose, +object\ control]\) to the matrix of /sàn/. The lexical matrix of /sàn/ "command" ultimately looks like:

```
\[sàn
"command"
\]
```

Looking at the set of lexical rules discussed above, it might seem that there is no need for two separate lexical entries for /sàn/. One may only have the entry for /sàn/ "order" and have rules applied to produce the causative /sàn/. In this study however two separate lexical entries will be entered in the lexicon:
The reason for having two separate lexical entries in the lexicon is due to the evidence that the semantic meaning between the two lexical items cannot be said to be exactly the same or completely predictable. Although αF_m represents the common features that the two items share and which may possibly be considered as features carried over from the input to the output, there are other features that are not shared by both as specified by βF_a and φF_b. Having two separate lexical items in the lexicon allows for these semantic non-identity of the two items, yet at the same time through the features [+derv] and αF_m, the lexical relation between the two words is indicated.

Although the derived causative verbs are usually derived from information ditransitive verbs, it is not a fact that such verbs are the only source. It is found that a derived causative verb can also come from a non-information,
non-ditransitive verb. /cháy/ "order" is an example.

Consider the following pair of sentences:

17. dææn  čháy  phûuyîn  sûay  sûay  pra?dàp
    Dang  order  girl  pretty  pretty  decorate
    râan
    shop

    Dang ordered pretty girls to decorate the shop.

18. dææn  čháy  phûuyîn  sûay  sûay  pra?dàp
    Dang  use  girl  pretty  pretty  decorate
    râan
    shop

    Dang used pretty girls in decorating the shop.

/cháy/ in sentence 17 is considered a causative verb meaning "order" with /phûuyîn  sûay  sûay/ "pretty girls" as the object and /pra?dàp râan/ "to decorate the shop" as the verb complement. In sentence 18 which is homophonous to sentence 17, /cháy/ is considered a non-causative, non-ditransitive agentive verb meaning "use" with /phûuyîn  sûay  sûay/ as its object and /pra?dàp râan/ as the non-causative purposive verb complement. /pra?dàp/, the non-finite verb in the non-causative purposive verb complement, presupposes an instrumental actant which is obligatorily absent when the verb occurs in the verb complement after /cháy/ "use". The only possible antecedent for the instrumental actant in sentence 18 is /phûuyîn  sûay  sûay/ "pretty girls" so this actant is interpreted as the instrument of /pra?dàp/ as well as the object of /cháy/. 
The matrix verb in sentence 18 is specified in this study as an agentive, non-ditransitive verb. When it occurs in a simple sentence it allows [+INS] which is restricted to an inalienably possessed noun as in sentence 19 below. In general, /čháy/ "use" does not occur with an instrumental actant.

19. khon ?ankrit čháy míit míit khwāa
people English use knife hand right

English people use a knife with (their) right hand.

When /čháy/ "use" occurs followed by a non-causative purposive verb complement, it requires that the complement be without an [+INS]. With all these constraints, /čháy/ may appear in the lexicon as:

\[
\begin{align*}
&+V \\
&+(+[NM]) \\
&-+[NM] \\
&-+[OBJ] \\
&+(+[AGT]) \\
&-+(+[DAT]) \\
&+[V] \\
&-\text{finite} \\
&+(+[AGT]) \\
&-+(+[INS]) \\
&+\_
\end{align*}
\]

The constraints of /čháy/ "use" according to which the following complement does not allow the occurrence of an instrumental actant distinguishes /čháy/ "use" from /čháy/ "order", a causative verb, since the latter does not have
this constraint. In the following sentence, the complement verb /pra?dâp/ "decorate" has an instrumental actant occurring in its environment:

20. dææŋ  cháy  phûuyiŋ  sũay  sũay  pra?dâp
    Dang  order  girl  pretty  pretty  decorate

    [+]V [+caus] [+-finite]

    raán  dûay  lûukpòon
    shop  with  balloon

    [+P] [+N] [+AC] [+INS]

Dang ordered pretty girls to decorate the shop with balloons.

In the above sentence /lûukpòon/ "balloon" carries the [+INS] case relation to /pra?dâp/ "decorate", the non-finite verb in the verb complement. Such a complement cannot be added to sentence 18 without changing the meaning of the sentence.

With all the evidence presented above, it is reasonable to consider /cháy/ in sentence 17 and 18 as separate lexical items. Despite this fact, native speakers feel that the two verbs are semantically related. This is due to the fact that there is a common meaning between the two items. Such a relation can be captured by a derivational process by which the causative /cháy/ "order" is derivationally related to the non-causative /cháy/ "use". In the lexicon, both items are listed. Since DR-5 which formally accounts for the
derivational relationship between the causative and non-causative verbs requires that the non-causative verb in the pair be specified with [+initiating], /chây/ "use" is presumably specified [+initiating]. Since /chây/ is neither ditransitive nor information verb, SR-13 that accounts for the [+initiating] verbs must be modified to:

\[
\text{SR-13a: } \left\{ \begin{array}{c}
+(\{+\text{AGT}\}) \\
+(\{+\text{DAT}\}) \\
+\text{info} \\
-\{+\text{DAT}\} \\
-\text{location} \\
-\text{affect} \\
-\text{info}
\end{array} \right\} \longrightarrow [+\text{initiating}]
\]

This subcategorization rule shows that [+initiating] feature is not just the feature for certain information verbs but also for some verbs that are not.

6.3.1.1.4 Causative Verbs and the Subcategorization of Transitive Verbs

It can be seen from SR-12 posited above that what has been called [+caus] verbs either derived or non-derived are the agentive non-ditransitive verbs which belong to the [-location] and either [-fct] or [-affect, -info] subcategories. With SR-13a above, SR-12 still has not given an accurate picture of the causative verbs in the [-affect, -info] sub-category. That is, only the [+initiating] verbs in this subcategory may be [+caus]. Thus, SR-12 will be modified as:
The subcategories specified in the input of the above rule have been set up on the basis of case co-occurrences, potential occurrences in the passive constructions and the /wâa/ construction. The causative categories indicated in the output can be considered additional subcategories to the non-ditransitive verb category.

Besides the modification in SR-12, RR-24 also needs certain modification to account for the fact that [-initiating] verbs are also [-caus] verbs:

As can be observed, some of the causative verbs, for example, /hây/ "cause, allow, order" and /chây/ "order" occur as [+affect, -fct] verbs. Specified with these two features, the two verbs above may occur in the /thûuk/ passive construction with absolute agreement as to grammaticality on the part of the native speakers.
21(a) dææη hay pük hũŋ khâaw ?iik láæew
Dang order Pook cook rice again already
Dang ordered Pook to cook rice again.

(b) pük thûuk dææη hay hũŋ khâaw ?iik
Pook Dang order cook rice again
láæew
already
Pook was ordered by Dang to cook rice again.

22(a) khâw čhây pük pay ta?làat
she order Pook go market
She ordered Pook to go to the market.

(b) pük thûuk khâw čhây pay ta?làat
Pook she order go market
Pook was ordered by her to go to the market.

Other causative verbs, for example /bɔok/ "order",
/san/ "command" do not occur in the passive construction as
they are [-affect] verbs:

23(a) khâw sàn thæ maa bâan
he command she come home
He commanded her to come home.

(b) *thæ thûuk khâw sàn maa bâan
she he command come home
She was commanded by him to come to the house.

In relation to the subcategorization of transitive
verbs, it can be said that the examination of the causative
purposive verb complements has revealed a further subcate-
gorization in the agentive transitive category. Figure 5
illustrates these further subcategories.
Figure 5

Subcategories of Transitive Verbs in Relation to the "Causative" Feature
6.3.1.2 The Non-Causative Purposive Verb Complement

As mentioned in Section 6.3.1, another type of purposive verb complement is the non-causative purposive type. The non-causative purposive verb complement conveys the meaning of the purpose of the action expressed by the matrix verb. This purpose, unlike the purpose in the causative purposive complement can be fulfilled by the subject of the matrix verb itself and hence the name: non-causative. In the following sentence, /kin/ "eat" is in the non-causative purposive verb complement expressing the purpose "eat" for the action /sii taeemmmoo/ "buy water-melon". The structure of the sentence can be shown by the following tree diagram:

\[ dææn \text{ siì taeemmmoo kin } \]
Dang buy water-melon eat

Dang bought a water-melon to eat.

It may be observed from the tree diagram above that the structure of a complex sentence containing a non-causative purposive verb complement is similar to that containing the causative-purposive verb complement (see Section 6.3.1.1.1). A closer examination of the type of transitive
verbs that can occur as the matrix verb, of the optionality of the verb complement after the matrix verb, and of the antecedent of the missing complement subject reveals, however, that the two types of complex sentences can be distinguished from each other. In order to discuss the three points of difference just mentioned, the following sentences with verbs marked with certain relevant features are given:

25. dææη khাতay tɔnmạy kẹp nəən
   Dang sell tree collect money

\[
\begin{align*}
\{+V, +([+NM])\} & \hspace{1cm} \{+V, +([+NM])\} \\
\{+NM\} & \hspace{1cm} \{-[+OBJ]\} \\
\{+[+AGT]\} & \hspace{1cm} \{-([+DAT])\}
\end{align*}
\]

səmrəp roonriən
for school

Dang sold the trees to collect money for the school.

26. khạw sọn nəən maa chùay ɕhəawnəa
   he send money come help farmer

\[
\begin{align*}
\{+V, +([+NM])\} & \hspace{1cm} \{+V, +([+NM])\} \\
\{+NM\} & \hspace{1cm} \{-[+OBJ]\} \\
\{+[+AGT]\} & \hspace{1cm} \{-([+DAT])\}
\end{align*}
\]

He sent money to help the farmers.

27. khạw thạaŋ khamthạaŋ klææŋ pʊk
    he ask question irritate Pook

\[
\begin{align*}
\{+V, +([+NM])\} & \hspace{1cm} \{+V, +([+NM])\} \\
\{+NM\} & \hspace{1cm} \{-[+OBJ]\} \\
\{+[+AGT]\} & \hspace{1cm} \{-([+DAT])\}
\end{align*}
\]
He asked questions to irritate Pook.

28. khąw yép sía sày
she sew dress wear

He saved money to buy a car.

29. khąw kep nàan sìi rôt
he collect money buy car

He killed an elephant to get the tusks.

30. khąw khàa cháñ ?aw nàa
he kill elephant get tusks

It can be seen from the examples above that the matrix verbs are only agentive verbs and not dative or instrumental verbs. Examining these agentive verbs, it is found that they can be any type of agentive verbs except causative. This fact distinguishes the complex sentences containing non-causative purposive verb complements from those which
contain causative purposive verb complements, since the latter require that the matrix verb can be causative only.

The above examples show that the verbs in the verb complement are agentive verbs only. To capture all this information, the following RR is set up:

RR-25: 

This redundancy rule reads that any agentive verb which is specified purposive but non-causative must occur followed by a non-finite verb which is only agentive verb. The marking [-caus] in the input allows the rule to apply to agentive verbs that do not contain [+caus] in their matrices. Of the non-causative agentive verbs, one can have ditransitive verbs such as those in sentences 25-27, as well as non-ditransitive verbs, such as those in sentences 28-30, as matrix verbs.

The feature "purpose" in the input of RR-25 above is introduced by the following subcategorization rule:

SR-iii: 

SR-iii says that any non-causative agentive transitive verbs can occur as [+purpose] or [-purpose]. If it occurs as [-purpose], the following redundancy rule is applied:

RR-26: 

The above redundancy rule says that if a verb is marked [-purpose], it cannot be followed by a verb complement. If the verb is marked with [+purpose], RR-25 above will have to be applied and one gets the purposive verb complement. The [-caus] feature in the input of SR-iii comes either from SR-12a or RR-24a discussed in the previous section. The fact that if a verb is [+purpose], it is obligatorily followed by a verb complement, and the fact that if it is marked [-purpose], no verb complement is allowed indicate that the feature "purpose" is not an inherent feature but an optional feature, concurrent with the presence of the following verb complement. The feature "purpose" is accordingly lower in the hierarchy of features that subcategorize verbs than [+info] or [+location]. The subcategorization rule is thus numbered in small roman numerals to indicate this fact. Since SR-iii allows non-causative agentive verbs to occur either as a [+purpose] or [-purpose] verb, it is possible to have an agentive verb occurring without a purposive verb complement and therefore without any purposive meaning:

31. dææŋ siŋ tææŋmoo
    Dang   buy watermelon
    Dang bought a watermelon.

Like any other type of verb complement, the non-causative purposive verb complement has the complement subject missing
but presupposed. In contrast to [+caus, +purpose] verbs however, it is the characteristic of the [-caus, +purpose] verbs to have their subjects as the antecedent of the complement subject. In sentence 24 given above, /daæən/ "Dang" as the matrix subject is the antecedent of the MCS of /kin/ "eat":

This information can be captured by the following rule:

RR-27: \[
\begin{align*}
\text{[+V]} \\
\text{[-caus]} \\
\text{[+purpose]} \\
\end{align*}
\] \[\rightarrow \text{[+subject control]}\]

This rule says that for every [-caus, +purpose] specified verb, the feature [+subject control] is added to the matrix of the verb. This feature is essential to the semantic interpretation rules that interpret the referent of the missing complement subject. The interpretation rule relevant to the missing complement subject given in the last section for the feature [+object control] will be modified to incorporate the feature [+subject control]. It may read:
"In a complex sentence in which the matrix verb is marked with the feature [+object control], the missing complement subject is co-referential with the object of the matrix verb. If it is marked with the feature [+subject control], the missing subject is co-referential with the subject of the matrix verb."

There is another type of non-causative purposive verb complement. It is exemplified in the following sentence:

32. khɔw ᵃy ɨən dɛk sɨɨ nɑŋʃɪɨ
he give money child buy book

He gave the child (some) money to buy books.

The above sentence has /ɨən/ "money" as carrying the accusative objective case relation to the matrix verb /hɔy/ "give" and /dɛk/ "child" as carrying the accusative benefactive actant to the verb. /hɔy/ in the above sentence is a non-causative ditransitive verb and as a ditransitive verb, it allows a dative actant to occur as in sentence 33 below:

33. khɔw ᵃy ɨən dɛk sɨɨ nɑŋʃɪɨ
he give money child buy book

kɔp ʍɛæ ʍɔθər ɔf ɗɪɛk
with mother of child

[+P] [+N] [+AC]
[+C] [+DAT]

He gave money to the mother of the child for the child to buy books.
Sentences 32 and 33 convey purpose without any meaning of causation. What makes them different from other sentences that contain non-causative purposive verb complements discussed above is the fact that the MCS of /síi/ "buy", the verb in the verb complement, has the accusative benefactive actant and not the matrix subject as its antecedent. Since this occurrence is so far found occurring only with /hây/ "give" which can also occur with the purposive verb complement of the first type as in sentence 34:

34. khâw hây ñæm dëk yâakčon ʔuat čhaawbâan
               he give money child poor show neighbour

   He gave poor children money to show off to (his) neighbor.

It will be considered an idiosyncratic feature of /hây/ to display two types of purpose. /hây/ will be marked in the lexicon with [+benefactive control]. In the interpretation rule, there will be a piece of information which says that if a verb has both accusative object and a benefactive object, the benefactive object will be the antecedent of the MCS provided that the verb also carries the feature [+benefactive control].

The examination of matrix transitive verbs in relation to the non-causative purposive verb complement reveals no further subcategorization of transitive verbs. The purposive feature is not an inherent feature; rather it seems a syntactic feature of choice depending on the presence of
a certain type of verb complement and a certain type of matrix verb.

6.3.2 The Non-Purposive Resultative Verb Complement

The resultative verb complement is a verb complement that states the change in the status or the coming into existence of an entity as the result of an action expressed by the verb in the matrix sentence. Unlike the other two types of verb complement previously discussed, the resultative verb complement does not convey the meaning of purpose. Thus, it is referred to as a non-purposive type of verb complement.

An example of a complex sentence which contains a resultative verb complement is:

35.  daææn  čhiik  kra?dàat  khàat
Dang  tear  paper  torn

Dang tore the paper apart.

The above sentence illustrates /khàat/ "be torn" as a verb complement containing the state verb /khàat/ "be torn" which expresses the complete change in the status of the paper as the result of an action stated by the matrix verb /čhiik/ "tear". The structure of the complex sentence can be shown by the following tree diagram:
The above tree diagram shows a structure which is similar to that containing the purposive verb complements (see Sections 6.3.1.1 and 6.3.1.2). However when the verbs in the different types of verb complements are examined carefully, the structural similarity seems superficial. The verb in a resultive verb complement is required to be a stative verb which is in contrast to an action or process verb required in purposive verb complements.

6.3.2.1 Transitive Verbs and Resultative Verb Complements

An examination of transitive verbs which function as matrix verbs followed by resultative verb complements reveals that only certain transitive verbs can occur in that position. Those that can may be divided into three groups:

The first group includes verbs in the agentive transitive verb class which carry the feature [+affect] but not [+caus]. These verbs are for example:

- khāa "kill"
- yīn "shoot"
- tīi "beat"
- čhōk "punch"
- phāw "burn"
- čhiik "tear"
These verbs, set up as a separate class in Chapter IV for the syntactically independent reason that they can occur as complement verbs in the /thuuk/ passive construction with no disagreement in acceptability judgement by native speakers (see Section 4.3), can be observed from the gloss to express an action that can cause a change in the status of the patient. The features [+affect, -fct] specified in the matrices of these verbs have been used to capture this expression. Sentence 35, repeated below, is an example of a sentence which has its matrix verb specified [+affect, -fct]:

35. dææen  čhiik  kra?dàat  khàat
    Dang    tear    paper    torn

\[
\begin{align*}
\text{Dang tore the paper apart.}
\end{align*}
\]

The second group of transitive verbs that can be followed by resultative verb complements includes instrumental verbs such as /phát/ "blow", /mây/ "burn" and /thambil/ "flood", all of which are transitive verbs that do not allow an agentive actant to occur with them. An example of this type of verb functioning as a matrix verb is:
The wind blew the house down.

As can be seen, these verbs, like the first group of verbs mentioned, are also lexically marked with the features [+affect, -fct] and can appear in the /thòuk/ passive construction without any disagreement among native speakers as to their grammaticality.

The third group of transitive verbs that may occur as matrix verbs before resultative verb complements are agentive transitive verbs that are marked with the feature [+affect, +fct]. These include verbs such as /khían/ "write", /sāan/ "build", /yép/ "sew", /wâat/ "draw". An example of a sentence in which this type of verb functions as the matrix verb is:
Dang wrote a book with an effect that it is entertaining.

The feature [+fct], as may be recalled, signals the information that the object of the matrix verb represents the coming into existence of an entity as the result of an action stated by that verb. In the sentence above, /nanśli/ is the entity resulting from the action of /khilan/ "write". This existence of an entity, however, can be brought about simultaneously with an additional quality indicated by the verb in the verb complement. In sentence 37, the additional quality which accompanies the existence of /nanśli/ "book" is /sa?nûk/ "entertaining".

Consequently, it can be said that there are two types of result in the resultative verb complement: the result of the action expressed by the matrix verb marked with the feature [+affect, -fct] and the result of the action expressed by the matrix verb marked with the features [+affect, +fct]. In the former, the result carries the meaning of inflicting change in the status of the object;
in the latter, the result does not carry the meaning of
inflicting change but a specific status of the entity that
comes into existence.

The three types of verbs that allow the resultative
verb complement constitute among themselves a group of
verbs distinct from the others that do not have this
characteristic.

In order to account for the unique characteristic of
the three types of verbs, the following rules are needed:

\[
\begin{align*}
\text{SR-9: } & \{[-\text{strict}] \} \rightarrow [+\text{affect}] \\
\text{RR-12: } & [-([+\text{AGT}])] \rightarrow [+\text{affect}] \\
\text{SR-10: } & [+\text{affect}] \rightarrow [+\text{fct}] \\
\text{SR-iv: } & [+\text{affect} \{[-\text{purpose}] \} \rightarrow [+\text{result}] \\
\text{RR-28: } & [+\text{result}] \rightarrow [+V_-\text{finite} [\text{stative}]]
\end{align*}
\]

The first three rules are rules that have been introduced
in Chapter IV. As may be recalled, they are rules related
to the occurrence potential of the verbs in the /thùuk/ and
the /dooy/ passive constructions. The fourth rule says
that [+affect] verbs which are neither causative nor
purposive verbs, and affected verbs which are also instru-
mental transitives, can occur as a result or non-result
verbs.

While verbs specified with [-purpose, -caus] can be
either [+result] or [-result], verbs marked with [+purpose]
whether specified as [+caus] or [-caus] can only be
[-result]. These facts can be accounted for by the
following rule:

RR-29: [+purpose] ---->[ -result ]

Since verbs marked with [-result] do not allow a resultative
verb complement to follow, a rule such as the following can
be posited:

[-result] ---->[ __ [+V] ]

The rule is not accurate yet since it is not only the verbs
specified [-result] that do not allow a verb complement but
verbs that are at once specified [-purpose] and [-result].
This fact requires the modification of RR-26 and the
redundancy rule given above:

RR-26a: [ [-purpose] ] ---->[ __ [+V] ]

This redundancy rule in effect sets aside the [-purpose]
and [-result] verbs as verbs that do not allow any type of
verb complement whereas verbs specified with features such
as [+caus, +purpose, -result]; [-caus, +purpose, -result] or [-caus, -purpose, +result] occur with different types of verb complements.

The fifth rule above, RR-28, reads that a verb which is specified with [+result] may be followed by a verb which is at once non-finite and stative. The [-result] verb allowed by SR-iv does not, by RR-26a above, allow any verb complement.

The fact that SR-iv is numbered in small roman numerals indicates that it is a late rule. This means that the "result" feature is optional for a certain group of verbs which may or may not occur with the resultative verb complement. Thus, one may have for sentence 35 above a completely acceptable sentence without the resultative verb complement:

35a: ɗăeŋ čììk kra?dàat
       Dang  tear  paper
       Dang tore the paper.

The above is a simple sentence and does not carry resultative meaning.

As with other types of [-finite] verb complements, the resultative verb complement has its subject missing. The missing subject is co-referential with the matrix object. In the sentence /ɗăeŋ čììk kra?dàat khàaat/ "Dang tore the paper apart", the antecedent of the MCS of /khàaat/ "be torn" is /kra?dàat/ "paper" which is the object
of the matrix verb /ɕhǐk/ "tear". To capture this information, the following redundancy rule is set up:

RR-30: \([+\text{result}] \rightarrow [+\text{object control}]\)

What this rule does is to add the feature [+object control] to the matrix of the verb. This feature is necessary for the semantic interpretation rules that establish the antecedent of the missing complement subject. The interpretation rule for the MCS given in the last section can also apply to this feature since the rule already handles [+object control] (see Section 5.3.1.2).

The study of resultative verb complements with transitive verbs reveals no further subcategorization, since the subcategorization marked by the features "affect" and "fct" have already been set up by the occurrence of transitive verbs in the passive constructions.

6.3.2.2 Certain Problems in Connection With the Resultative Verb Complement and the Solution Proposed in This Study

There are complex sentences in Thai which seem to be counter-examples to the analysis of the resultative complement given above. These apparent counter-examples may be divided into two types. An example of the first type is:

38. khǎw yǐn nōk saʔnùk
they shoot bird entertainingly

Their way of shooting birds is entertaining.
The above sentence appears to have the same structure as a complex sentence which contains a resultative verb complement. This structural similarity seems false for the reason that sentence 38 does not mean "They shoot birds with the result that the birds are entertained" as it should if it were a complex sentence with a resultative verb complement. The sentence, instead means "Their way of shooting birds is entertaining". This difference in meaning leads to a hypothesis that the sentence above may have a different structure. To this end, I propose that sentence 38 has the following structure:

According to the proposed structure above, /sa?nùk/ is analyzed as under the node Adv since the meaning of /sa?nùk/ "entertainingly" modifies /yin/ "shoot". The adverb /sa?nùk/ is further claimed to be derived from a verb of the same form: /sa?nùk/ which is a stative verb. Another sentence of the same type as sentence 37 is:

39. pùk khían naŋsiŋ sa?nùk
Pook write book entertainingly

Pook writes entertainingly.
{Pook's way of writing is entertaining.
In the above sentence, /naŋʃiː/ "book" is not interpreted as any particular book but as books in general. It must be observed that if /naŋʃiː/ in sentence 39 is made specific by the use of determiners such as /nán/ "that": /naŋʃiː lêm nán/ "that book", the meaning of the sentence is changed to "Pook wrote a book and made it entertaining" in which instance the sentence is a complex sentence containing a resultative verb complement.

A second interpretation can be given to sentence 38. This interpretation represents another type of sentence that seems a counter-example of a complex sentence containing a resultative verb complement.

38. khəw yin nök saʔnùk
    they shoot bird with-fun

They had fun shooting birds.

According to this interpretation, it is not the birds that are entertained (as they should if the sentence is a complex sentence containing a resultative verb complement) but it is /khəw/ "they" who are entertained. For this interpretation, the structure is probably:
By this structure, they shot birds and they themselves had fun. This same structure can be given to sentence 39 above for an interpretation "Pook had fun writing books". Another example of a sentence that has a similar structure to sentence 38 with the second interpretation is:

40. khāw kin khâaw ?ìm
   he  eat  rice  full
   He ate rice (and) was full.

With these proposed analyses, sentences 38, 39 and 40 which seem counter-examples of the resultative verb complements analysis are explained. One can still say that in a complex sentence containing a resultative verb complement, the object of the matrix verb is the antecedent of the MCS. Other readings in conflict with this statement will turn out to belong to different structures.

6.3.3 Dative Transitive Verbs and Verb Complements

Up to this point, the discussion of verb complements has been involved mostly with agentive transitive verbs and less frequently with instrumental transitive verbs. For the dative transitive verbs, it is observed that in a complex sentence containing one embedded sentence, which is the scope of this study, they do not occur followed by a verb complement. In a complex sentence containing two embedded sentences where the first one obligatorily contains /hây/ "order, allow, cause" however, certain dative
transitive verbs are found to occur as matrix verbs of the whole sentence:

41. khun Cause you will go infatuated girl clf that
\[\text{hay kon} \text{ huar}\text{? thammay na?}\]
let people laugh why FP

Why do you allow yourself to be laughed at by people for becoming infatuated with that girl?

This string of more than one embedded sentence is not covered in this study as mentioned at the beginning of this chapter.

There are in Thai, however, certain sentences that seem to contain dative transitive verbs followed by a verb complement. These are for example,

42. dææen think sell home
\[\text{Dang} \text{ khít} \text{ khǎay bǎan}\]
Dang thinks of selling the house.

43. dææen like mail letter clf that
\[\text{Dang} \text{ lìím thin cõtmaay chabàp nán}\]
Dang forgot to mail that letter.

44. dææen like eat mangoes
\[\text{Dang} \text{ chhopp kin ma?mûn}\]
Dang likes to eat mangoes.

It can be seen from the above examples that all sentences contain matrix verbs that are identical to dative transitive verbs. There is, however, no objective actant present in any of the sentences. The absence of the
objective actant is obligatory and not dependent on the COS since the following sentences are not acceptable:

42(a) *dææn khít pûk khăay bân
    Dang think Pook sell home

(b) *dææn khít tua?eeñ khăay bân
    Dang think himself sell home

The disallowance of the object enables one to say that the matrix verbs are instances of intransitive verbs. This analysis may raise a question of why not considering /khăay bân/ "sell the house", /thîn cötmaay čhabâp nán/ "mail that letter" in sentences 42 and 43 above as the objective actants of the matrix verbs. The evidence against this proposal is that if /khăay bân/ and /thîn cötmaay čhabâp nán/ carry [+AC  OBJ] case, in which case they have to occur under an NP node, they should be able to be topicalized, since this is the common characteristic of the accusative objective actant (see Section 2.1.2.7), yet native speakers do not accept strings such as the following:

42(c) *khăay bân dææn khít
    sell home Dang think
    Sell the house, Dang thinks.

43(a) *thîn cötmaay čhabâp nán dææn liim
    mail letter clf that Dang forget
    Mail that letter, Dang forgot.

The sentences with topicalization corresponding to sentences 42 and 43 which are accepted by native speakers are:
42(d)  bān dāæn khít khãay
       house Dang  think sell

The house, Dang thinks of selling it.

43(b)  čòtmãay čhabâp nán dāæn lîim thîn
       letter  clf  that Dang  forget  mail

That letter, Dang forgot to mail.

which are what we would expect if 42 and 43 are intransitive sentences with verb complements.

Sentence 44 /dāæn čhɔp ɣi mâ?mûn/ "Dang likes to eat mangoes" seems however to differ from sentences 42 and 43 since it allows both:

44(a)  ɣi mâ?mûn dāæn čhɔp
       eat mango  Dang  like

Eating mangoes, Dang likes.

(b)  mâ?mûn dāæn čhɔp ɣi
    mango  Dang  like  eat

Mangoes, Dang likes to eat.

Since sentence 44(a) shows that the topicalization of /ɣi mâ?mûn/ is acceptable, /ɣi mâ?mûn/ can be considered an object NP and /čhɔp/ is thus a transitive verb in this sentence. In spite of this, it can be seen from the translation that 44(a) is not synonymous to 44(b). Sentence (b) with the meaning given, calls for a different structure: /čhɔp/ is claimed to be an intransitive verb because the topicalization in the sentence is parallel to 42(d) and 43(b) and because with this interpretation, 44(b) never allows any other type of topicalization.
These observations of occurrences of /chɔ̄p/ lead to the conclusion that /chɔ̄p/ can be either a transitive verb that may take a derived noun as an object or an intransitive verb that obligatorily requires a verb complement like /khít/ "think" and /liim/ "forget".

By the syntactic evidence in topicalization, it shall be claimed that the matrix verbs in sentences 42-44 (sentence 44 with reading b) are intransitives. Consequently, the statement in the first paragraph of this section that dative transitive verbs are not followed by any verb complement in a complex sentence containing only one embedded sentence is valid.

The "verb complement" in this section turns out, then, to be not directly relevant to the verb complement of transitive verbs, since sentences that appear to contain dative transitive verbs followed by a verb complement are actually either sentences with intransitive verbs and a verb complement or sentences with dative transitive verbs with nominalized objects.

6.3.4 The Resultative Verb /thamhây/

There are in Thai sentences with /thamhây/ "make" as the matrix verb followed by an embedded sentence with the main verb as a stative verb:

45. khwaamrâm thamhây ngáy la?laay
   heat     make  butter  melt

Heat makes butter melt.
46. pùk thamhây dææn ramkhaan  
Pook make Dang irritated  
Pook made Dang feel irritated.

47. pùk thamhây dinsɔ hàk  
Pook make pencil broken  
Pook made the pencil broken.

The verbs /la?laay/ "melted", /ramkhaan/ "irritated" and /hàk/ "broken" in sentences 45-47 are all stative verbs denoting a state of a being as a result of an action /thamhây/ "make". The fact that the embedded verbs are stative verbs eliminates the possibility that /thamhây/ might be a causative verb like /hây/ "order, cause, allow" since /hây/ requires that the embedded verb be a non-stative verb. The difference this requirement makes can be seen in the difference in meaning, for example, between sentence 47 (repeated) and sentence 48:

47. pùk thamhây dinsɔ hàk  
Pook make pencil broken  
Pook made the pencil broken.

48. pùk hây dinsɔ hàk  
Pook cause pencil break  
{Pook had the pencil break.  
{Pook caused the pencil to break.

In sentence 47, the pencil is already broken as a result of Pook's action. In sentence 48, /dinsɔ/ "pencil" is not broken but Dang would cause it to break.
It is claimed in the previous paragraph that /hàk/ is a stative verb in sentence 47 but a process verb in sentence 48. This is supported by the fact that sentence 47 is anomalous if one adds /læ? man ča? hàk/ "and it will break" or /tææ man may hàk/ "but it is not broken". Sentence 48, however, can take both.

47(a) *pük thamhây dinsɔ̀ hàk læ? man Pook make pencil broken and it ča? hàk will break
7(b) *pük thamhây dinsɔ̀ hàk tææ man Pook make pencil broken but it may hàk not break

48(a) pük hây dinsɔ̀ hàk læ? man ča? hàk Pook cause pencil break and it will break Pook causes the pencil to break and it will break.
48(b) pük hây dinsɔ̀ hàk tææ man may hàk Pook cause pencil break but it not break Pook caused the pencil to break but it did not break.

Sentence 47(a) and (b) are anomalous because the added sentences give the information that the pencil is not broken and thus contradicts the fact given in the original sentence /pük thamhây dinsɔ̀ hàk/ in which the broken state of the pencil is expressed. Thus, it is reasonable to consider /hàk/ in sentence 47(a) a stative verb. By the same argument, /læ?laay/ and /ramkhaan/ in sentences 45 and 46 are also stative verbs.
With the verbs in the verb complements as stative verbs, it is reasonable to consider /thamhây/ as a resultative verb in sentences 45-47. Unlike other resultative verbs however, /thamhây/ cannot occur without a resultative verb complement. Sentence 45 is ungrammatical without the verb complement.

45(a) *khwaamrōn thamhây nəəy
heat make butter

The obligatory requirement for the resultative verb complement is considered an idiosyncratic feature to be marked lexically in the lexicon. That is, /thamhây/ is specified in the lexicon as [+__{+V
-finite} \ [+stative]}] among other features.

As a verb that requires a resultative verb complement, /thamhây/ must be either [+affect, +fct] or [+affect, -fct] on the basis of rules that have been set up to account for other verbs that allow resultative verb complements. Examination shows that the possibility for /thamhây/ to be specified [+affect, +fct] is unlikely and whether /thamhây/ can be specified [+affect, -fct] is not clear. Of the following sentences, native speakers accept the first only with reservation and agree in rejecting the second and the third sentences as unacceptable:

45(a) ?nəəy thùk khwaamrōn thamhây ła?laay
butter heat make melt

Butter is melted by heat.
46(a) *daevaŋ thūuk pūk thamḥay ramkhaan
Dang Pook make annoyed

Dang is annoyed by Pook.

47(c) *dinsɔ thūuk pūk thamḥay hàk
pencil Pook make break

The pencil was broken by Pook.

However, native speakers accept the following sentences which are parallel to 46(a) and 47(c) but from which /pūk/ "Pook" has been deleted.

46(b) daevaŋ thūuk thamḥay ramkhaan yûu samɔ
Dang make annoy always

Dang is always made annoyed.

47(d) dinsɔ thūuk thamḥay hàk
pencil make break

The pencil was made broken.

Sentences 46(b) and 47(d) both express meaning of purpose; this meaning is not expressed in 46 and 47. My tentative solution for this complication is that in the purposive interpretation of sentence 46(b) and 47(d) /thamḥay/ is likely to be broken into /tham/ "do, treat" as a matrix verb followed by /hây/ "cause, order, allow" as the verb in the non-causative purposive verb complement, even though by itself it is a causative verb. Under this two-item interpretation of /tham/ and /hây/, the /thūuk/ construction is allowed, as in 46(b) and 47(d) though it cannot occur with the indivisible /thamḥay/ as can be seen in sentences 46(a) and 47(c) above.
As an instrumental transitive verb which allows a resultative verb complement, /thamhây/ "make" is admittedly a unique verb. That is, 1) it requires a verb complement; 2) it is [-affect] verb and consequently does not allow the /thûuk/ construction. Nevertheless, the evidence that the verb in the verb complement is a stative verb and the fact that it conveys a meaning distinct from that of the causative verb /hây/ as illustrated by sentences 47 and 48 should support considering /thamhây/ as a resultative verb.

Further examination of the verb /tham/ "do, treat" followed by /hây/ "cause, order, allow", the verb /hây/ "cause, order, allow" itself and /thamhây/ "make" may shed further light on their interrelationshiop, and especially with regard to the idiosyncracies of the verb /thamhây/. Since this topic is more directly related to causation which can be considered a separate study, no further attempt will be made here.

6.4 Conclusion

The study of the three types of verb complements and transitive verbs reveals that only the causative-purposive verb complement has a role in further subcategorizing transitive verbs. New subcategories have been set up in the category of non-ditransitive verbs. As can be seen from the discussion in Section 6.3.1.1.4, certain causative verbs such as /hây/ "order, cause, allow" are specified for
the feature [+affect, -fct], but some, such as /bɔk/ "order" are not. Those that are marked [+affect, -fct] can occur in the /thuuk/ construction, with no disagreement on the part of native speakers as to the acceptability of such strings. It has also been shown that some causative verbs are derived, for example, /bɔk/ "order" while others are not, for example, /hây/ "cause, order, allow".

While the analysis of causative-purposive verb complements makes it possible to extend subcategorization among transitive verbs previously set up on the basis of case co-occurrences done in Chapter III, the non-causative purposive verb complements do not reveal any further basis for subcategorization, but only confirm the distinction of agentive verbs from dative and instrumental transitive verbs. That is to say, only the agentive transitive verbs allow the occurrence of non-causative purposive complements (see however Section 6.3.3). This agrees with the general idea that the agentive case relation expresses volition or purpose which other case relations do not. This fact also explains why causative verbs can only be agentive verbs, that is, because causative verbs are also [+purpose] verbs.

Similar to the case of non-causative purposive verb complements, the examination of non-purposive resultative verb complements does not suggest setting up any further subcategories. The study of the resultative verb complements supports the
analysis of the subcategories of transitive verbs based on potential occurrences of these verbs in the "passive" constructions. Those transitive verbs presented in Chapter VI being specified for the features [+affect, +fct] or [+affect, -fct] allow the resultative verb complement while, except for /thamhây/ "make", those that carry the feature [-affect] do not. These observations show the significance of the features "affect" and "fct" in the Thai language.

In brief, the study of verb complements has revealed that while the feature "caus" is an inherent feature of verbs, "result" and "purpose" are not; instead, the latter two features are dependent on the syntactic occurrences of the verb complement which may or may not occur after certain transitive verbs.

A result which is not as closely related to the subcategorization of transitive verbs has been achieved in this chapter. This is a demonstration of a viable system for handling complementation without deep structure. The chapter, although it cannot be taken as a complete analysis on complementation in the lexicase framework, has shown that this theory is sufficient to handle complex sentences. It has shown that there is a possibility that the antecedent of the missing complement subject be absent in the string and that such occurrences can be handled without complication.
CHAPTER VII
CONCLUSION

7.1 Evaluation of the Study

7.1.1 Definition of Transitive Verbs

The definition of transitive verbs as [+V, +(+[+NM]), -([+NM] +OBJ)] has included verbs such as /khâa/ "kill" with [+V, +(+[+NM]), -([+NM] +OBJ], +(+[AGT]), -(+[DAT])], /hěn/ "see" with [+V, +(+[+NM]), -([+NM] +OBJ], -(+[AGT]), +(+[DAT])], and /bàat/ "wound" with [+V, +(+[+NM]), -([+NM] +OBJ], -(+[AGT]), -(+[DAT]), +(+[INS])] as transitive verbs, distinct from verbs such as /yım/ "smile", /yuu/ "stay" or /pen/ "be", intransitive verbs which are marked with [+V, +(+[+NM]), +(+[+NM] +OBJ)], and from /mii/ "exist", an existential verb, marked with [+V, -(+[+NM])].

By definition, verbs such as /hěn/ "see" and /klua/ "fear", which are intuitively felt by native speakers in general to be transitive verbs are considered transitive verbs, although, unlike a transitive verb such as /khâa/ "kill", they do not seem to pass on the effect of an action from the actor to the patient. The definition thus enables one to avoid difficulties with the narrow semantic definition given by some traditional grammarians (see Section 3.1.1).
Since the definition given explicitly distinguishes transitive verbs from intransitive verbs, there is no confusion between intransitive verbs such as /pay/ "go" and transitive verbs, as there may be if verbs are defined, for example, by testing sentence frames (see Section 3.1.5). This is because verbs such as /pay/ "go" will be explicitly specified [+[NM] +OBJ] which makes them different from transitive verbs such as /yin/ "shoot" marked [+[NM] -[OBJ]].

Also, the ambiguity of the subject verb construction /khaw pəat/ "He opened (the door/window)" as to whether the subject refers to the actor or goal as observed by Noss (1964: 123) (see Section 3.1.5) can be explained. /khaw/ "he" in /khaw pəat/ "He opened (the door/window)" cannot be understood as [+V, +([NM]), -[NM] +OBJ, +([AGT])] when it is inserted under the node V in the string. The feature [-[NM] +OBJ] in the matrix of /pəat/ automatically indicates the obligatory requirement for the [+AC +OBJ] actant (see RR-2). The missing accusative objective actant in /khaw pəat/ "He opened (the door/window)" is considered the consequence of the omission of the object allowed by the appropriate context of situation. What this means is that although there is no overt object in /khaw pəat/, if /pəat/ is taken as a transitive verb, the object must be presupposed; thus, the ambiguity is traceable to whether the verb is transitive or intransitive.
Noss' suggestion of disambiguating the construction by the insertion of /thųuk/ between S (subject) and V does not seem clear to me. The ambiguity of /khǎw tii/ as to whether it is actor-action does not seem to be disambiguated by the insertion of /thųuk/. This is because /khǎw thųuk tii/ "He is beaten" differs in meaning from /khǎw tii/ "He beats (him)."

The author of this study agrees with Lekawatana (1970) that pairs of homophonous verbs such as /pəət/ "open" in /khǎw pəət pra?tuu/ "He opened the door" and /pəət/ "open" in /pra?tuu pəət/ "The door is opening" are related and that the relationship should be accounted for. The recognition of transitive verbs as verbs that are syntactically distinct from intransitive verbs enables one to see that the accounting for the relationship between the two items by means of optionality of certain cases in the case frame and by the choice of a certain case in the case frame as subject is insufficient and misleading (see Section 4.1.1 and 4.1.2). This study uses a derivational process of transitivization which can explicitly and simply explain the relationship of the words in a pair and at the same time reveal the differences and similarities of the two verbs, as can be seen in Section 4.1.3. Besides the derivational process of transitivization, this study has discussed and mentioned other derivational processes. The use of derivational processes to capture the relationship between two lexical items seems
to reveal a significant characteristic of languages: the use of the old stock of words to create new words that are needed. The derivational process that derives verbs from adjectives, such as /dam/ "be black" (V) from /dam/ "black" (Adj), is familiar to native speakers of Thai. The derivational processes discussed in this study, namely the transitivization and the "potential" intransitivization are two other common processes in the language.

Derivational processes are formally handled by derivational rules, which are different from other types of rules in the grammar in respect to their productivity: the productivity of derivational rules varies. They are rules that show the potential for word formation which exists in the language and which is used only when new words are wanted. Although not as productive as other kinds of rules, the fact that they are available for use when wanted indicates that they have psychological validity, and thus their status as rules in the grammar is justified.

7.1.2 Subcategorization of Transitive Verbs

Transitive verbs according to the definition given in this study have been classified on the basis of the case relation of the nominative actant of the verb into three major subcategories: the agentive, the dative, and the instrumental transitive verbs. These three major subcategories are further sub-classified by case co-occurrences,
as discussed in Chapter III, and by several syntactic-semantic features into a total of 24 sub-groups (see the Appendix).

The syntactic-semantic features posited in this study such as "affect", "fct", "info", "initiating", "caus" and "location" are analyzed as inherent features which decide together with the case features, the constructions in which the verbs can occur or with which the verbs can occur. For example /khaa/ "kill", the non-ditransitive agentive verb which has the case features [+([+AGT]), -(+[+DAT])] and the syntactic-semantic [+affect, -fct] features can occur in the following constructions:

1. [+([+AGT]), -(+[+DAT])]
   khâw khâa nôk tau nân
   he kill bird clf that
   He killed that bird.

2. The passive /thûük/ construction, allowed by [+affect, -fct] features:
   nôk tua nân thûük khâw khâa
   bird clf that undergo he kill
   unpleasant experience
   That bird was killed by him.

3. The resultative verb complement allowed by [+affect, -fct] features:
   khâw khâa nôk tua nân taay
   he kill bird clf that dead
   He killed that bird.
"tell", a ditransitive verb which is specified with the case features [+([+AGT]), +([+DAT])], and also the syntactic-semantic features [-affect, +info, +initiating], can occur in the following constructions:

4. [+([+AGT]), +([+DAT])]:

khâw bɔɔk khwaamláp kàp čhān
he tell secret with I

He told me the secret.

5. The /wāa/ PP allowed by the [+info] feature:

khâw bɔɔk wāa khâw ča? maa
he tell saying he will come

He told (us) that he would come.

As /bɔɔk/ "tell" carries also the [+initiating] feature, it has a corresponding causative verb /bɔɔk/ "order", as in:

6. The causative-purposive verb complement allowed by [+caus] feature:

khâw bɔɔk pùk hūŋ khâaw
he order Pook cook rice

He ordered Pook to cook rice.

As agentive transitive verbs with [-caus] feature, both /kâa/ "kill" and /bɔɔk/ "tell" may occur followed by a non-causative purposive verb complement:

7. The non-causative purposive verb complement allowed by the feature [-caus]:

khâw kâa čhāŋŋ ?aw ņaa
he kill elephant get tusks

He killed an elephant to get the tusks.
8. khāw bōk raŋ nān ?awčay pūk  
   he tell story that please Pook  

   He told that story to please Pook.

/klua/ "fear", a dative transitive verb with the case  
features [-(+AGT)], +(+DAT)] and the syntactic-semantic  
feature [+info] among other features, can occur in the  
following sentences:

9.  

khāw klua čhāŋ  
he fear elephant  

He is afraid of elephants.

10. The /wāa/ PP allowed by the [+info] feature:  

khāw klua wāa pūk ča? maa  
he fear saying Pook will come  

He is afraid that Pook might come.

As a dative verb, /klua/ "fear" cannot be followed by  
a verb complement if the complex sentence contains only one  
embedded sentence:

11. *khāw klua čhāŋ ?awčay thā  
   he fear elephant please she  

   He is afraid of elephants to please her.

Some of the syntactic-semantic features discussed in  
this study are also found in other languages. English  
shows an "information" feature that differentiates such  
verbs as "speak", "read" and "think" from verbs such as  
"kill" that do not have the "information" feature. Tagalog
(Ramos 1973) shows that certain verbs possess [+change of state] while others do not. The semantic feature [+change of state] is comparable to the [+affect] feature used in this study.

The 24 sub-groups of transitive verbs posited in this study differ in at least one feature but may be similar in several others, and the feature notation adopted captures this cross-classification. It explains in terms of the differences and similarities in the features how transitive verbs of different groups may appear in similar constructions.

7.1.3 Verb Complements

The study of transitive verbs and verb complements done in Chapter VI has revealed that the missing subject of the verb complement can be accounted for by means of presupposition and by a claim that the verb in the verb complement is always [-finite]. The study has shown that there is no need to posit an underlying structure where the missing subject is overtly present. This is good evidence to support the claim of lexicase that a deep structure level of any kind and the accompanying transformational rules which are set up in generative transformational grammar to capture the information about the missing constituents in embedded sentences can be dispensed with.
7.2 Further Research

The study of transitive verbs and verb complements in this study has been restricted to a "depth" of only one embedded sentence. This results in the characterization of the dative transitive verbs as verbs that do not convey the meaning of voluntariness. It is, however, observed that when there are two successively embedded sentences, dative verbs can also express the purposive meaning on the condition that the first embedded sentence contain /hây/ "allow, let, order, cause". This still keeps dative transitive verbs different from instrumental verbs, since the latter can never occur followed by a purposive verb complement of any kind. The instance of two embedded sentences with /hây/ as the verb in the first embedded sentence is also found with transitive verbs that are agentive transitive verbs. These occurrences of two embedded sentences require further research, which may eventually explain the meaning of "voluntariness" and also the behaviour and status of the word /hây/ in Thai. A further study of /hây/ should include an investigation of /thamhây/ "make", which as pointed out in Chapter VI is a problem verb and has been provisionally analyzed as an instrumental transitive verb. Such a study can bring a more definitive solution to the problem of /thamhây/ (see Section 6.3.4).
Besides the possibility of further study of verb complements, the derivational processes that are involved with transitive verbs can be looked into more deeply with the goal of establishing the history and predicting the direction of derivational processes of transitivization and intransitivization.

The present study of transitive verbs is not claimed to be a complete analysis of transitive verbs in Thai. Yet the study has presented characteristics of transitive verbs in relation to the syntactic-semantic features which lead to the well-motivated classification of transitive verbs and which explain the occurrences and behaviour of transitive verbs in various constructions in Thai.
APPENDIX

The list in the Appendix contains the transitive verbs found in the data more than three times. The list shows the classes of transitive verbs decided on the basis of case co-occurrences and on the basis of the syntactic-semantic features which result from the occurrences of transitive verbs in passive constructions, in complex sentences with different types of verb complements, and in sentences that contain the /wâa/ prepositional phrase. The list given must be understood as representative and by no means complete.

For reference convenience, the tree diagram illustrating all classes of transitive verbs posited in this study is given in Figure 6.

1. Initiating, information agentive ditransitive verbs
\([+([+AGT]), +([+DAT]), [+info], [+initiating]]\)
- bōk "tell", sōnn "teach", nāhı̆nam "advise",
- tian "remind, warn", sān "order", čhān "invite",
- lōk "deceive".

2. Non-initiating, information agentive ditransitive verbs
\([+([+AGT]), +([+DAT]), [+info], [-initiating]]\)
- thāam "ask", tāop "answer", aʔthí̄baay "explain",
- phímpham "murmer", lāw "narrate", bōn "grumble, complain",
- dāa "scold, curse", kraʔsíp "whisper",
Figure 6
Subcategories of Transitive Verbs in Thai
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banyaay "describe", sāraphāap "confess",
sānopthāam "investigate", čhom "praise", wāa "scold,
say", čāēē "inform", thān "argue", wī?čāan "criticize",
rian "learn", čhīčēē "clarify"

3. Non-information, agentive ditransitive verbs [+(+AGT)],
+( [+DAT]), [-info]]
hāy "give", fāak "entrust", yīm "borrow", sīī "buy",
sōn "send", khāy "sell", čāñēk "distribute",
thawāy "give, to the monks or royal family"

4. Strict location agentive transitive verbs [+(+AGT)],
-([+DAT]), [+location], [+strict]]

This class contains few members; the verbs listed are
the only verbs found in the data. The class is most likely
closed.
sày "put", tāīm "add".

5. Information, factitive, non-strict location agentive
transitive verbs [+([+AGT]), -(+DAT)], [+location],
[-strict], [+affect], [+fct], [+info]]

Similar to the strict location verb class, this class
of transitive verbs contains few members and is probably a
closed class.
khān "write", phīm "type"

6. Non-information, factitive, non-strict, location
agentive transitive verbs [+([+AGT]), -(+DAT)], [+location],
[-strict], [+affect], [+fct]. [-info]

wâat "draw", khîit "draw a line", râan "sketch",
tââem "daub", sâk "tattoo".

7. Non-factitive, non-strict, location agentive transitive verbs [+([+AGT]), -([+DAT]), [+location], [-strict], [+affect], [-fct]]

tôm "boil", thâst "fry", chââem "soak",
bânču? "put in", khâan "confine".

8. Information, non-affected, non-strict, location agentive transitive verbs [+([+AGT]), -([+DAT]), [+location], [-strict], [-affect], [+info]]

čőt "take note", tâem "add".

9. Non-information, non-affected, non-strict, location agentive transitive verbs [+([+AGT]), -([+DAT]), [+location], [-strict], [-affect], [-info]]

waan "put down", lûan "reach in", tit "glue",
khwââem "hang", kêp "put away", thaa "to smear, to paint".

10. Information, factitive, non-location agentive transitive verbs [+([+AGT]), -([+DAT]), [-location], [+affect], [+fct], [+info]]

tââem "compose", râñ "sing".
11. Non-information, factitive, non-location agentive transitive verbs [+([+AGT]), -([+DAT]), [-location], [+affect], [+fct], [-info]]
   yẹp "sew", thàk "crochet", sàan "weave", tham "make",
   tât "tailor", kọọ "construct", sàan "build", thọọ "weave", lọọ "mold".

12. Causative, affected, non-location agentive transitive verbs [+([+AGT]), -([+DAT]), [-location], [+affect], [-fct], [+caus]]
   háy "cause, allow, let", chày "order", lọọk "deceive",
   sèek "cause by witchcraft", waan "request".

13. Non-causative, affected, non-location agentive transitive verbs [+([+AGT]), -([+DAT]), [-location],
    [+affect], [-fct], [-caus]]
   khàa "kill", tè? "kick", chìik "tear", tī "beat",
   yịn "shoot", phàw "set fire", thàọẹn "stab",
   chọk "punch", càp "arrest", thàmọẹy "assault, harm",
   chànnam "pawn", tọọk "hammer", tām "pound", khọn,
   "search", nàt "pry up", khọt "dig up", tät "cut",
   cịi "rob", sịap "pin, pierce", làk "steal", chìan
   "cut off", phà "cut open", fàn "slash", rài "tear
down", thọọn "pull up", chọn "bump into", rābọọt
   "bomb", kàt "bite", thup "punch", čoomtìi "attack",
   rūkraan "evade", phlàk "push down", lọm "fell",
   pràap "suppress", yàan "broil".
14. Information, non-affected, non-location agentive transitive verbs [+([+AGT]), -(+[DAT]), [-location], [-affect], [+info]]

?aam "read", râem "begin", thâktahaay "greet",
daw "guess", plòop "console", tâtsîn "judge",
thôn "recite", rîak "call".

15. Causative, initiating, non-information, non-affected, non-location agentive transitive verbs [+([+AGT]), -(+[DAT]), [-location], [-affect], [-info], [+initiating], [+caus]]

bôok "order", nê?nam "advise", sàñ "command",
tîan "remind, warn".

16. Non-causative, initiating, non-information, non-affected, non-location agentive transitive verbs [+([+AGT]), -(+[DAT]), [-location], [-affect], [-info], [+initiating]]

chây "use", plêy "release".

17. Non-initiating, non-information, non-affected, non-location agentive transitive verbs [+([+AGT]), -(+[DAT]), [-location], [-affect], [-info], [-initiating]]

ruam "gather", sanàpsanûn "encourage", sâk "wash",
lîak "choose", láan "wash", čûn "lead by hand",
pêst "open", râp "receive", kwàat "sweep", ?aw "take", thîi "hold", duulææ "take care of",
lîan "feed", nam "bring", yîin "hand to",
râksa "take care", chûay "help", khlum "cover",

18. Possessive dative transitive verbs [-([+AGT]), +([+DAT]), [+possess]]

From the data, this subclass has only one member:
mii "have".

19. Perception dative transitive verbs [-([+AGT]), +([+DAT]), [-possess], [+percep]]

hēn "see", dâyyin "hear".

20. Emotion dative transitive verbs [-([+AGT]), +([+DAT]), [-possess], [-percep], [+emot]]

rák "love", čhɔɔp "like", sìadaay "regret", bìa "tired of", kliat "dislike", hēnčay "sympathize with", lōn "infatuated with", rānkìat "dislike".

21. Cognition dative transitive verbs [-([+AGT]), +([+DAT]), [-possess], [-percep], [-emot], [+cog]]

rùu "know", liım "forget", klua "fear", sâap "know", čam "remember", hùan "worry", khìt "think", sōnsây "doubt", sōnčày "be interested in", čhìa "believe".
22. Factitive instrumental transitive verbs [-(+[AGT]), -(+[DAT]), +(+[INS]), +affect, +fct]
    kʰian "write", sāgə "build", yēp "sew", sān "weave",
    phim "type".

23. Wound instrumental transitive verbs [-(+[AGT]), -(+[DAT]), +(+[INS]), +affect, -fct, +wound]
    bāat "wound", fan "slash", thææŋ "stab",
    yiŋ "shoot", tāt "cut", čhían "cut off",
    hàn "chop".

24. Non-wound instrumental transitive verbs [-(+[AGT]), -(+[DAT]), +(+[INS]), +affect, -fct, -wound]
    mây "burn", khlɔɔk "scorch", thuam "flood",
    pían "soil", phàt "blow".


Hashimoto, Anne Yue. 1964. Resultative Verbs and Other Problems. POLA 8: 36-94. The Ohio State University.


