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KUSAIEAN VERBAL DERIVATION RULES.

University of Hawaii, Ph.D., 1974
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ABSTRACT

The aim of this dissertation is to discover underlying semantic regularities involved in Kusaiean verbal derivations. Derivation in this study refers to a way of predicting the existence of a set of new words on the basis of words that already exist. Two kinds of derivations are distinguished in Kusaiean: aspectual and nonaspectual. Aspectual derivations derive words that are aspectually related to the input words; nonaspectual derivations derive words of different (sub)classes.

Generalizations concerning the derivations are presented in the form of derivational rules. For formulating the rules, the lexicase model is chosen among other possible models because it can best account for relatedness among lexical items. In this model underlying case relations and case forms are entered on verbs as features representing their concomitant noun phrases. These case frame features play an important role in constraining the input words to derivational rules and in accounting for the properties of the derived words.

The following underlying case relations are posited: agentive, instrumental, objective, factive, neutral, dative, time and place. The following case forms are used in Kusaiean: nominative, accusative, dative, locative, source
One grammatical category that has received little attention—or which has been treated in passing—in generative grammar is aspect. In order to complement this lack of attention, an extensive review of the literature on aspect is made. Most of the studies reviewed are insightful but fragmentary in the sense that only part of an aspectual system is treated, and the observations made are often too vague and loose to be directly applicable to data other than those of the studies themselves. The review does reveal that the study of aspect must take into consideration the following factors: (1) the inherent natures of verbs, such as [+stative], [+motion], [+instantaneous] and [+cumulative], (2) the nature of associated noun phrases in terms of [+specified] and [+plural], (3) the relations of verbs to the associated noun phrases, and (4) the resultant states that can be brought about by the action of the verb.

An overall framework for the study of aspect is proposed, using the features above. The framework is applied to Kusaiean data and proves capable of predicting the number and kind of perfective forms verbs can assume, and of accounting for the meanings of the perfective forms. In other words, the proposed framework helps reveal underlying semantic regularities in Kusaiean aspectual derivations.
The present work is organized in the following way. Chapter I gives general background information about the Kusaiean language. Chapter II includes a short account of Kusaiean syntax and a review of different proposals for the treatment of derivations. The review is made in order to choose a proposal that will best serve the purpose of this study. Underlying case relations and case forms are postulated. A set of rules which derive adjectives and verbs in presented in Chapter III. Chapter IV contains a review of the literature on aspect and a new proposal for treating that category. A general overview of the Kusaiean verb system is made in Chapter V. In Chapters VI and VII Kusaiean dat\' are examined in the proposed framework, and a number of aspectual derivations and redundancy rules are presented.
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CHAPTER I
INTRODUCTION

1.1 General Background

Kusaiean is spoken on the island of Kusaie, one of the eastern Caroline Islands. Its coordinates are approximately 162°-163° E and 5° N and the island is approximately 42 square miles in area. Lying approximately 307 miles south-east of Ponape, its nearest neighbors are the atolls of Mokil and Pingelap. There are around 4,000 people living on Kusaie, with a sizeable number of Kusaieans also living in Kolonia, Ponape. Smaller enclaves can be found on Kwajalein and Majuro atolls in the Marshall Islands.

1.2 Previous Works

Not much work has been done on the Kusaiean language. This limited material will be surveyed briefly in the following paragraphs.

A photocopy of fourteen pages of handwritten notes on Kusaiean by E. T. Doane exists in the Pacific Collection of Sinclair Library, University of Hawaii. There is no indication as to who Doane was or when he wrote the notes. The Notes cover various aspects of Kusaiean such as the pronouns, conjunctions, prepositions, etc. They are too sketchy to be of any real use.

In 1825 a Frenchman named Lesson published a book
NOTICE SUR L'ILE DE OUALAN OU STRONG (Observations on Wacluhng or Strong Island). One notable feature of the book is that it includes a French-Kusaiean word-list of 260 items. The transcription of the Kusaiean words seem to have been strongly influenced by Lesson's French spelling. The words for 'bird' and 'night', for example, are recorded as mone and fonga, respectively. Compare these with their standard spellings won and fong.

Since Lesson's transcription of Kusaiean words was probably heavily influenced by his French, we do not know exactly how the Kusaiean words he recorded were pronounced. Nevertheless, his word-list can shed some light on sound changes that have taken place in Kusaiean since 1825. The word meaning 'bird', for instance, recorded as mone by Lesson, is now pronounced as von [wo:n]. The initial m in mone seems to have changed to v.

In 1898 F. W. Christian published an article, "Table of letter-change in the dialects of Ponape and Kusaie (Eastern Carolines)." Christian compared cognates of Ponapean and Kusaiean on the basis of then current Ponapean and Kusaiean spellings. As a result there are many questionable correspondences. But despite the many shortcomings of Christian's approach, his presentation of approximately 226 pairs of Ponapean-Kusaiean cognates is quite impressive. And the mere fact that he regarded Ponapean and Kusaiean as dialects of the same language is interesting.
In 1966 David P. McCauley wrote a language textbook *Lessons in Kusaiean*. The text consists of thirty lessons, with a few grammatical notes in each lesson. The book, designed to be used by Peace Corps volunteers going to Kusaie, was the first substantial work on Kusaiean.

Walter S. Wilson's doctoral dissertation (University of Pennsylvania, 1969), although an anthropological work, records many important linguistically relevant facts such as the names of different fishing methods and the names of breadfruit, oranges and many other plants.

Recently Ethel Vesper has been working on Kusaiean. Her works which treat selected topics of Kusaiean grammar, are included in the list below.

The following is a list of works on the Kusaiean language.


1.3 Consultants

The following two persons helped me with the preparation of this dissertation as language consultants.

Elmer Asher (1930- )
Lyndon Cornelius (1946- )

Both were participants in the Pacific Language Development Project, a cooperative project sponsored by the Government of the Trust Territory of the Pacific Islands, the East-West Center, and the University of Hawaii from 1970 until 1974. Lyndon Cornelius was my first consultant from September 1970 through June 1972, and Elmer Asher filled this capacity as an official representative from Kusaie from September 1972 through May 1974.

1.4 Orthography

A new spelling system was adopted by the Kusaiean Orthography Committee in January 1973. In this dissertation Kusaiean is written according to the new spelling system. The following is a list of symbols and their phonetic values.
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Velarized consonants are marked by the symbol w, as in the following:

| pw               | [p]            | kw               | [k]            |
| tw               | [t]            | ngw              | [ŋ]            |
| lw               | [l]            | rw               | [r]            |
| fw               | [f]            | sw               | [s]            |
| srw              | [s]            |                   |                |

Rounded consonants before the vowels e and ac are marked by the symbol o as in the following.
1.5 Scope, Purpose and Theoretical Framework

The purpose of this dissertation is to account for the syntactic and semantic functions of verbal affixes in Kusaiean and to examine the relatedness of lexical items. There are two classes of verbal affixes. One is used to change parts of speech or case frame features of verbs, and the other is used to denote different verbal aspects. The former class of affixes will be called derivational affixes and the latter will be called aspectual affixes.

The theoretical framework adopted is lexicase, a variant of Fillmore's case grammar. Some characteristics of this model are as follows (Starosta 1974:1):

Briefly, lexicase is a generative but non-transformational approach to syntax. It has no distinct deep structure and no transformations, and instead relies on Phrase Structure Rules (PSR), and Subcategorization (SR) and Redundancy Rules. It captures the relationship between sentences by means of Derivation Rules (DR), rules that formally state the analogical pattern on the basis of which one set of lexical items may be derived from another set. Case phenomena are described in terms of features on lexical items: intrinsic features of case form and case relation on nouns, determiners, and prepositions, and contextual case frame features on verbs and prepositions.

The lexicase model consists of three major components: a base component which lists the phrase structure rule, a
lexicon, and a phonological component. The lexicon has two main subcomponents. One is a list of lexical entries with their unpredictable grammatical category features, phonological features, case features, semantic features, and some other features. The other component consists of derivational rules and some other subcategorization and redundancy rules. A semantic component may be necessary when some other aspects of Kusaiean such as pronominalization or focusing are studied. But for the present purpose it is not necessary, as will be seen in subsequent chapters.

The present study is mainly concerned with the derivational rules in the lexicon. These are rules that are used to predict the existence of other lexical items on the basis of existing lexical items. Two types of derivational rules are recognized for the sake of convenience. One is used to predict the existence of other lexical items which are related aspectually to the input item. For instance, the verb *kang* 'to consume' has the following aspectually related forms: *kang-ack* 'to have started consuming but not finished it' and *kang-lah* 'to have consumed all'. The term *aspectual derivation* is used to refer to the process of deriving such forms. The term *derivation* is used to refer to derivations other than aspectual derivations.

In the discussion of the lexicon, information for each type of lexical entry is presented. This is followed by the postulation of a set of underlying case relations. The
exact number and kind of the underlying case relations are still a moot question: different investigators propose different number and kinds of underlying cases. Basically, I follow Fillmore's case inventory, although some significant changes are made. Fillmore's "wastebasket" Objective case is subdivided into Objective and Neutral cases. Instead of postulating Goal and Source as separate cases, in this study they are subsumed as subtypes of Dative, Locative and Time cases.

In Chapter Three, the following derivational rules are presented: transitivization, instrumentalization, causativization, reciprocalization, adjectivization, passivization, and the derivation of intransitive verbs from transitive verbs.

Chapters Four and Five are preparatory for the discussion of the aspectual derivations. In Chapter Four a survey of traditional definitions and treatments of aspect is made. The distinction between tense and aspect is drawn. From the survey of the literature, we find the following points are emphasized in the discussion of the aspectual system of different languages, such as Russian, French, English and Dutch: (1) the inherent nature of verbs, and (2) the relation that verbs hold with other actants in a sentence.

The insights that we can gather from the literature are very useful. But they are not rigorously defined, or in
case they are defined, the definitions are too loose and vague to be applied to other data. On the basis of insights gathered from the literature, a new classification of verbs is proposed.

In Chapter Five a general survey of the aspectual system of Kusaiean is made. The main purpose of this chapter is to point out the problems that are to be dealt with in the subsequent chapters, Six and Seven. In the same Chapter, some general characteristics of imperfective and perfective forms are noted. Lastly, the use of the directional suffixes as perfective markers is examined.

Chapter Six deals with the features [+stative], [+motion], [+instantaneous] and [+telic]. The purpose of this chapter is to predict different perfective forms of verbs and their meanings, using the features above. In 6.1, characteristics of stative verbs and adjectives are noted and their perfective forms and their meanings are represented in the form of aspectual derivational rules. In this section it is claimed that even nonstative verbs can be used in the stative sense.

In 6.2, nonstative verbs are classified into two classes of motion and nonmotion verbs. Motion verbs are again subclassified into [+abstract] motion verbs. [-abstract] motion verbs are those that are related to physical changes of location. [+abstract] motion verbs are those that are related to buying, selling or verbal communication. The
perfective forms of [-abstract] motion verbs have an additional meaning of locomotion, whereas those of [+abstract] motion verbs denote that something changes hands.

In 6.4-6, Garey's concept of the telic and atelic nature of verbs is made explicit using case-frame features. Using this set of features, some interesting generalizations can be made. In 6.7, the features [+instantaneous] are taken up. Instantaneous verbs are those whose beginning and end are almost simultaneous and difficult to tell apart. Non-instantaneous verbs are those whose beginning and end are spaced sufficiently apart to be discernible. In 6.8, phenomena of multiple occurrences on a single object and totalization of a number of actions on a set of objects are dealt with.

Chapter Seven deals with reduplication. The following meanings are conveyed by reduplication: diffuseness, multiplicity, discontinuity or casualness. It is shown that these different meanings can be made predictable with the use of the features presented in Chapter Six and case-frame features.
CHAPTER II

PHRASE STRUCTURE RULES AND LEXICON

2.1 Introduction

This chapter presents the phrase structure rules and the structure and function of the lexicon. A list of phrase structure rules (hereafter PSR) is presented and the rules are discussed in 2.2. The number of PSR's is small. They state broad generalizations about constituents and their order in sentences. Generalizations about cooccurrence restrictions between the constituents are made in the lexicon.

In the second half of this chapter the composition of the lexicon is presented together with a review of derivational rules. Underlying case relations are posited and case forms and case markers are presented in 2.4.1-2.

2.2 Phrase Structure Rules

The following is a list of phrase structure rules postulated for Kusaiean.

PSR 1
\[ MS \rightarrow S \ (\text{Conj} S)^n \]

PSR 2
\[ S \rightarrow (NP) \ (SM) \ (TM)^n \ (ADV) \ \left\{ \begin{array}{c} V (OM) \\ Adj \\ FM \end{array} \right\} (NP)^n \ (PP)^n \]

PSR 3
\[ NP \rightarrow \left\{ \begin{array}{c} NP \ (\text{Conj} NP)^n \\ \text{Conj} S \\ N \ (Adj)^n \ (Num) \ (Cl) \ (NP \ S) \ (Det) \end{array} \right\} \]
2.2.1 Glossary of Abbreviations

The following abbreviations are used in the PSR's above.

- **MS**: macrosentence
- **S**: sentence
- **Conj**: conjunction
- **SM**: subject marker
- **ADV**: adverb
- **TM**: tense-mode marker
- **V**: verb
- **OM**: object marker
- **NP**: noun phrase
- **Adj**: adjective
- **Num**: numeral
- **Cl**: classifier
- **Det**: determiner
- **FM**: focus marker
- **PP**: relative clause
- **PP**: prepositional phrase

2.2.2 Discussion of PSR's

2.2.2.1 PSR 1

PSR 1 is postulated to account for sentences which are joined by coordinate conjunctions. A list of coordinate conjunctions is listed below.

- **ac** 'and': used to list different states or events.
- **a** 'but': used to show contrast.
- **twe** 'and accidentally': used to indicate that an
event takes place accidentally while another event is taking place.

**nwe** 'and finally': used to indicate that an event has been taking place for a while before another event follows.

**na** 'and then': used to indicate that one event has come to an end and then another event, closely related to the preceding one, takes place.

**tuh** 'but': used to indicate unexpectedness.

The conjunctions listed above are illustrated in the following sentences.

1. 

   [Sepe el som nuh Kosrae]_{ac} [Sah ei som nuh Ponpe.]

   Sepe she go to Kusaie Sah he go to Ponape

   'Sepe went to Kusaie and Sah went to Ponape.'

2. 

   [Kuhn el orekma upac]_{a} [Tuhlwen el an mutul.]

   Kuhn he work hard Tuhlwen he lie sleep

   'Kuhn is working hard but Tuhlwen is sleeping.'

3. 

   [Nga twem mitmit sac]_{twe} [nga eyac pouk.]

   I sharpen knife the I cut hand-my

   'I cut my hand accidentally as I was sharpening the knife.'

4. 

   [Sohn el otwot fohtoh]_{nwe} [el ullac.]

   John he weave basket he tired

   'John wove baskets for a while and he became tired.'

5. 

   [Sah el muhsahelah lohm sac]_{na} [furoh se sikiyak.]

   Sah he build house the wind one arise

   'Sah built the house and then the wind arose.'

6. 

   [Tuhlihk sac twen niyac]_{tuh} [srwack na fohkfohk.]

   child the wash leg-his still dirty

   'The child washed his legs but they are still dirty.'
2.2.2.2 PSR 2

PSR 2 contains all the major constituents sentences can have. Each of these constituents will be examined below.

Subject Marker (SM) and Object Marker (OM)

The subject marker, which is el in form, must be chosen when the grammatical subject is a proper human noun such as Kuhn or Sohn. Observe the following set of examples. (The symbol * is used to indicate ungrammatical sentences.)

(7) Sohn el tuhkuh ekweyah.
    John he come yesterday
    'John came yesterday.'

(8) *Sohn tuhkuh ekweyah.
    John come yesterday
    'John came yesterday.'

Sentence (1) is grammatical, but sentence (2) is not because the subject marker el is not present. Observe the following pair of sentences.

(9) *Tuhlilhk sac el tuhkuh ekweyah.
    child the he come yesterday
    'The child came yesterday.'

(10) Tuhlilhk sac tuhkuh ekweyah.
    child the come yesterday
    'The child came yesterday.'

The head nouns of the subject noun phrases in (3-4) are not proper human nouns. In such a case the subject marker must not be used. This is the reason sentence (3) is ungrammatical.
The object marker, which is uhl in form, must be used when the object of a transitive verb is a proper human noun. Observe the following.

(11) Sah el fotong uhl Kuhn.
    Sah he kick him Kuhn
    'Sah kicked at Kuhn.'

(12) Sah el futung tuhlihk sac.
    Sah he kick child the
    'Sah kicked at the child.'

Both sentences (11-12) are grammatical. The object of the transitive verb in (11) is a proper human noun and the object marker is used. The object in (12) is not a proper human noun and the object marker is not used.

The following two sentences are ungrammatical because the object marker is not used properly.

(13) *Sah el fotong uhl tuhlihk sac.
    Sah he kick him child the
    'Sah kicked the child.'

(14) *Sah el futung Sohn.
    Sah he kick John
    'Sah kicked at John.'

In (13) the object marker is used when it should not be. In (14) it is not used when it should be.

Tense-Mode Markers (TM)

The tense-mode markers refer to a set of words which help relate a narrated event to the moment of speaking and
to a reference point, and which help indicate the way a speaker views the event. A list of tense-mode marker with brief descriptions follows.

<table>
<thead>
<tr>
<th>Marker</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ac</td>
<td>(prediction): an event will take place according to a schedule, arrangement or natural law.</td>
</tr>
<tr>
<td>fah</td>
<td>(volition and choice): a speaker will be responsible for an event to take place.</td>
</tr>
<tr>
<td>tuh</td>
<td>(past): an event happened before the moment of speaking and the event is viewed as accidental.</td>
</tr>
<tr>
<td>nuhnuh</td>
<td>(continuation): an event or state have been continuing from a reference point in the past up to the moment of speaking.</td>
</tr>
</tbody>
</table>

The tense-mode markers are used in the following sentences.

(15) a. Sohn el ac tuhkuh lutu.  
John he will come tomorrow  
'John will come tomorrow.'

b. Sohn el fah tuhkuh lutu.  
John he sahll come tomorrow  
'John shall come tomorrow.'

c. Sohn el tuh mas.  
John he sick  
'John was sick (which is unexpected).'

d. Sohn el nuhnuh mas ke wik met ah me.  
John he sick week last the from  
'John has been sick since last week.'

The tense-mode markers can combine with each other to
produce two or three-word tense markers. In some cases, the meanings of combined tense-mode markers seem to be predictable from their individual meanings, but in other cases they are not. For example, the meanings of these two combined forms seem predictable.

ac nuhnuh (prediction and continuation): a state or event will go on in the future.

tuh nuhnuh (past and continuation): a state or event used to go on in the past.

But the meaning of the following combined form is not.

tuh fah (past and volition): an event took place immediately before, or an event will take place in an immediate future.

Adverbs (ADV)

The following is a list of the adverbs that have been found so far.

<table>
<thead>
<tr>
<th>Adverb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>arlac</td>
<td>'very'</td>
</tr>
<tr>
<td>srwack</td>
<td>'still'</td>
</tr>
<tr>
<td>ke</td>
<td>'quickly'</td>
</tr>
<tr>
<td>wac</td>
<td>'always'</td>
</tr>
<tr>
<td>kwac</td>
<td>'constantly'</td>
</tr>
<tr>
<td>suhkwac</td>
<td>'seldom'</td>
</tr>
</tbody>
</table>

The words listed above are commonly used with another adverb na 'very'.

\[1\]
Verbs (V) and Adjectives (Adj)

The main purpose of this dissertation is the study of verbal derivations. Semantic and syntactic features, and case frame features to be entered for verbs and adjectives will be presented in Chapters Six and Seven.

Focus Marker (FM)

There are two types of equational sentences. One type requires the focus marker, which is pa in form, and the other does not require it. The presence of the focus marker depends upon the definiteness of the noun phrases used in equational sentences. Observe the following equational sentences.

\[(16) \quad [Mwet sac]_{NP} \quad [taktuh se.]_{NP} \]
\[
\text{man the doctor one} \\
\text{'The man is a doctor.'}
\]

\[(17) \quad [Mx sacn]_{NP} \quad [oak soko.]_{NP} \]
\[
\text{thing that canoe one} \\
\text{'That thing is a canoe.'}
\]

Notice that the first NP's in (16-17) are definite, but the second are not. This type of equational sentence is predicational: the first NP has the property of the second NP.

In the following sentences the FM is used.
(18) [Mukul se]_{NP} pa [Sohn].
man one John
'John is a man.'

(19) [Oak soko ah]_{NP} pa [ma lal Sah ah.]_{NP}
canoe one the thing Cl-his Sah the
'The canoe is Sah's thing.'

In an equational sentence with the FM the first NP can be either definite or nondefinite, but the second must be definite. In such equational sentences a known thing or person is identified with another. The post-\textit{pa} does the identifying and the pre-\textit{pa} NP is identified.

The two types of equational sentences may be represented in the following way.

<table>
<thead>
<tr>
<th></th>
<th>NP\textsubscript{1}</th>
<th>NP\textsubscript{2}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predication</td>
<td>+ definite</td>
<td>+ definite</td>
</tr>
<tr>
<td>Identification</td>
<td>+ definite</td>
<td>+ definite</td>
</tr>
</tbody>
</table>

2.2.2.3 PSR 3

PSR 3 is an abbreviation of three rules. The first part of it accounts for coordinate NP structures such as the following ones.

(20) [ [mwet sac]_{NP} ac [kuhtwacn sac]_{NP} ]_{NP} masack.
man the and woman the sick-up
'The man and the woman became sick.'
The second part of PSR 3 states that a sentence introduced by a conjunction can be a noun phrase. The two conjunctions lah and muh are used to introduce sentential noun phrases. The conjunction lah is used when the embedded sentence is an interrogative sentence, and the conjunction muh is used when it is not.

The use of the two conjunctions is exemplified in the following sentence.

(21) Sepe el siyuhk sihk lah [nga ac som kuh tiyac]$_S$
Sepe she ask of-me I will go or not
'Sepe asked me whether I would go or not.'

(22) Sah el siyuhk sel Ninac lah [meac muhsahllah]$_S$
Sah he ask of-his mother what broken
'Sah asked his mother what was broken.'

(23) Nga nuhnkuh muh [Sah el mas]$_S$
I think that Sah he sick
'I think that Sah is sick.'

(24) Nga fahk muh [Sohn pa kuluk uh]$_S$
I say John FM bad the
'I am saying that it is John that is bad.'

The last part of PSR 3 contains all the constituents that can potentially occur in a noun phrase, and it states their relative order. In what follows we will briefly examine the constituents.

Nouns (N)

Nouns in Kusaiean can be classified in the following way.
Nouns are classified into two groups of proper and non-proper nouns. Proper nouns are subclassified into human and nonhuman nouns. Nonproper nouns are subclassified into alienable and inalienable nouns and into human and nonhuman nouns. In what follows we will examine some of the characteristics of each subclass of nouns.

Proper human nouns are personal nouns such as Kuhn, Sepe, Sah or Tuhlwen. When these nouns are used as the grammatical subject or the object of a transitive verb, the subject marker el and the object marker uhl must be used, respectively.

Proper nonhuman nouns are commonly place names such as Ponpe, Kosrae or Utwac. These nouns cannot be used as the grammatical subject or the object of a transitive verb. The following sentences are not grammatical.

(25) *Ponpe arlac wo.
    Ponape very good
    'Ponape is very good.'

(26) *Nga tuhfah sun Ponpe ke yac met ah.
    I just reach Ponape year last the
    'I just reached Ponape last year.'

Nonproper nouns are subclassified into alienable and
inalienable nouns. The distinction between them is drawn on the basis of the possessive pronoun suffixes. Those nouns that can take possessive suffixes are inalienable and those that cannot are alienable nouns. Words that belong to the following sets are usually inalienable.

(27) a. Names of body parts such as 'nose', 'ear', etc.
    b. Nouns that denote spacial relations such as 'side', 'top', 'bottom', etc.
    c. Ke 'place' and se '(animate) place', which are used as case markers. (See 2.4.2.)

The word meaning 'leg', for instance, is an inalienable noun and it can have the following suffixed forms.

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free form</td>
<td>ne</td>
<td></td>
</tr>
<tr>
<td>1st person form</td>
<td>niyuhk</td>
<td>niyuhktacl</td>
</tr>
<tr>
<td>2nd person form</td>
<td>niyom</td>
<td>niyomtacl</td>
</tr>
<tr>
<td>3rd person form</td>
<td>niyac</td>
<td>niyacltahl</td>
</tr>
<tr>
<td>Construct form</td>
<td>niyen</td>
<td>niyen</td>
</tr>
<tr>
<td>Impersonal form</td>
<td>niyac</td>
<td>niyac</td>
</tr>
</tbody>
</table>

Nonhuman nouns are subclassified into three groups as locative, time and others. Place names such as Kosrae or Ponpe are [+proper, -human, +locative] nouns. Nouns that denote spacial relations such as kapihn 'end of', sisken
'side of', or muhtuhn 'front of' are [-proper, -alienable, +locative] nouns. Nouns which are derived from other nouns with the addition of the prefix in-, such as insack 'forest' (from sahk 'tree'), inkof 'lagoon' (from kof 'water') or inum 'kitchen' (from um 'earth oven') are [-proper, +alienable, +locative] nouns.

One characteristic of [+locative] nouns is that they can be used as Place actants without any case marker. Compare the following sets of sentences. In (28) the underlined nouns are [+locative], and no marker is used. In (29) the underlined nouns are [-locative] and the inalienable noun ke is used.

(28) Sah el muhta {Kosrae.}
    Sah he stay {Kusaie}
    muhtuhn lohm sihk ah. \{front-of house my the\}
    insack ah. \{forest\}
    'Sah is staying \{in Kusaie.\}
    \{in front of my house.\}
    \{in the forest.\}
    (29) Kuhn el sritacl {ke acn sac.}
         Kuhn he play \{place\}
         \{ke tepuh sac.\}
         \{table\}
         'Kuhn is playing \{at the place.\}
         \{near the table.\}

Nouns with the feature [+time] can be used as Time actants with no marker. Compare the following two sentences. The noun ekweyah 'yesterday' is a [+time] noun and no marker is used. But the noun wik 'week' is not a [+time] noun and ke must be used.
(30) Kuhn el tuhkuh ekweyah.  
Kuhn he come yesterday  
'Kuhn came yesterday.'

(31) Kuhn el tuhkuh ke wik met ah.  
Kuhn he come week last the  
'Kuhn came last week.'

Nonhuman nouns other than [+locative] or [+time] nouns are [-proper, -locative, -time]. Nouns such as ahluh 'bowl', kaki 'copra', or ik 'fish' belong to this class.

Adjectives (Adj)

More than one adjective can appear in a noun phrase.
In order to account for this, adjectives can be classified into five classes: those of material, size, shape, color and quality. In the noun phrase below the different classes of adjectives and their relative order are exemplified.

(32) [Lohm sahk luhlahp raun rangrang wo sac]Npikori.  
house wood large round yellow good the fall  
'The good large round yellow wooden house fell over.'

Numerals (Num)

There are three classes of numerals. They are cardinal, ordinal, and serial counting numbers. Cardinal numbers are of two kinds, as presented below.
Numerals

<table>
<thead>
<tr>
<th>Serial</th>
<th>Cardinal</th>
<th>Ordinal</th>
</tr>
</thead>
<tbody>
<tr>
<td>sra</td>
<td>'one'</td>
<td>soko</td>
</tr>
<tr>
<td>lo</td>
<td>'two'</td>
<td>lukoac</td>
</tr>
<tr>
<td>tol</td>
<td>'three'</td>
<td>tolkoe</td>
</tr>
<tr>
<td>ahng</td>
<td>'four'</td>
<td>yoko</td>
</tr>
<tr>
<td>luhm</td>
<td>'five'</td>
<td>luhmkoe</td>
</tr>
<tr>
<td>on</td>
<td>'six'</td>
<td>onkoe</td>
</tr>
<tr>
<td>it</td>
<td>'seven'</td>
<td>itkoe</td>
</tr>
<tr>
<td>oal</td>
<td>'eight'</td>
<td>oalkoe</td>
</tr>
<tr>
<td>yuh</td>
<td>'nine'</td>
<td>yuh</td>
</tr>
</tbody>
</table>

Each number in the two sets of cardinal numbers is made up of two morphemes: one denoting number, and the other a classificatory element. The soko-cardinal (named after the first number) numbers are used with nouns that belong to the following sets.

1. Nouns that refer to fish
2. Nouns that refer to insects or four-legged animals
3. Nouns that refer to plants
4. Nouns that refer to transportational means
5. Nouns that refer to things which are long and pointed

The sie-cardinal numbers are used with all other nouns. The ordinal numbers are made up of the ordinal prefix ahk- and the sie-cardinal numbers.
Classifiers (Cl)

Kusaiean nouns are classified into two groups in terms of the cardinal numbers used to count them. However, there is another set of words which also serves to classify nouns. The set of words are called classifiers. The major function of the classifiers is to classify alienable nouns and help to express their possessors. But in many cases, the same noun can be classified in more than one way. The noun mos 'breadfruit', for example, can refer to the breadfruit tree also. In such a case the classifier makes the reference of the noun specific, as in the following.

(33) mos suhnuhk 'my breadfruit tree'
    breadfruit Cl (for trees) -my

(34) mos nak 'my breadfruit'
    breadfruit Cl (for food) -my

Like the inalienable nouns, the classifiers can be used with the possessive pronoun suffixes. For instance, the classifier for drinkable liquids can have the following forms.

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free form</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>1st person form</td>
<td>nimuhk</td>
<td>nimuhktacl</td>
</tr>
<tr>
<td>2nd person form</td>
<td>nihmom</td>
<td>nihmomtacl</td>
</tr>
<tr>
<td>3rd person form</td>
<td>nihmacl</td>
<td>nihmacltahl</td>
</tr>
<tr>
<td>Construct form</td>
<td>nihmen</td>
<td>nihmen</td>
</tr>
</tbody>
</table>
The following is a list of the classifiers of Kusaiean.

<table>
<thead>
<tr>
<th>Category</th>
<th>Classifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>okoac</td>
</tr>
<tr>
<td>Land, shelter</td>
<td>se</td>
</tr>
<tr>
<td>Plant</td>
<td>suhnwac</td>
</tr>
<tr>
<td>Tool, pet, toy</td>
<td>nahtuh</td>
</tr>
<tr>
<td>Food</td>
<td></td>
</tr>
<tr>
<td>drinkable</td>
<td>nihmac</td>
</tr>
<tr>
<td>raw, uncooked</td>
<td>osrwac</td>
</tr>
<tr>
<td>chewable</td>
<td>niyac</td>
</tr>
<tr>
<td>edible</td>
<td>na</td>
</tr>
<tr>
<td>Mat</td>
<td>kiyac</td>
</tr>
<tr>
<td>Kinship</td>
<td></td>
</tr>
<tr>
<td>mother, wife</td>
<td>kiyac</td>
</tr>
<tr>
<td>father, husband</td>
<td>tuhmwac</td>
</tr>
<tr>
<td>offspring</td>
<td>nahtuh</td>
</tr>
<tr>
<td>sibling</td>
<td>wiyc</td>
</tr>
<tr>
<td>Decoration</td>
<td></td>
</tr>
<tr>
<td>for the neck</td>
<td>ola</td>
</tr>
<tr>
<td>for the ear</td>
<td>srwac</td>
</tr>
<tr>
<td>for the head</td>
<td>sunyac</td>
</tr>
<tr>
<td>General</td>
<td>la</td>
</tr>
</tbody>
</table>

Relative Clauses

The relative pronoun (RP) is ma. When a noun phrase has a relative clause in it, a determiner must be chosen at the end of a noun phrase. Some examples of relative clauses follow.

(35) [Tuhlihk se ma [nga puokyac] ah]NP tuhngyak.  
child one who I hit the NP cry-up  
'The child that I hit began to cry.'
The head nouns of relative clauses cannot be pronouns or proper nouns.

**Determiner (Det)**

Following is a list of determiners. They are spatial as well as temporal deictic markers.

- **uh** 'this, these'
- **an** 'that, those'
- **oh** 'that or those away from the speaker and the listener'
- **ah** 'the'

The determiners are used in the following way as spatial deictic markers. **Uh** is used to indicate an object (or objects) which is near the speaker. **An** is used to indicate an object which is near the listener. **Oh** is used when an object is away from both the speaker and the listener. **Ah** is used to indicate or refer to an object which the speaker assumes that the listener also knows, regardless of its physical location.

The determiners are used in the following way as temporal deictic markers. **Ah** is used with a noun phrase whose temporal reference precedes the moment of speaking or a certain other reference point. **Uh** is used with a noun phrase
whose temporal reference point follows the moment of speaking or some other reference point. Observe the following examples, in which \textit{ah} and \textit{uh} are used as temporal deictic markers.

\begin{quote}
(37) Sah el orwaclah lohm sac ke yac met ah.
    Sah he built house the year last the
    'Sah built the house last year.'
\end{quote}

\begin{quote}
(38) Kuhn el ac tuhkuh ke wik fahsr uh.
    Kuhn he will come week come the
    'Kuhn will come next week.'
\end{quote}

\textit{Oh} is seldom used as a temporal deictic marker. \textit{An} can be used interchangeably with \textit{uh} as a temporal deictic marker. However, it is not clear whether there is any accompanying difference in meaning.

The two determiners \textit{uh} and \textit{ah} have some special uses, which will be examined briefly. \textit{Uh} is often used to indicate a generic or to refer to a whole class. In the following sentence, the underlined NP is a generic NP and it refers to the whole class of fish, rather than any particular fish.

\begin{quote}
(39) \underline{Ik uh} muhta inkof uh.
    fish the stay water the
    'Fish live in the water.'
\end{quote}

The term \textit{generic noun phrase} will be used to refer to noun phrase such as the one above.

\textit{Ah} has an anaphoric use: it is used to refer back to
what has been previously mentioned. In the following sentence, \textit{ah} is used anaphorically.

\begin{enumerate}
\item Pahko soko yuhme ekweyah, tuh pahpah el shark one rush yesterday but father he
luhslah pahko soko ah.
chase shark one the
'A shark was rushing at me yesterday, but father chased away the shark.'
\end{enumerate}

\textit{Ah} has an implicational use. Let us observe the following sentence.

\begin{enumerate}
\item Nga molelah sikutuhr soko ke yac met ah,
I buy scooter one year last the
tuh \textit{insin} ah srwack na wo.
but engine the still good
'I bought a scooter last year, but the engine is still good.'
\end{enumerate}

\textit{Ah} is used with the noun \textit{insin} 'engine'. But the noun was not mentioned previously, nor is it a unique object. \textit{Ah} can be used in the above sentence because the engine is implied by the scooter.

The determiner \textit{ah} is also used to refer to a thing or person that is unique in the whole universe or in the universe of discourse, as in the following.

\begin{enumerate}
\item Faht \textit{ah} takack lwen nuhkweva.
sun the rise day every
'The sun rises every day.'
\end{enumerate}
(43) Ninac el owo nuknuk infac1 ah.
   mother she wash clothes river the
   'Mother is washing clothes at the river.'

The following determiners are contracted forms of the
cardinal numeral se 'one' and the determiners.

<table>
<thead>
<tr>
<th>Determiner</th>
<th>Meaning</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>se</td>
<td>'this'</td>
<td>[se + uh]</td>
</tr>
<tr>
<td>sacn</td>
<td>'that'</td>
<td>[se + an]</td>
</tr>
<tr>
<td>soh</td>
<td>'that'</td>
<td>[se + oh]</td>
</tr>
<tr>
<td>sac</td>
<td>'the'</td>
<td>[se + ah]</td>
</tr>
</tbody>
</table>

2.2.2.4 PSR 4

PSR 4 accounts for the structure of prepositional
phrases in Kusaiean. There is only one preposition in
Kusaiean. It is nuh 'to'. (See 2.4.2 for the use of the
preposition as a case marker.)

2.3 The Structure and Function of the Lexicon

2.3.1 A Survey of the Literature

Before proceeding with the present study, we will review
literature on the function and structure of the lexicon in
generative grammar, with special emphasis on derivational
process.

2.3.1.1 Chomsky (1965)

In Aspects of the Theory of Syntax, Chomsky presents
a basic structure of the lexicon and discusses several
tentative proposals for derivational processes. The lexicon
consists of a set of lexical entries, a set of redundancy rules and derivational rules. Each lexical entry has a distinctive phonological matrix D and a complex symbol C, which is a set of features of the following sorts: (1) syntactic and semantic features, (2) features that specify which morphological or transformational processes apply to strings consisting of the items in question.

The redundancy rules in the lexicon are designed to simplify both D and C of each lexical item. Each lexical item is entered with only those features that are idiosyncratic and unpredictable. Those features which can be predicted from the features entered are to be specified by the redundancy rules.

Chomsky's rules dealing with inflectional and derivational processes are exploratory and wide-ranging, but since the main concern of this study is derivational rules, we will review in detail the different proposals for derivations made by Chomsky.

Chomsky (1965:184-187) classifies derivations into the two classes: productive and quasiproducive. Words such as destruction (from destroy) and refusal (from refuse) are regarded as productive. On the other hand, words such as frighten (from fright) or horrify (from horror) are regarded as quasiproducive ones.

Chomsky proposes to derive productive derivations from sentential sources. The derived word destruction, for example, is to be derived from the following underlying
A nominalization transformation is to apply at a certain point of derivation to the Phrase-marker containing the configuration *they destroy the property*. Ultimately the following structure is to be derived.

Chomsky does not present specific transformational rules to derive (2) from (1). Even if he did, it would be
doubtful that this transformational analysis can be maintained. To do so, many powerful and ad hoc transformational rules must be devised—rules that delete, change or insert node labels. Assuming that (2) is to be derived from (1), the following changes must take place: an NP in (1) must be changed to Det in (2), S dominated by NP and Aux in (1) must be deleted, and a node N must be inserted. With such powerful transformational rules, any surface structure can be derived from any underlying representation.

Chomsky proposes three tentative alternative approaches for what he calls quasiproduc tive derivations, such as the following.

<table>
<thead>
<tr>
<th>horror</th>
<th>horrid</th>
<th>horrify</th>
</tr>
</thead>
<tbody>
<tr>
<td>terror</td>
<td>#terrid</td>
<td>terrify</td>
</tr>
<tr>
<td>fright</td>
<td></td>
<td>frighten</td>
</tr>
</tbody>
</table>

Thinking that there are no rules of any generality, he first proposes that the items are entered in the lexicon directly. But he immediately dismisses this proposal because the meaning of the derived words is predictable from morphemes they contain. A second proposal is to incorporate in the grammar overly general rules that allow for nonoccurring as well as occurring ones.

A third proposal is to extend the theory of the lexicon to permit some internal computation. In this approach the
word *frighten* is to be computed in the lexicon with the following rules.

\[
\text{Stem}_X - \text{en}, \quad [H_1, \cdots] \\
\text{fright} \quad [+N, +\text{Stem}_X, \cdots]
\]

With the rules above one can produce correctly derived words. But semantic and syntactic properties of the derived words cannot be specified.

His fourth proposal is another transformational approach. It calls for transitive verbs to have their corresponding adjectives or intransitive verbs derived from sentential sources. The transitive verb *open*, for example, would be derived from the following underlying structure.

(3) \[ S \]
\[ NP \quad \text{John} \]
\[ VP \quad V \quad \text{cause} \]
\[ S \quad \text{the door open} \]

With certain transformational rules, the following two sentences would be derived.

(4) John caused the door to open.
(5) John opened the door.
But in view of the fact that the two sentences are not synonymous, deriving them both from the same underlying structure cannot be maintained.

So far we have examined the structure of the lexicon in Aspects in general, and the alternative approaches to derivational processes in particular. Generally speaking, Chomsky's distinction between productive and quasiproducive derivations is not clear, and seems arbitrary. Furthermore, he does not present any principled basis for deriving some words with transformational rules and others by other means.

2.3.1.2 Chomsky (1970)

In his paper Remarks on nominalization Chomsky discusses three types of nominalization: gerundive, derived nominals and mixed forms. A transformational analysis is suggested for gerundive nominals, and nontransformational approaches for the other two. His central concern to capture the relatedness of lexical items remains, but we notice the following changes (as compared with his 1965 proposals). The distinction between productive and quasiproducive derivations is not maintained and the transformational approaches suggested for destruction and grow (Vt) are abandoned.

In order to capture the relatedness between destruction and destroy in terms of complements they both can take, and also in terms of the similarities of the complements of the verb and of its derived noun, the rules of the base grammar
are changed drastically, so that not only verbs and adjectives but nouns as well can be expanded with complements. On the basis of the following conventions (6-7) and the base rule (8), the two structures (9-10) can be generated.

(6) \( X \rightarrow [\text{Specifier}, \overline{X}] \overline{X} \)

(7) \( \overline{X} \rightarrow X \) Complements

Note: \( X \) is a variable and can be \( V \), \( \text{Adj} \), or \( N \).

(8) \( S \rightarrow N \ V \)

(9) 
```
    \[Spec, \overline{N}\]  
    \[the\] enemy  \[\overline{N}\]  
    \[destroy\] the city
```

(10) 
```
    \[Spec, \overline{V}\]  
    \[past\] V  \[\overline{N}\]  
    destroy the city
```

The above analysis can account for a small set of derived words and their source words in terms of complements and their similarities. But it becomes immediately clear that the analysis does not have much generality, when additional data are taken into account. Let us examine the
pair of a noun and its derived verb hospital and hospitalize. The verb is associated with two noun phrases: one that denotes someone who hospitalizes somebody, and another that denotes someone who is hospitalized. But these two noun phrases cannot be associated with the noun hospital.

Following Chomsky, the underlined noun phrases in (11) must have relations to the noun hospital similar to those of the two underlined noun phrases in (12) to the verb hospitalize.

(11) Paul's hospital for the crippled.
(12) Paul hospitalized the crippled.

But the relation of Paul to hospital in (11) is in no way similar to that of Paul to hospitalize.

The Aspects model proposed that open (Vt) should be derived from a causative construction. But in his 1970 work, Chomsky proposes the following analysis instead. (The presentation and square bracket notations used are my own interpolation.)

(13) \[
\begin{array}{c}
grow \\
V_i \\
+cause \\
NP_i \quad \rightarrow \\
\end{array}
\quad \rightarrow \\
\begin{array}{c}
grow \\
V_t \\
+derived \\
NP_j \quad \rightarrow \\
NP_i \quad \end{array}
\]
Intransitive verbs which have their corresponding transitive verbs are to be marked with the feature [+cause] in the lexicon. This feature is associated with a redundancy rule that specifies that an intransitive verb with the feature [+cause] becomes transitive and that its selectional features are systematically revised so that the former subject becomes the object. The feature [+cause] is also to be used to block the nominalization of the derived transitive verb. Thus, the derived noun *growth* is associated with the intransitive verb but not with the derived transitive verb *grow*.

2.3.1.3 Jackendoff (1972)

In his book *Semantic Interpretation in Generative Grammar* Jackendoff presents the lexicon in the following way. Each lexical entry contains phonological, syntactic and semantic properties. His semantic representation seems to be a new proposal in generative grammar and we will examine it closely.

The semantic properties are represented by two semantic functions: CAUSE and CHANGE. CAUSE is a semantic function that takes two arguments: an individual and an event. The meaning of CAUSE is that an individual causes the event. CHANGE takes three arguments: an individual, an initial state, and a final state. From these two semantic functions a set of thematic relations such as Agent, Theme, Location,
Source and Goal are derived.

Agent is defined as the argument of CAUSE that is an individual; Theme is the argument of CHANGE that is an individual; Source and Goal are the initial and final state arguments of CHANGE. These thematic relations between adjectives or verbs on the one hand, and noun phrases and prepositional phrases on the other hand are indicated in the lexicon. The transitive verb open, for example, is entered in the following way. (Jackendoff 1972:41)

\[
\begin{align*}
\text{open} & \quad +V \\
& \quad +[\text{NP}^1 \quad \text{NP}^2] \\
& \quad \text{CAUSE} (\text{NP}^1, \quad \text{CHANGE} \quad \text{physical}) (\text{NP}^2, \quad \text{NOT OPEN, OPEN})
\end{align*}
\]

The superscripts in the strict subcategorization feature are used to correlate with those in the semantic representation so that semantic functions can be properly derived from grammatical functions.

Jackendoff's semantic representation in the lexicon seems to be redundant. If a set of what he calls "thematic relations" such as Agent, Theme, Source and Goal, etc. are defined and the relations are indicated in the noun phrases or prepositional phrases, it should not be necessary to add a semantic representation.

With regard to derivational processes, Jackendoff does not present anything specific in his book. So the following
discussion of his derivational processes is from his hand-out. (Jackendoff 1969) With the use of the strict subcategorization feature and thematic relations, Jackendoff accounts for the concept of "separate but related" lexical items. The relatedness between the intransitive verb open and its corresponding transitive verb is captured in the following way.

\[
\begin{array}{c}
/\text{open/} \\
+V \\
\text{NP}^1 \\
\text{Y (theme)}
\end{array}
\longrightarrow
\begin{array}{c}
/\text{open/} \\
+V \\
\text{NP}^2 \\
\text{NP}^1 \\
\text{agent theme} \\
\text{Agent CAUSE (Y (theme))}
\end{array}
\]

The grammatical subject NP\(^1\) has a thematic relation to the intransitive verb open. The grammatical subject NP\(^2\) has an agent relation to the corresponding transitive verb open, and the noun phrase with the thematic relation appears as the object. Derivational rules of the above sort can express the concept of "separate but related lexical items" without the use of powerful transformational rules such as those suggested by Chomsky (1965).

2.3.1.4 Halle (1973)

Halle in his Prolegomena to a theory of word formation does not present any concrete proposals for derivational processes. But his basic assumption about the lexicon and its function in a grammar is clearly stated. Halle assumes
that there is a fundamental difference between the use of words and the use of sentences. Accordingly, the role played by the rules of syntax and phonology differs fundamentally from that played by the rules of word formation.

In formulating rules of word formation, Halle suggests that the following points must be taken into account.

1. How a grammar is to reflect the fact that a derived word quite commonly shares semantic and syntactic properties with the word from which it is derived (its source word).

2. How a grammar is to deal with the fact that the same selectional restrictions apply in one subcategorization frame in the source word, and in another subcategorization frame in the derived word.

Halle's lexicon can be summarized in the following way. (See the diagram below.) It contains (1) a list of morphemes, (2) a set of rules of word formation and (3) a filter. Each morpheme is entered with a distinctive matrix of features of various sorts. The rules of word formation are very powerful and they can form occurring as well as nonoccurring words. The words derived must pass through the filter mechanism in which nonoccurring words are marked as [-lexical] and those that actually occur as [+lexical].
Two objections can be made against Halle's conception of the lexicon in general and his filter mechanism in particular. First, the filter does not give any new insights into derivational processes, by merely indicating derived words as occurring or nonoccurring. With respect to the study of a phonological system of a language, Halle (1964:324) made the following observation.

Our purpose in preparing a scientific description of a language is, however, not achieved if we give only an inventory of all existing morphemes; we must also describe the structural principles that underlie all existing forms. Just as syntax must be more than an inventory of all observed sentences of a language, so phonology must be more than a list of its morphemes.

A similar argument can be made for derivational processes. The filter mechanism can give us an inventory of all existing derived words, but would fail to give us
structural or semantic principles that underlie derivational processes. In phonology the structural principles are made possible with the use of distinctive features. Similarly, a system of semantic features and/or some other constraints must be discovered for derivational processes.

Another function of the filter is to add idiosyncratic features to derived words. The implementation of this function does not seem feasible and it is doubtful that there is any advantage for this approach over an alternative approach of listing derived words with unpredictable properties directly in the lexicon.

Halle proposes two types of word formation rules:

1. \([\text{STEM} + i + ty]_N\), \([\text{STEM} + \text{ant}]_A\)
2. \([\text{VERB} + \text{al}]_N\), \([\text{ADJ} + (i) + ty]_N\)

But it is obvious that the rules cannot account for syntactic and semantic properties of derived words.

2.3.1.5 Lexicase

The lexicase grammatical model was first proposed by Stanley Starosta and applied to different languages by him and his students. The place and structure of the lexicon in this model is represented in the following diagram.
LEXICASE MODEL

BASE COMPONENT
Phrase Structure Rules (PSR's)

trees

LEXICON
Lexical Entries
Grammatical category features
Case features
Other syntactic features
Semantic features
Phonological representation
Lexical Redundancy Rules
Derivational Rules (DR's)
Other Redundancy Rules (RR's)

lexical items

Syntactic Representation

Phonological Component

Phonological Representations

CONTEXT OF SITUATION
Linguistic context
Real-world context
Imagined-world context

SEMANTIC INTERPRETATION COMPONENT

Semantic Representations

Figure 2
Lexicase Model (Adapted from Taylor 1971, p. 10)
The lexicon, as we can see in Figure 2, has two sub-component: one is a list of lexical entries with various features, and another is a set of redundancy and subcategorization rules. The lexical redundancy rules are of two types: derivational rules predicting the existence of new words on the basis of words already existing, and other redundancy rules.

In terms of the regularity and accuracy of the prediction of the properties of the derived words, there can be two types of derivational rules. In some cases, the properties of the derived words can be predicted completely from the input words. In such cases, the derived words need not be entered in the lexicon. In other cases, the properties of the derived words cannot be so predicted, and derivational rules exist in a language to express the concept of separate but related lexical items. (See Kullavanijaya 1974:170.)

In formulating derivational rules, case features play a very important role; they help express the semantic and syntactic properties of derived words which otherwise would not be possible to account for. For example, let us observe the pair of words *glad* and *gladden* in the following sen-

(14) John was *glad*.
(15) The news *gladdened* John.
A selectional restriction holds between the NP John and glad in (14). That is, the NP must be animate. The same restriction holds between the NP John and gladden in (15). In the lexicase model the relatedness between the two items would be captured in the following way.

The derivational rule (DR) above states that adjectives whose grammatical subject (+NM) stands in the DAT case relation to them can be input to the derivational rule. The derived words have the following properties: the grammatical subjects of the derived verbs stand in the AGT or INS case relation to the verbs, and the objects (+AC) stands in the DAT case relation to them.

The case frame features not only serve as a constraint on the input words but also give syntactic and semantic information concerning the derived words. Such derivational rules (devices) can account for one of Halle's problems: the same selectional restrictions apply in one subcategorization
frame in the source word, and in another subcategorization frame in the derived word. (Halle 1973:11)

2.3.1.6 Rose (1973)

Rose in his paper *Principled limitations on productivity in denominal verbs* introduces a new area of investigation for derivations. His paper is concerned with a process of deriving verbs from nouns. He claims that the derivational process is essentially regular, and the regularity can be detected when pairs of nouns and denominal verbs are observed with certain sets of semantic relationships.

For example, in the following pairs of nouns and their derived verbs, different relationships seem to hold for different pairs, as Bloomfield (1933:238-9) points out.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>man</td>
<td>to man</td>
</tr>
<tr>
<td>dog</td>
<td>to dog</td>
</tr>
<tr>
<td>beard</td>
<td>to beard</td>
</tr>
<tr>
<td>fish</td>
<td>to fish</td>
</tr>
<tr>
<td>tree</td>
<td>to tree</td>
</tr>
<tr>
<td>skin</td>
<td>to skin</td>
</tr>
<tr>
<td>bottle</td>
<td>to bottle</td>
</tr>
<tr>
<td>nose</td>
<td>to nose</td>
</tr>
<tr>
<td>father</td>
<td>to father</td>
</tr>
</tbody>
</table>

However, Rose points out that generalizations can be made concerning the seemingly diverse pairs of words above. There is a common semantic thread running through the
following pairs of nouns and their denominal verbs: the derived verbs denote the notion of removal.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>milk</td>
<td>to milk</td>
</tr>
<tr>
<td>fish</td>
<td>to fish</td>
</tr>
<tr>
<td>skin</td>
<td>to skin</td>
</tr>
<tr>
<td>bone</td>
<td>to bone</td>
</tr>
</tbody>
</table>

To take another example, in the following pairs of nouns and denominal verbs the notion of placing something at (or in) a certain location is implied.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>hospital</td>
<td>to hospitalize</td>
</tr>
<tr>
<td>can</td>
<td>to can the milk</td>
</tr>
<tr>
<td>house</td>
<td>to house the troops</td>
</tr>
<tr>
<td>bottle</td>
<td>to bottle the beer</td>
</tr>
<tr>
<td>prison</td>
<td>to imprison</td>
</tr>
</tbody>
</table>

Rose does not propose any specific devices to express systematic relationships that exist between lexical items. Nevertheless, a search for semantic principles underlying derivational processes seems to be very important.

2.3.1.7 Generative Semantics

McCawley (1968), Lakoff (1970) and Postal (1970) are some of the proponents of generative semantics. In this section we will review McCawley's analysis as representative of this approach.
McCawley (1968:71) makes the following assumptions about grammar:

1. Syntactic and semantic representations are of the same formal nature, namely: labeled trees.
2. There is a single system of rules (henceforth 'transformations') which relates semantic representations to surface structures through intermediate stages.
3. In the 'earlier' stages of the conversion from semantic representation to surface structure, terminal nodes may have labels 'referential indices' such as were introduced in Chomsky 1965.

Based on these assumptions, the meaning of X killed Y is represented in the following way.

(16)

```
               S
              / \                     / \\
CAUSE         X               BECOME           S
              /   \               /     \\
             S          NOT         S
               /   \                      / \\
              S               ALIVE         Y
```

The meaning of kill is decomposed into semantic units: CAUSE, BECOME, NOT, and ALIVE. By applying predicate-raising transformations, which adjoin a predicate to the next higher one, the following structure can be derived.
At this point the structure CAUSE BECOME NOT ALIVE is replaced by the lexical item *kill*. After some other transformational rules are applied, we can have the following sentence: X killed Y.

If the last predicate raising transformation is not performed, the following structure results.

After the lexicalization of BECOME NOT ALIVE with *die* and some other transformational rules are applied, we can have the following sentence: X caused Y to die.

Thus both these structures (17,18) are derived from the same underlying semantic representation. Differences between them result from different places at which the lexicalization took place. Accordingly the two sentences must be synonymous. But in actuality they are not, as Fodor (1970: 431) points out.
Besides this point, McCawley's approach poses the following problems as a model of description. First, his semantic representations are made up of semantic units such as CAUSE, BECOME, etc. It is possible that these semantic units can be further decomposed into smaller semantic units. Then, as Morgan (1969:65) points out, "how will we know that we have reached semantic primitives, rather than merely having reached a point beyond which we have no way to talk about what is there?"

Secondly, McCawley does not present or mention the structure of the lexicon in his grammar. But from his discussion we can infer that an item in the lexicon must have a replica of its semantic representation. The item kill, for example, must include the following information in the lexicon.

\[
\begin{array}{c}
\text{kill} \\
\begin{array}{c}
\text{CAUSE} \\
\text{BECOME} \\
\text{NOT ALIVE}
\end{array}
\end{array}
\]

Similarly, die must include the following information.

\[
\begin{array}{c}
\text{die} \\
\begin{array}{c}
\text{BECOME} \\
\text{NOT ALIVE}
\end{array}
\end{array}
\]

This means that the meaning of an item such as kill must be represented redundantly in two places: in the
It is not clear to me whether this redundancy is really necessary.

Thirdly, according as the underlying semantic representation becomes deeper, more abstract and farther removed from the surface structure, the transformational rules that connect it to the surface structure must become more powerful and ad hoc. Any underlying representation can be changed to a surface structure by powerful transformational rules. But such powerful transformational rules do not give any insight into the nature of human language.

2.3.1.8 Summary

In generative grammar the treatment of derivational processes has undergone a few major changes. Before the concept of a lexicon was introduced, all derivational processes were handled by transformational rules (see Lees 1960). However, when the lexicon is separated from the base component, many derivational processes have begun to be dealt with there. However, more satisfactory and systematic descriptions of derivational processes were not possible until underlying case relations (or Jackendoff's thematic relations) were introduced into modern linguistic theory, as we can see in Starosta's and Jackendoff's treatments of derivational processes.

The approach adopted by McCawley, Lakoff and Postal is vulnerable in terms of semantic inadequacy with all the
enormous power of transformational rules. At present the derivational treatments of Starosta and Jackendoff both seem to be viable, and they are quite similar to each other. But in this study Starosta's has been adopted on the following grounds.

1. Jackendoff lists the grammatical relation and its thematic relation separately and the two relations are correlated by superscripts. But Starosta indicates the case relation directly on each actant, and thereby lexical entries can be simplified.

2. Noun phrases can function in more than one case relation within a sentence. For example, John in John sold the canoe is both Agentive and Source. Jackendoff (1972:35) thinks that there is no convenient way to express this fact in a case grammar. But there is a way to express such a fact in the lexicase model. This would be represented in the following way: [+NM, +AGT=SRC].

3. Starosta assumes that there is a universal set of case forms in addition to a universal set of case relations. This assumption makes it possible to state certain generalizations that can be made with regard to case relations and their case forms.

In the following section (2.4), we will examine underlying case relations and case forms in Kusaiean.
2.4 Case Relations and Case Forms

One of the most difficult problems facing case grammar and a grammatical model using the case concept is to discover and postulate a set of underlying case relations. This particular problem is well reflected in Fillmore's papers. In each of his papers on case, the number of underlying case relations and the characterization of each is different.

Basically I have followed Fillmore (1968:24). The following case relations are postulated there: Agentive, Instrumental, Dative, Factive, Locative, and Objective. However, the following changes have been found necessary for the present study. Firstly, the time case relation is recognized. Secondly, Fillmore's objective case is divided into neutral and objective. Thirdly, subtypes of certain case relations are recognized. In positing Source and Goal case relations, Fillmore (1971:41) discusses the following problem. The underlined actants in the following sentences share some similarity and those indicated by dots also share a certain similarity.

(1) He went from the top of the hill to the cemetery.

(2) The pageant lasted from sundown until midnight.

Fillmore presented two alternatives: one is to regard the underlined actants as different instances of Source and
those indicated by dots as different instances of Goal, another is to posit spacial and temporal Sources and Goals. In this study, some subtypes of Dative, Locative and Time are recognized, which enables us to capture some similarities among different case relations.

The following conventions are used in the following discussion. Three capital letters are used to indicate case relations (which are equivalent to Fillmore's deep case). Three small letters are used to indicate subtypes of certain case relations. NM, AC and single capital letters are used to mark case forms (which are equivalent to Fillmore's surface cases).

2.4.1 Underlying Case Relations

The following underlying case relations are postulated: Agentive, Instrumental, Objective, Neutral, Facctive, Dative, Time and Locative. Their characterization follows.

2.4.1.1 Agentive Case Relation [+AGT]

The AGT case is one which denotes "typically animate instigator and performer of action" whether physical or mental. The underlined actants in (3) are the AGT cases.

(3) a. Kuhn el patihk osra soko.
    Kuhn he hammer nail one
    'Kuhn is hammering a nail.'

b. Kuhn el nuhnhuh lah el ac som kuh tiyac.
    Kuhn he think whether he will go or not
    'Kuhn is considering whether he will go or not.'
2.4.1.2 Instrumental Case Relation [+INS]

This is the case of the typically inanimate force or object causally involved in the action identified by the verb. In this study the following subtypes of the INS case are recognized: (1) materials that can be utilized such as soap or charcoal, (2) tools or instruments that are used in carrying out a certain action, and (3) causes that bring about a certain state or action.

The underlined actants in (4) are illustrative of the three subtypes of the instrumental case.

(4) a. Ninac el owo ke sop.
   mother she wash with soap
   'Mother is washing with soap.'

b. Sah el ahtu ke pahmpu soko.
   Sah he jump with bamboo one
   'Sah is jumping with a bamboo stick.'

c. Sepe el enganack ke wanihs sac.
   Sepe she pleased with parcel the
   'Sepe is pleased with the parcel.'

2.4.1.3 Objective Case [+OBJ] and Neutral Case [+NEU]

Fillmore (1968) characterizes the objective case as "semantically most neutral case, 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." [Emphasis mine.]
After examining Fillmore's objective case closely, Platt (1971:26) concluded that it should be classified into the two separate cases (his "grammatical meanings"): Affective and Neutral. The Affective case is the one which is affected by the action of the verb, and the Neutral case is the one which is not.

For example, the underlined actants in (5) have the Affective case relation to the verbs.

(5) a. John hit Bill.
   b. John cut the string.
   c. John damaged the table.

As a result of hitting, a person might be affected. Similarly, as a result of cutting or damaging a certain object, the object might undergo a certain change of state. However, in the following sentences the underlined noun phrases in (6) stand in the Neutral case relation to the verbs.

(6) a. Mary likes the bicycle.
   b. John noticed my name.

The fact that Mary likes the bicycle in no way affect the object itself. In a similar way, the fact that John noticed my name does not affect my name in any way.

In this study the two case relations OBJ and NEU are
postulated and characterized in the following way: the objective case is one that is acted upon by a verb and is also affected by the action, and the NEU case is one that is acted upon but not affected.²

2.4.1.4 Factive Case Relation [+FAC]

Fillmore first characterized the FAC case as "the case of object or being resulting from the action or state identified by the verb, or understood as a part of the meaning of the verb." (Fillmore 1968:25) Later, the case is redefined as "the entity that comes into existence as a result of the action." (Fillmore 1969b:116)

Jespersen discusses a class of objects which corresponds to Fillmore's FAC case. The objects are called "object of result" and gives the following description:

There is one class of 'object' which stands by itself and is of considerable interest, namely the object of result, as in: he built a house / she paints flowers / he wrote a letter / the mouse gnawed a hole in the cheese. (Jespersen 1924:159)

Anderson (1971:74) also recognizes the necessity of a special class of "object of result", and he presents the following test-frame. (See also Fillmore 1968.) An an answer to the following question (7), verbs that can take the object of result cannot be used, but others can.
(7) What did Egbert do to the shack?

*He built it.

He demolished it.

Fillmore's 1969 definition of FAC seems to be adequate and it is adopted in this study.

2.4.1.5 Dative Case Relation [+DAT]

The dative case is defined by Fillmore (1968) in the following way: "the case of animate being affected by the state or action identified by the verb." Later, Platt changes the name to Participative, emphasizing the emotional, mental or sensual nature of the actants. His definition of the participative is as follows:

The grammatical meaning [our dative case] of the tagmeme indicating animate being or human institution, not itself an agent which is emotionally, mentally, or sensually involved in the state of action indicated by the verb. (Platt 1971:61)

Platt's characterization seems too limited in its applicability, compared with Starosta's.

The dative case relation is the case of the typically animate experiencer of a psychological event, the animate locus, source or goal of action or state expressed by the verb. It may in fact turn out to be a subtype of Location, the concrete or abstract spatial location, source or goal of the action or state. (Starosta 1974:10)
According to Platt's definition, the underlined actants in (8) can be Dative, but not those in (9).

(8)  
a. I think that John is a good student.
b. The thing looks good to me.
c. John hates the book.

(9) 
a. I bought the book from John.
b. I asked John about the news.

Starosta's characterization of Dative covers both. His Dative implies the following subtypes.

\[
\begin{array}{c}
\text{(10)} \\
+\text{DAT} \\
+\text{dir(ection)} -\text{dir(ection)} \\
+\text{go(a)l} -\text{go(a)l}
\end{array}
\]

There seems to be a great deal of similarity between the subtypes of Dative and those of Locative, as Starosta and Anderson (1971) point out.

2.4.1.6 Time Case Relation [+TIM]

The time case relation is one that identifies the time or temporal orientation of the state or action identified by the verb. The time case relation is subclassified in the following way.
The time case relation with the features [+dur, +com] denotes a duration of time and also implies a change of state, or an achievement of goal. On the other hand, the time case relation with the features [+dur, -com] is one that denotes only a duration of time. The underlined actants below are illustrative of the two subtypes of the [+dur] time case relation.

(12) Sohn el tahkuhs kaki ah ao luo.  
     [+TIM, +dur, -com]  
     John he husk coconut the hour two  
     'John has been husking the coconuts for two hours.'

(13) Sohn el tahkuhslah kaki ah ke ao luo.  
     [+TIM, +dur, +com]  
     John he husk-away coconut the in hour two  
     'John husked the coconuts in two hours.'

The time case relation with the feature [-dur] denotes a point of time. A point of time can denote either the starting or ending point, or simply a point in time with no reference to the starting or ending point. The underlined actants below are illustrative of the subtypes of the subtypes of the [-dur] time case relation.
(14) Sepe el orekma ekweyah.

\[+\text{TIM}, -\text{dur}, -\text{ter}\]

Sepe she work yesterday
'Sepe worked yesterday.'

(15) Sepe el orekma ke Mahs 15 nuh ke Mahs 25.

\[+\text{TIM}, -\text{dur} \quad [+\text{TIM}, -\text{dur}
+\text{ter}, -\text{gol} \quad +\text{ter}, +\text{gol}\]

Sepe she work on March 15 to on March 25
'Sepe worked from March 15 to March 25.'

2.4.1.7 Locative Case Relation [+LOC]

The locative case is one that identifies the location or spacial orientation of the state or action identified by the verbs. The locative case relation has the following subtypes.

\[(16) \quad [+\text{LOC}]
\]

\[+\text{dir}(\text{ection}) \quad -\text{dir}(\text{ection})\]

\[+\text{go}(\text{al}) \quad -\text{go}(\text{al}) \quad +\text{ext}(\text{ent}) \quad -\text{ext}(\text{ent})\]

The locative case relation with the features \([+\text{dir}, -\text{gol}]\) is one that denotes a starting point and the one with the features \([+\text{dir}, +\text{gol}]\) is one that denotes an ending point. The locative case relation with the features \([-\text{dir}, +\text{ext}]\) is one that denotes distance, space or area, and the one with the features \([-\text{dir}, -\text{ext}]\) is one that denotes a point.

The underlined actants below are illustrative of the different subtypes of the locative case relation.
(17) Sah el tuhuh **Ponpe me**
   [+LOC, -gol]
Sah he come Ponape to-me
'Sah came from Ponape.'

(18) Sah el som **nuh Maclwem olutu.**
   [+LOC, +gol]
Sah he go to Maclwem this morning
'Sah went to Maclwem this morning.'

(19) Sohn el kahsruhrs mael singuhl.
    [+LOC, +ext]
John he run mile ten
'John ran ten miles.'

(20) Sohn el orekma **Utwac.**
    [+LOC, -ext]
John he work Utwac
'John works in Utwac.'

2.4.2 Case Forms and Case Markers

In the preceding section (2.4.1), the following eight underlying case relations are postulated: AGT, INS, OBJ, NEU, FAC, DAT, TIM, and LOC. However, there are six case forms: nominative, accusative, dative, locative, source and goal. This indicates that there will not be a one-to-one correspondence between each underlying case relation and its case form. An underlying case relation can be expressed in more than one way. This is an indication that from a case form it is not possible to predict the underlying case relation and *vice versa*. The purpose of this section (2.4.2) is to examine the characteristics of the six case forms and the relationship between the underlying case relations and the case forms.

2.4.2.1 Nominative Case Form [+]NM]
The nominative case form is the grammatical subject of a sentence. No preposition is used to mark the nominative case form. But the word order indicates which is the grammatical subject: it is the first NP preceding a verb or an adjective in a sentence. Another indicator of the grammatical subject is the subject marker el. The marker is used when the grammatical subject is made up of a singular proper human noun, such as Sepe or Sah. Observe the following two sentences in which the use of the subject marker el is shown.

(21) Sohn el arlac suhmaht.
    John he very smart
    'John is very smart.'

(22) Tuhlihk sac arlac suhmaht.
    child the very smart
    'The child is very smart.'

The subject marker is used in (21) because the grammatical subject is a singular proper human noun. But the marker is not used in (22) because the subject NP is not so made up.

The subject marker can serve as a good test frame for seeing whether a certain noun phrase is the grammatical subject or not. We can often replace it by a singular proper human noun and if in so doing the subject marker is required, the replaced noun phrase must be the grammatical subject. Otherwise, it is not. For example, if the underlined noun phrase in (23) is replaced by the noun Sohn, the subject marker must be used: this shows that the underlined noun
phrase is the grammatical subject.

(23) *Sikutuhr* soko ah arlac mahtuh.
    scooter one the very old
    'The scooter is very old.'

(24) Sohn el arlac mahtuh.
    John he very old
    'John is very old.'

The nominative case form can represent the underlying case relations AGT, INS, NEU, FAC, OBJ, and DAT, as we can see in the following sentences. The underlying case relations are indicated under each actant.

(25) Sohn el oruh lohm sac.
    [+AGT]
    John he build house the
    'John is building the house.'

(26) Noa luhlahp se puoklah oak soko ah.
    [+INS]
    wave big one wash-away canoe one the
    'A big wave washed away the canoe.'

(27) Pweng sac sulkackihnyuhklac.
    [+NEU]
    news the spread-passive-away
    'The news has been spread out.'

(28) Lwacta sac sihmihsyuhklac ekweyah.
    [+FAC]
    letter the write-passive-away yesterday
    'The letter was written yesterday.'

(29) Muhtwacn sac arlac ahsor ke misac sac.
    [+DAT]
    woman the very sad for death the
    'The woman is very sad because of the death.'
The fact that the grammatical subject can represent so many different underlying case relations is one reason why "the SUBJECT cannot be defined by means of such words as active or agent." (Jespersen 1933:107)

2.4.2.2 Accusative Case Form [+AC]

No marker is used for the accusative case form. It appears after the verb or adjective in a sentence, which differentiates it from the nominative case form. It can manifest the underlying case relations INS, OBJ, NEU, FAC and DAT. The following sentences illustrate the accusative case form and the underlying case relations it can represent.

(30) Ninac el owokihn suhkən top se.
     [+INS]
     mother she wash-with stick-of pounding one
     'Mother washes with a pounding stick.'

(31) Pahpah el puckyać tuhlįhk sac.
     [+OBJ]
     father he hit-down child the
     'Father hit the child.'

(32) Nga nohnkuh mwet sac.
     [+NEU]
     I think man the
     'I think of the man.'

(33) Kuhn el muhsahi inum se.
     [+FAC]
     Kuhn he build kitchen one
     'Kuhn is building a kitchen.'

(34) Tuhlwen el ahkahsoryelah mukul sac.
     [+DAT]
     Tuhlwen she make-sad man the
     'Tuhlwen made the man sad.'
The accusative case form also manifests some subtypes of time and locative case relations, as shown below.

1. [+TIM, -dur, -ter], which denotes a point in time.
2. [+LOC, -dir, -ter], which denotes location.
3. [+TIM, +dur, -com], which denotes only a duration of time.
4. [+LOC, -dir, +ext], which denotes distance or extent.

(35) Sohn el tuhkuh fong.
    [+AC [+TIM, -dur, -ter]]
    John he come last night
    'John came last night.'

(36) Sah el lutlut Macrike.
    [+AC [+LOC, -dir, -ter]]
    Sah he study America
    'Sah is studying in America.'

(37) Sah el muhta Ponpe wik luo.
    [+AC [+TIM, +dur, -com]]
    Sah he stay Ponape week two
    'Sah stayed in Ponape for two weeks.'

(38) Kuhn el kofkof mael se lwen nuhkwewa.
    [+AC [+LOC, -dir, +ext]]
    Kuhn he swim mile one day every
    'Kuhn swims a mile every day.'

The same case relations represented in (35) and (36) can be manifested in the locative case form. The choice between the accusative and the locative case form depends upon the nature of the head nouns: when the head nouns are inherently [+time] or [+locative], the accusative form is
used and otherwise, the locative case form is used.

2.4.2.3 Locative case Form [+L]

The locative case form is marked by the inalienable noun ke. Ke has the following suffixed forms.

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st person form</td>
<td>keik</td>
</tr>
<tr>
<td>2nd person form</td>
<td>keim</td>
</tr>
<tr>
<td>3rd person form</td>
<td>kacl</td>
</tr>
<tr>
<td>Impersonal form</td>
<td>kac</td>
</tr>
<tr>
<td>Construct form</td>
<td>ke</td>
</tr>
</tbody>
</table>

The locative case form can represent the underlying case relations INS, OBJ, NEU, and FAC. Observe the following sentences in which the underlying case relations appear in the locative case form.

(39) Sah el orwaclah lohm sac ke simacn. [+L, +INS] Sah he built house the with cement 'Sah built the house with cement.'

(40) Fakfuhk ke pahko soko ah sel Sohn arlac wo. [+L, +OBJ] spear shark one the by John very good 'Spearing of the shark by John was very good.'

(41) Sramsram se lal Sohn ke mweun ah arlac sensen. [+L, +NEU] story one his John war the very fearful 'John's story about the war was very fearful.'

(42) Oreklac ke lohm sel Sah ah sonna tari. [+L, +FAC] building house his Sah the not-yet finished 'The building of Sah's house is not finished yet.'
The locative case form manifests the following subtypes of Time and Locative case relations.

1. [+TIM, +dur, +com], which denotes a duration of time as well as change of state, or attainment of a goal.
2. [+TIM, -dur, -ter], which denotes a point in time.
3. [+LOC, -dir, -ter], which denotes location.

Nuknuk sac rangranglah ke ao se.  
[+L, +TIM, +com]  
clothes the yellow-away hour one  
'The clothes became yellow in one hour.'

Sohn el tuhkakhack ke ao onkohsr.  
[+L, +TIM, -ter]  
John he wake-up hour six  
'John woke up at six o'clock.'

Sohn el muhta ke acn sac.  
[+L, +LOC, -ter]  
John he stay place the  
'John stays at the place.'

2.4.2.4 Dative Case Form [+D]

The dative case form is marked by the inalienable noun se ' (animate) location'. It has the following suffixed forms.

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st person form</td>
<td>sihk</td>
<td>sihktacl</td>
</tr>
<tr>
<td>2nd person form</td>
<td>sum</td>
<td>sumtacl</td>
</tr>
<tr>
<td>3rd person form</td>
<td>sel</td>
<td>seltahl</td>
</tr>
<tr>
<td>Impersonal form</td>
<td>se</td>
<td>se</td>
</tr>
<tr>
<td>Construct form</td>
<td>sin</td>
<td>sin</td>
</tr>
</tbody>
</table>
The dative case form can manifest the following case relations.

1. \([+\text{DAT}, -\text{dir}]\), which denotes animate locus.
2. \([+\text{DAT}, +\text{dir}, -\text{gol}]\), which denotes animate source.
3. \([+\text{AGT}]\) with passives.

The underlined actants in the following sentences illustrate the dative case form with different case relations.

(46) *Lohm sac kahto sihk.*
\[+[D, +\text{DAT}, -\text{dir}]\]
house the pretty to me
'The house seems pretty to me.'

(47) *Nga siyuhk mani ah sel Sepe.*
\[+[D, +\text{DAT}, +\text{dir}, -\text{gol}]\]
I ask money the of Sepe
'I asked the money of Sepe.'

(48) *Lohm sac orweyuhkla\_sin mwet mahtuh sac.*
\[+[D, +\text{AGT}]\]
house the make-passive man old the
'The house was built by the old man.'

2.4.2.5 Goal Case Form \([+\text{G}]\)

The underlying case relations Dative, Time and Locative have subtypes, one of which has the feature \([+\text{gol}]\). These subtypes are expressed by the goal case form, which is marked by the preposition *nuh* 'to'. The following sentences illustrate the goal case form and the case relations it can represent.
(49) Sepe el fahk nuh sel Sah ke pweng sac.
[+G, +DAT, +gol]
Sepe she say to Sah about news the
'Sepe talked to Sepe about the news.'

(50) Sepe el owo nuknuk nuh ke ao luo.
[+G, +TIM, +gol]
Sepe she wash clothes hour two
'Sepe washed clothes until two o'clock.'

(51) Sohn el kofkof nuh Leluh.
[+G, +LOC, +gol]
John he swim to Leluh
'John swam to Leluh.'

2.4.2.6 Source Case Form [+S]

The source case form is marked by the postposition me
'to the speaker' or lac 'away from a reference point'.
The underlined actants below show the relationship between
the source case form and the case relations it can represent.

(52) El tuhkuh Maclwem me nuh Leluh.
[+S, +LOC, +ter, -gol]
he come Maclwem to Leluh
'He came to Leluh from Maclwem.'

(53) El som nuh Utwac Maclwem lac.
[+S, +LOC, +ter, +gol]
he go to Utwac Maclwem away
'He went to Utwac Maclwem away.'

In (52) me is used and in (53) lac is used. The choice
between them depends upon the location of the speaker. Sen-
tence (52) implies that the speaker is in Leluh. On the
other hand, sentence (53) implies that the speaker is not in
Utwac.

In the following sentence the source case form manifests
a subtype of TIM case relation.

(54) Ninac el otwot fohtoh skweyah me.  
[+S, +TIM, -dur, -gol]  
mother she weave basket yesterday  
'Mother has been weaving baskets since yesterday.'

(55) Pahpah el ac orekma Leluh lutu lac.  
[+S, +TIM, -dur, -gol]  
father he will work tomorrow  
'Father will work in Leluh from tomorrow.'

In (54) me is used and in (55) lac is used. The choice between them depends upon whether the starting point precedes the moment of speaking or not: when it precedes the moment of speaking, me is used; otherwise, lac is used.

2.4.2.7 Summary

The relationship between the underlying case relations and their case forms are presented diagrammatically below. The symbol X is used when a certain underlying case relation appears in a certain case form.
<table>
<thead>
<tr>
<th>CASE RELATIONS</th>
<th>CASE FORMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subtypes</strong></td>
<td><strong>NM AC D L G S</strong></td>
</tr>
<tr>
<td>AGT</td>
<td>X X</td>
</tr>
<tr>
<td>INS</td>
<td>X X X X</td>
</tr>
<tr>
<td>OBJ</td>
<td>X X X X</td>
</tr>
<tr>
<td>NEU</td>
<td>X X X X</td>
</tr>
<tr>
<td>FAC</td>
<td>X X X X</td>
</tr>
<tr>
<td>DAT +dir</td>
<td>+gol X</td>
</tr>
<tr>
<td></td>
<td>-gol X</td>
</tr>
<tr>
<td></td>
<td>-dir X X</td>
</tr>
<tr>
<td>TIM +dur</td>
<td>+com X</td>
</tr>
<tr>
<td></td>
<td>-com X</td>
</tr>
<tr>
<td></td>
<td>-dur +ter +gol X</td>
</tr>
<tr>
<td></td>
<td>-ter +ext X</td>
</tr>
<tr>
<td></td>
<td>-ext X X</td>
</tr>
<tr>
<td>LOC +dir</td>
<td>+gol X</td>
</tr>
<tr>
<td></td>
<td>-gol</td>
</tr>
<tr>
<td></td>
<td>-dir +ext X</td>
</tr>
<tr>
<td></td>
<td>-ext X X</td>
</tr>
</tbody>
</table>

Figure 3

The following redundancy rules which predict the case forms can be formulated.

RR 1

\[
\begin{pmatrix}
[+DAT] \\
[+gol]
\end{pmatrix}
\begin{pmatrix}
[+TIM] \\
[+gol]
\end{pmatrix}
\begin{pmatrix}
[+LOC] \\
[+gol]
\end{pmatrix}
\rightarrow [+G]
\]
RR 1 predicts that the underlying case relations DAT, TIM, and LOC with the feature [+gol] are always manifested as the goal case form [+G], which is marked by *nuh* 'to'.

\[
\text{RR 2} \quad \begin{cases} [+\text{DAT}] \\ [-\text{gol}] \end{cases} \quad \longrightarrow [+\text{D}] \]

RR 2 predicts that the underlying case relation DAT with the feature [-gol] always appears in the dative case form [+D].

\[
\text{RR 3} \quad \begin{cases} 
\begin{cases} [+\text{TIM}] \\ [-\text{gol}] \end{cases} \\
\begin{cases} [+\text{LOC}] \\ [-\text{gol}] \end{cases} 
\end{cases} \quad \longrightarrow [+\text{S}] 
\]

RR 3 predicts that the case relations TIM and LOC with the feature [-gol] always appear in the source case form [+S].

\[
\text{RR 4} \quad \begin{cases} [+\text{TIM}] \\ [+\text{com}] \end{cases} \quad \longrightarrow [+\text{L}] 
\]

RR 4 predicts that the case relation TIM with the feature [+com] always appears in the locative case form.
RR 5 predicts that the case relation TIM with the feature [-com] or [+ext] always appear in the accusative case form. The case relation LOC with the feature [+ext] also appears in the accusative case form.

RR 6 predicts that the case relations TIM and LOC with the feature [-ext] appears in the accusative case form when the head nouns are inherently [+time] or [+locative].

RR 7 states that the case relations TIM and LOC with
the feature [-ext] appear in the locative case form when the head nouns are inherently [-time] or [-locative], respectively.
NOTES TO CHAPTER II

1. The word na is not accounted for by the PSR's. It can appear after an adverb, an adjective, a verb, a noun, or a noun phrase, as can be seen below.

(1) Sepe el srwack na mas.
    Sepe she still sick
    'Sepe is still sick.'

(2) Mongo ah kuluk na.
    food the bad
    'The food is very bad.'

(3) Nga etuh na lah el pa kuluk uh.
    I know that he bad the
    'I know very well that he is the bad one.'

(4) Nga siyuhk na inel na el foloyak.
    I ask name-her she angry
    'I just asked her name and she got angry.'

(5) Sohn el tuhlihk na srihsrihk se.
    John he child small one
    'John is a mere small child.'

(6) Sohn el tuhlihk srihsrihk se na.
    John he child small one
    'John is simply a child.'

Na has different meanings. When it is used with adjectives, adverbs, or stative verbs, it seems to intensify their meanings as in (1-3). When used with nonstative verbs, it means 'only', 'simply' or 'just' as in (4). When used with a noun or a noun phrase, it means 'mere' or 'simply'. 
2. In her study of transitive verbs in Thai, Kullavanijaya (1974:40-43) presents another alternative. Instead of positing the three separate case relations OBJ, FAC, and NEU, she posits one case relation OBJ. This decision is made on the assumption that the difference in the semantic information with regard to factive, neutral or objective case relation is due to the characteristics of the verbs. Therefore she has chosen to mark the verbs with the features [+affected] and [+factive]. Using these features, transitive verbs can be classified in the following way.

\[
\begin{array}{c}
+\text{agentive} \\
+\text{affected} \quad -\text{affected} \\
+\text{factive} \quad -\text{factive}
\end{array}
\]

According to her analysis, verbs such as to write, to build; to kill, to break; and to read, to report would be marked in the following way.

- to write, to build: \([+V, +\text{agentive}, +\text{affected}, +\text{factive}]\)
- to kill, to break: \([+V, +\text{agentive}, +\text{affected}, -\text{factive}]\)
- to read, to report: \([+V, +\text{agentive}, -\text{affected}]\)

Kullavanijaya's analysis makes it easy to capture the syntactic fact that the three case relations OBJ, NEU, and
FAC always appear in the same case form.

Another alternative would be to posit the OBJ case relation alone and subclassify it by using the same features, as in the following:

```
OBJ
  +affected -affected
  +factive -factive
```

In this analysis the three case relations OBJ, FAC and NEU would be expressed in the following way.

\[
\begin{align*}
[+OBJ] & = [+OBJ, +affected, -factive] \\
[+FAC] & = [+OBJ, +affected, +factive] \\
[+NEU] & = [+OBJ, -affected]
\end{align*}
\]

If the analysis of subclassifying the OBJ case relation with the features were adopted, it would also be easy to capture the syntactic fact that the three case relations appear in the same case form.
3.0 Introduction

Derivational rules are a set of rules which is a part of the lexicon (cf. Figure 2). These rules are used to predict the existence of a set of words on the basis of an existing set. Derivations presented in this chapter are all regular in the sense that the meanings of the derived words are predictable from the input words.¹

Each derivational rule (henceforth DR) is marked by a fletched arrow as shown below.

```
DR  [input]  ➔  [output]
MR
```

On the left-hand side of the arrow a description of the class of input words is presented in terms of their syntactic and semantic properties. On the right-hand side of the arrow a description of derived words are specified. The derivational rules are followed by morphological rules which add relevant affixes to the input words, when affixation is involved. Some other conventions which are used will be explained as they appear in the presentation.
3.1 Derivations of Transitive Verbs (1)

3.1.0 Introduction

Nouns can be changed into transitive verbs with the addition of the transitivizing suffix -i. We will examine this process of changing nouns into transitive verbs.

3.1.1 Derived Transitive Verbs from Nouns

Generally nouns can be freely changed into transitive verbs with the suffix -i. But in terms of semantic relationships that nouns and their derived verbs share and in terms of some other properties, nouns can be grouped in the following sets. The meanings of the derived verbs appear in parentheses.

1. Nouns that refer to tools or instruments: (to carry out a certain action with the tool or instrument denoted by the noun; to make or change something into the tool or instrument denoted by the noun.)

2. Nouns that refer to component parts: (to put or attach the component part denoted by the noun to some other objects.)

3. Nouns that refer to container: (to put or hold in the container denoted by the noun.)

4. Nouns that refer to additives or additive materials: (to add the additive denoted by the input noun to something else.)
5. Nouns that refer to measurement: (to measure something by the unit of measurement denoted by the input noun.)

6. Nouns that refer to means of transportation: (to transport something by means of the input noun.)

In the following paragraphs derivational rules will be formulated for the six sets of nouns presented above. The rules will be illustrated with example sentences.

The nouns listed below denote tools or instruments. The meanings of their corresponding derived transitive verbs can be ambiguous, as shown by their glosses.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>aen 'iron'</td>
<td>aeni 'to iron', 'to make something into an iron'</td>
</tr>
<tr>
<td>acmuhr 'hammer'</td>
<td>acmuhr 'to hammer', 'to make something into a hammer'</td>
</tr>
<tr>
<td>osra 'spear'</td>
<td>osrai 'to spear', 'to make something into a spear'</td>
</tr>
<tr>
<td>asi 'chop-stick'</td>
<td>asii 'to pick up with chop-sticks', 'to make something into chop-sticks'</td>
</tr>
</tbody>
</table>

In the following sentences the two different meanings of the derived verbs asii and osrai are exemplified.

(1) Sohn el asii mongo nwacl ah.  
John he food Cl-his the  
'John takes his food with chop-sticks.'
(2) Sohn el asii pahmpu soko ah.
John he bamboo one the
'John is making the bamboo stick into chopsticks.'

(3) Sepe el osrai ik ah.
Sepe she fish the
'Sepe is spearing the fish.'

(4) Sepe el osrai sahk soko ah.
Sepe she stick one the
'Sepe is making the stick into a spear.'

On the basis of the above observation, the following derivational rules can be formulated.

DR-1

\[ +N \]
\[ +\text{tool or instrument} \]
\[ \rightarrow \]
\[ +V \]
\[ +\text{NM} \]
\[ +\text{AGT} \]
\[ +\text{AC} \]
\[ +\text{FAC} \]
\[ 'to make something into N' \]

DR-2

\[ +N \]
\[ +\text{tool or instrument} \]
\[ \rightarrow \]
\[ +V \]
\[ +\text{NM} \]
\[ +\text{AGT} \]
\[ +\text{AC} \]
\[ +\text{INS} \]
\[ 'to do something using N' \]

MR-1

\[ [-i]_V \]
\[ / [\text{+derived, +tool}] \]
DR-1 states that given nouns which denote or refer to tools or instruments, there can be corresponding transitive verbs with the following main properties: the actant which appears as the grammatical subject (the [+NM] case form) has the AGT case relation and the one which appears in the accusative case form ([+AC]) has the FAC case relation.

DR-2 shares a great deal of similarity with DR-1. But it differs from it in the following respect. In DR-1 the actant which appears in the [+AC] case form has the FAC case relation, whereas in DR-2 the one which appears in the [+AC] case form has the INS case relation.

The things referred to by the following nouns can denote component parts of objects. Corresponding to these nouns, there can be transitive verbs whose meaning is "to attach or put something onto...". Observe the following pairs of nouns and their derived transitive verbs.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>pakiht</td>
<td>'pocket' pakihti 'to put a pocket on'</td>
</tr>
<tr>
<td>fung</td>
<td>'handle' fungi 'to put a handle on'</td>
</tr>
<tr>
<td>em</td>
<td>'outrigger emi 'to put a outrigger boom to'</td>
</tr>
<tr>
<td>kala</td>
<td>'collar' kalai 'to put a collar on'</td>
</tr>
</tbody>
</table>

In the following sentences the derived verbs pakihti and kalai are exemplified.
In (5-6) the noun phrases following the verbs stand in the OBJ case relation to the verbs. That is, the noun phrases are acted upon and affected by the actions denoted by the verbs. The following derivational rule is formulated.

\[
\text{DR-3} \quad \begin{array}{c}
\left[ +N \\
+\text{component part} \\
\end{array} & \rightarrow & \begin{array}{c}
+V \\
+\text{NM} \\
+\text{AGT} \\
+\text{AC} \\
+\text{OBJ}
\end{array}
\end{array}
\]

\['\text{to attach N to...}']

\text{MR-1}

When nouns refer to containers, verbs derived from these nouns mean 'to put or place something in X'. Look at the following pairs of nouns and their derived verbs.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>suhfahi 'bottle'</td>
<td>suhfahi 'to put in a bottle'</td>
</tr>
<tr>
<td>tin 'can'</td>
<td>tini 'to put in a can'</td>
</tr>
<tr>
<td>kuhlaha 'glass'</td>
<td>kuhlaha 'to put in a glass'</td>
</tr>
<tr>
<td>pol 'bowl'</td>
<td>poli 'to put in a bowl'</td>
</tr>
</tbody>
</table>

The derived verbs suhfahi and tini are exemplified in
the following sentences.

(7) Sepe el suhfahi mil ah.
Sepe she milk the
'Sepe is putting the milk in a bottle.'

(8) Sepe el tini rais ah.
Sepe she rice the
'Sepe is putting the rice in a can.'

In the above sentences the noun phrases following the verbs stand in the NEU case relation to the verbs. The derivational rule below is formulated to capture the relatedness between the nouns and their derived verbs.

\[
\text{DR-4} \quad \left[ \begin{array}{c} +N \\
+\text{container} \end{array} \right] \rightarrow \left[ \begin{array}{c} +V \\
+\text{NM} \\
+\text{AGT} \\
+AC \\
+\text{NEU} \end{array} \right] \\
\text{'to put or to place in N'}
\]

\[
\text{MR-1} \quad \left[ N \right] \rightarrow \left[ V \right] \rightarrow [-i]_V \\
\text{[+derived, +container]}
\]

The nouns listed below refer to things which can be used as additives. Verbs derived from these nouns mean 'to add or apply N to...' Some pairs of nouns of this sort and their derived verbs are presented below.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>suka</td>
<td>sukai 'to add sugar to'</td>
</tr>
<tr>
<td>pein</td>
<td>peini 'to apply paint to'</td>
</tr>
</tbody>
</table>
The derived verbs sukai and sohli are used in the following sentences.

(9) Sah el sukai kohfi nihmacl ah.
    Sah he coffee Cl-his the
    'Sah adds sugar to his coffee.'

(10) Sah el sohli ik ah.
     Sah he fish the
     'Sah is salting the fish.'

The noun phrases following the verbs in (9-10) stand in the OBJ case relation to the verbs. That is, they denote things which can be changed in taste, shape or color. The derivational rule below is formulated for such cases.

\[
\text{DR-5} \quad \begin{cases} 
  \frac{[ +N \text{, +additive} ]}{\xrightarrow{}} \\
  \quad \frac{[ +V \text{, +NM, +AGT, +AC}]}{\xrightarrow{\text{to add N to}}} \\
  \quad \frac{[ +OBJ \text{, +additive}]}{\xrightarrow{}} \\
\end{cases} 
\]

\[
\text{MR-4} \quad \frac{[ +N ]}{\xrightarrow{\text{-i}}} \quad \frac{[ +\text{derived}, +\text{additive}]}{\xrightarrow{}}
\]

When nouns denoting units of measurement are changed into verbs, the derived verbs mean 'to measure by the N' as we can see in the following pairs of nouns and their derived
The derived verbs *aunsi* and *kacluhni* are exemplified in the following sentences.

(11) Sepe el *aunsi* suka ah.
Sepe she *sugar the*
'Sepe is measuring the sugar by the ounce.'

(12) Sah el *kacluhni* kahslin ah.
Sah he *gasoline the*
'Sah is measuring the gasoline by the gallon.'

The noun phrases following the derived verbs in (11-12) stand in the NEU case relation to the verbs. That is, they are acted upon but are not affected by the actions of the verbs. The derivational rule is formulated for the pairs of nouns and derived verbs.

\[
\text{DR-6} \quad \begin{array}{c}
+ \text{N} \\
+ \text{unit of measurement}
\end{array} \xrightarrow{\quad} \begin{array}{c}
+ \text{V} \\
+ \text{NM} \\
+ \text{AGT}
\end{array} + \begin{array}{c}
+ \text{AC} \\
+ \text{NEU}
\end{array} \quad \text{'}to measure by the N'
\]
When nouns denoting transportational means are changed into verbs, the derived verbs mean 'to move or transport by means of N'. Look at the following pairs of nouns and derived verbs.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>sikutuhri 'scooter'</td>
<td>sikutuhri 'to transport by means of scooter'</td>
</tr>
<tr>
<td>oak sohki 'airplane'</td>
<td>oak sohki 'to transport by means of airplane'</td>
</tr>
<tr>
<td>puhs 'bus'</td>
<td>puhsi 'to transport by means of bus'</td>
</tr>
<tr>
<td>twacksi 'taxi'</td>
<td>twacksi 'to transport by means of taxi'</td>
</tr>
</tbody>
</table>

The derived verbs oak sohki and puhsi are used in the following sentences.

(13) El oak sohki ma lal ah nuh Macrike. 'He sent his things to America by means of airplane.'

(14) El puhsi tuhlihk lutilt ah nuh Maclwem. 'He sent the students to Maclwem by bus.'

The objects of the derived verbs in (13-14) are acted upon and undergo changes in location. But they are not themselves affected. On the basis of observations made above the following derivational rule is formulated.
3.2 Derivation of Transitive Verbs (2)

3.2.0 Introduction

The suffix -kihn is used to derive transitive verbs from nouns, adjectives and intransitive verbs. In this section we will examine the properties of derived transitive verbs with the addition of the suffix -kihn.

3.2.1 Nouns into Transitive Verbs

When transitive verbs are derived from nouns with the addition of the suffix -kihn, they fall into two major classes in terms of case relations. The pairs of nouns and their derived verbs below fall into one class.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>mitmit</td>
<td>mitmitkihn 'to use X as a knife'</td>
</tr>
<tr>
<td>tuhla</td>
<td>tuhlaikihn 'to use X as an ax'</td>
</tr>
<tr>
<td>ahluh</td>
<td>ahluhkihn 'to use X as a bowl'</td>
</tr>
<tr>
<td>pik</td>
<td>pikikihn 'to use X as a pick'</td>
</tr>
<tr>
<td>pacng</td>
<td>pacngkihn 'to use X as a pen'</td>
</tr>
</tbody>
</table>
The derived verbs *mitmitkihn* and *tuhlakihn* are exemplified in the following sentences.

(15) Nga *mitmitkihn* ful sac.
    I shell the
    'I use the shell as a knife.'

(16) Pahpah el *tuhlakihn* pik ah.
    father he pick the
    'Father uses the pick as an ax.'

In some cases, the input noun and the head noun of the object noun phrase of the derived transitive verb are the same in form except for the suffix in the verb. In this case, the derived verb simply means 'to use'. Look at the following sentences.

(17) Nga *mitmitkihn* mitmit sac.
    I knife the
    'I use the knife.'

(18) Sohn el *tepuhkihn* tepuh se luhk ah.
    John he table one Cl-my the
    'John uses my table.'

The grammatical subjects of the sentences in (15-18) in which the derived verbs are used stand in the AGT case relation to the verbs. The objects of the verbs stand in the INS case relation. The following derivational rule is formulated.
The following pairs of nouns and their derived verbs fall into another class.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>pahpah 'father'</td>
<td>pahpahkihn 'to regard X as a father'</td>
</tr>
<tr>
<td>ninac 'mother'</td>
<td>ninackihn 'to regard X as a mother'</td>
</tr>
<tr>
<td>tuhlihk 'child'</td>
<td>tuhlihkkihn 'to regard X as a child'</td>
</tr>
<tr>
<td>ahwowo 'baby'</td>
<td>ahwowokihn 'to regard X as a baby'</td>
</tr>
</tbody>
</table>

In the following sentences the derived verbs pahpahkihn and ninackihn are exemplified.

(19) Kuht pahpahkihn mukul wiyen pahpah tuhmuhk uh. we man Cl-of father Cl-my the 'We regard my father's brother as father.'

(20) El ninackihn muhtwacn wiyen ninac kiyacsr uh. he woman Cl-of mother Cl-our the 'He regards our mother's sisters as mother.'

Generally nouns denoting kinship relationships can be input to the derivational process. The derived verbs generally mean 'to regard X as N'. The following derivational
rule is formulated to capture the relationship that we have observed.

\[
\text{DR-9} \quad \left[ \begin{array}{c}
+V \\
+\text{kinship}
\end{array} \right] \quad \rightarrow \quad \left[ \begin{array}{c}
+V \\
+\text{NM} \\
+\text{DAT} \\
+\text{AC} \\
+\text{NEU}
\end{array} \right]
\]

\text{MR-7}

3.2.2 Intransitive Verbs into Transitive Verbs

For intransitive verbs, the following derivational rule is formulated.

\[
\text{DR-10} \quad \left[ \begin{array}{c}
+V \\
+\text{NM} \\
+\text{AGT}
\end{array} \right] \quad \rightarrow \quad \left[ \begin{array}{c}
+V \\
+\text{NM} \\
+\text{AGT} \\
+\text{AC} \\
+\text{INS}
\end{array} \right]
\]

\text{MR-7}

\text{DR-10} \text{ predicts that intransitive verbs with the case frame features [+NM, +AGT] can have their corresponding transitive verbs with a new actant [+AC, +INS]. In (21) an intransitive verb is used and in (22) its derived transitive}
verb is used.

(21) Sah el ahtu nuh ke lah sac.
Sah he jump to branch the
'Sah jumps to the branch.'

(22) Sah el ahtukihn sahk soko ah.
Sah he stick one the
'Sah jumps with the stick.'

Some additional pairs of intransitive verbs and their
derived transitive verbs are presented below.

<table>
<thead>
<tr>
<th>Intransitive Verbs</th>
<th>Transitive Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>som</td>
<td>somkihn 'to go by means of'</td>
</tr>
<tr>
<td>owo</td>
<td>owokihn 'to wash with'</td>
</tr>
<tr>
<td>puopo</td>
<td>puopokihn 'to hit with'</td>
</tr>
<tr>
<td>sihm</td>
<td>sihmkihn 'to write with'</td>
</tr>
</tbody>
</table>

3.2.3 Adjectives into Transitive Verbs

Transitive verbs derived from adjectives can be grouped
into two classes in terms of the properties of derived
verbs and also those of input adjectives.

In the following list the adjectives are descriptive
of human emotion or feeling. When they are changed into
verbs, the derived verbs mean 'to be in a certain state
because of'.
Adjectives Transitive Verbs

ahsor 'sad' ahsorkihn 'to be sad about'
pwacr 'glad' pwacrkihn 'to be glad of'
sensen 'worried' sensenkihn 'to be worried about'
tuhfal 'nervous' tuhfalkihn 'to be nervous about'
mwekihn 'shy' mwekihnikihn 'to be shy about'

In the following sentences the derived verbs are used.

(23) Ninac el ahsorkihn tuhlihk nahtuhl ah.
    mother she child Cl-her the
    'Mother is sad because of her children.'

(24) Sah el pwacrkihn lwacta se lal ah.
    Sah he letter one Cl-his the
    'Sah is glad about the letter.'

The grammatical subjects in (23-24) stand in the DAT case relation to the verbs. The objects of the transitive verbs stand in the INS case relation to the verbs. The following derivational rule is formulated to capture the relationship between the adjectives and the derived verbs.

DR-11

\[
\begin{array}{c}
\text{+Adj} \\
\text{+NM} \\
\text{+DAT} \\
F_i \\
\end{array}
\rightarrow
\begin{array}{c}
\text{+V} \\
\text{+NM} \\
\text{+DAT} \\
F_i \\
\end{array}
\]

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

'to be in a state because of'

MR-7
The symbol $F_1$ in DR-II indicates that identical selectional restrictions are imposed on the DAT actants of the input and output words.

The adjectives listed below, on the other hand, are not descriptive of emotion or feeling. When these adjectives are changed into transitive verbs, they mean 'to regard X as...'.

<table>
<thead>
<tr>
<th>Adjective</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>tuhpis</td>
<td>'ugly' tuhpiskihn 'to regard as ugly'</td>
</tr>
<tr>
<td>oaskuh</td>
<td>'excellent' oaskuhkihn 'to regard as excellent'</td>
</tr>
<tr>
<td>kahto</td>
<td>'pretty' kahtokihn 'to regard as pretty'</td>
</tr>
<tr>
<td>suhfal</td>
<td>'unfit' suhfalkihn 'to regard as unfit'</td>
</tr>
</tbody>
</table>

Observe the following sentences in which the derived verbs tuhpiskihn and oaskuhkihn are used.

(25) Sah el tuhpiskihn tuhlihk muhtwacn sac. Sah he child female the 'Sah regards the girl as ugly.'

(26) Sah el oaskuhkihn ma se ma Sepe el orwaclah ah. Sah he thing a RP Sepe she did the 'Sah regards as excellent what Sepe had done.'

The grammatical subjects in (25-26) stand in the DAT case relation and the objects of the derived verbs stand in the NEU case relation. The following derivational rule is formulated to capture the relations above.
3.3 Reciprocalization

3.3.0 Introduction

The prefix ~a- and the suffix -i are used to derive reciprocal verbs from intransitive verbs, adjectives and certain transitive verbs. In this section we will observe the properties of the derived words.

3.3.1 Intransitive Verbs into Reciprocal Verbs

When intransitive verbs are changed into reciprocal verbs, the idea of reciprocal, mutual or competitive action is added to the input words, as we can see in the following list.

<table>
<thead>
<tr>
<th>Intransitive Verbs</th>
<th>Reciprocal Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>acnwhk 'to fight'</td>
<td>aacnwhki 'to fight with each other'</td>
</tr>
<tr>
<td>futfut 'to kick'</td>
<td>afutfuti 'to kick each other', to kick one after another', 'to kick together'</td>
</tr>
<tr>
<td>manman 'to cook'</td>
<td>amanmani 'to cook one after another', 'to cook together'</td>
</tr>
</tbody>
</table>
The derived reciprocal verb *afutfuti* is exemplified in the following sentences.

(27) Eltahl *afutfuti* nuh sie sin sie.  
*They kicked each other.'

(28) Eltahl *afutfuti* ke pohl se.  
*They kicked at the ball one after the other.'

As we can see in (27-28), the grammatical subjects of such reciprocal verbs must be plural. The derivational rule below is formulated to capture the relationship between the intransitive verbs and their derived reciprocal verbs.

\[
\text{DR-13} \quad \left[ +V \left[ +\text{NM} \right] +\text{AGT} \right] \longrightarrow \left[ +V +\text{reciprocal} \left[ +\text{NM} +\text{AGT} -Sg \right] \right]
\]

\[
\text{MR-8} \quad [X]_V \longrightarrow [a-X-i]_V / [+\text{reciprocal}]
\]

3.3.2 Transitive Verbs into Reciprocals

Transitive verbs whose meaning is related to perceptions can be changed into reciprocal verbs. Some pairs of verbs of perception and their derived reciprocal verbs are listed below.
<table>
<thead>
<tr>
<th>Verbs</th>
<th>Reciprocals</th>
</tr>
</thead>
<tbody>
<tr>
<td>liye 'to see'</td>
<td>aliyei 'to see each other'</td>
</tr>
<tr>
<td>etuh 'to know'</td>
<td>aetuhi 'to know each other'</td>
</tr>
<tr>
<td>luhngse 'to love'</td>
<td>aluhngsei 'to love each other'</td>
</tr>
<tr>
<td>koase 'to hate'</td>
<td>akoasei 'to hate each other'</td>
</tr>
<tr>
<td>lohng 'to hear'</td>
<td>alohngi 'to hear each other'</td>
</tr>
<tr>
<td>esam 'to remember'</td>
<td>aesami 'to remember each other'</td>
</tr>
</tbody>
</table>

In order to see changes in case frame features of a transitive verb and its corresponding reciprocal verb, let us observe the following set of sentences.

(29) Sohn el esam inen muhtwacn sac.
     Sohn he name-of woman the
     'John remembers the woman's name.'

(30) Sohn ac Sah aesami.
     John and Sah
     'John and Sah remember each other.'

(31) Sohn ac Sah aesami ke inen muhtwacn sac.
     name-of woman the
     'John and Sah both remember the woman's name.'

In (29) the transitive verb esam 'to remember' is used and its object is inen muhtwacn sac 'the woman's name'. In (30) a reciprocal verb aesami is used but no other actant follows it. In (31) the reciprocal verb aesami is followed by an actant which appears in the locative case form. The [+L] actant in (31) has the same case relation, [+NEU], as the [+AC] actant in (29) to the verb esam 'to remember'. 
A reciprocal verb without a [+L, +NEU] actant denotes reciprocal perception, and with a [+L, +NEU] actant it denotes a common perception. The following derivational rule is formulated to capture the relationship.

\[
\text{DR-14} \quad +v \quad +\text{perception} \quad +\text{NM} \quad +\text{DAT} \quad +\text{AC} \quad +\text{NEU} \quad \rightarrow \quad +v \quad +\text{reciprocal} \quad +\text{NM} \quad +\text{DAT} \quad \neg \text{Sg} \quad +\text{L} \quad +\text{NEU}
\]

3.3.3 Adjectives into Reciprocals

Some adjectives can occur with actants [+G, +DAT]. The adjective kuluk 'bad', for example, can occur with such actants, as shown below.

\(32\) Sohn el kuluk nuh sihk.
John he bad to me
'John is being bad to me.'

On the other hand, there are adjectives that cannot occur with actants of [+G, +DAT]. The adjective ahsor is an example.

\(33\) #Sohn el ahsor nuh sihk.
John he sad to me
'John is being sad to me.'
The term **inward-directed adjectives** will be used to refer to adjectives such as *ahsor* 'sad' which cannot occur with [+G, +DAT] actants. The term **outward-directed adjective** will be used to refer to adjectives such as *kuluk* 'bad', which can be used with [+G, +DAT] actants.

Reciprocal verbs derived from inward-directed adjectives mean 'to share a certain feeling or state', as can be seen in the following pairs of words.

<table>
<thead>
<tr>
<th>Adjectives</th>
<th>Reciprocals</th>
</tr>
</thead>
<tbody>
<tr>
<td>ahsor 'sad'</td>
<td>aahsori 'all are sad'</td>
</tr>
<tr>
<td>kahto 'pretty'</td>
<td>akahtoi 'all are pretty'</td>
</tr>
<tr>
<td>fal 'fit'</td>
<td>afali 'all are fit'</td>
</tr>
<tr>
<td>emwem 'sweet'</td>
<td>aemwemi 'all are sweet'</td>
</tr>
</tbody>
</table>

The following derivational rule can be formulated for the inward-directed adjectives.

\[
\text{DR-15} \quad \left[\begin{array}{c}
+\text{Adj} \\
+\text{inward-directed} \\
+\text{NM} \\
\{+\text{DAT}\} \\
\{+\text{OBJ}\}
\end{array}\right] \rightarrow \left[\begin{array}{c}
+\text{V} \\
+\text{reciprocal} \\
+\text{NM} \\
\{+\text{DAT}\} \\
\{+\text{OBJ}\}
\end{array}\right] \quad \text{'to share a feeling or a state'}
\]

\[
\text{MR-8} \quad \left[\begin{array}{c}
\end{array}\right]
\]

On the other hand, reciprocals derived from outward-directed adjectives mean 'to behave in a certain way to each
other'. Look at the following pairs of adjectives and reciprocals.

<table>
<thead>
<tr>
<th>Adjectives</th>
<th>Reciprocals</th>
</tr>
</thead>
<tbody>
<tr>
<td>tuhngahk 'boastful'</td>
<td>atuhngahki 'to be boastful to each other'</td>
</tr>
<tr>
<td>suhlallacl 'mean'</td>
<td>asuhlallacli 'to be mean to each other'</td>
</tr>
<tr>
<td>kuhlwacong 'kind'</td>
<td>akuhlwacongi 'to be kind to each other'</td>
</tr>
<tr>
<td>srohwohsr 'stingy'</td>
<td>asrohwohsri 'to be stingy to each other'</td>
</tr>
</tbody>
</table>

The derived reciprocals akuhlwacongi 'to be kind to each other' and asuhlallacli are used in the following sentences.

(34) Eltahl akuhlwacongi nuh sie sin sie. 
     they to one one 
     'They are kind to each other.'

(35) Eltahl asuhlallacli nuh sie sin sie. 
     they to one one 
     'They are mean to each other.'

The following derivational rule is formulated to predict reciprocals from outward-directed adjectives.

\[
\text{DR-16} \quad [\text{+Adj} \quad \text{+outward-directed} \quad [\text{+NM}] \quad [\text{+OBJ}]] \\
[\text{+V} \quad \text{+reciprocal} \quad [\text{+NM}] \quad [\text{+AGT}] \quad \text{Sg}] \\
\text{''to behave in a certain way to each other''}
\]
3.4 Derivations of Adjectives

There are two processes of deriving adjectives. One derives them from verbs by the addition of the suffix -twen. The other derives them from nouns through the process of reduplication. In the following sections we will examine the two processes.

3.4.1 Deriving Adjectives from Verbs

In the list below pairs of verbs and their derived adjectives are presented. Generally, the meanings of the verbs are related to perception, mental activity or skills.

<table>
<thead>
<tr>
<th>Verbs</th>
<th>Adjectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>ngusrok 'to smell'</td>
<td>ngusroktwen 'good at smelling'</td>
</tr>
<tr>
<td>lohng 'to hear'</td>
<td>lohngtwen 'good at hearing'</td>
</tr>
<tr>
<td>etuh 'to know'</td>
<td>etuhtwen 'good at knowing', 'understanding'</td>
</tr>
<tr>
<td>esam 'to remember'</td>
<td>esamtwen 'good at remembering'</td>
</tr>
<tr>
<td>liye 'to see'</td>
<td>liyetwen 'good at seeing'</td>
</tr>
<tr>
<td>sruok 'to catch'</td>
<td>sruoktwen 'good at catching'</td>
</tr>
<tr>
<td>ahkos 'to obey'</td>
<td>ahkostwen 'obedient'</td>
</tr>
</tbody>
</table>

The derived adjectives ngusroktwen and lohngtwen are used in the following sentences.

(36) Sohn el arlac ngusroktwen.  
John he very  
'John is very good at smelling.'

(37) Sepe el arlac lohngtwen.  
Sepe she very  
'Sepe is very good at hearing.'
In the list above two types of verbs are included together in terms of case frame features. The verb *sauk* 'to catch' and *esam* 'to remember' differ from each other, as they are presented in the following case frame features.

In the list above two types of verbs are included together in terms of case frame features. The verb *sauk* 'to catch' and *esam* 'to remember' differ from each other, as they are presented in the following case frame features.

The two underlying case relations of AGT and OBJ are associated with *sauk*, and those of DAT and NEU are associated with *esam*. However, the different case frame features of the input words in this case are not essential to the derivational process. What is essential is the meaning of the input verbs: they must be related to perception, mental activity or skill.

The following derivational rule is formulated.

\[
\text{DR-17} \quad \begin{array}{c}
\text{+V} \\
\text{perception,} \\
\text{+ mental activity, skill} \\
\text{+ [NM]} \\
\text{+ [AGT/ + DAT]} \\
\text{+ [AC/ + OBJ/ + NEU]}
\end{array} \rightarrow \begin{array}{c}
\text{+Adj} \\
\text{+ derived} \\
\text{+ [NM]} \\
\text{+ [OBJ]} \\
\text{+ ability}
\end{array}
\]

\[
\text{MR-9} \quad \begin{array}{c}
\text{V} \\
\rightarrow \text{-tuen]\text{Adj}}
\end{array}
\]
3.4.2 Deriving Adjectives from Nouns

Certain nouns can become adjectives when they are reduplicated. Monosyllabic nouns undergo complete reduplication and polysyllabic nouns undergo partial reduplication -- of the last syllable. (Put another way, the last syllable is reduplicated in all instances.) In the list below, pairs of nouns and their derived adjectives are presented.

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Adjectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>fohk</td>
<td>'dirt'</td>
</tr>
<tr>
<td>puhk</td>
<td>'sand'</td>
</tr>
<tr>
<td>lah</td>
<td>'branch'</td>
</tr>
<tr>
<td>noa</td>
<td>'wave'</td>
</tr>
<tr>
<td>sri</td>
<td>'bone'</td>
</tr>
<tr>
<td>fiyoh</td>
<td>'sweat'</td>
</tr>
<tr>
<td>loa</td>
<td>'reed'</td>
</tr>
<tr>
<td>kihris</td>
<td>'grease'</td>
</tr>
<tr>
<td>mihsac</td>
<td>'fray'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Adjectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>fohkfohk</td>
<td>'dirty'</td>
</tr>
<tr>
<td>puhkpuhk</td>
<td>'sandy'</td>
</tr>
<tr>
<td>lahlah</td>
<td>'branchy'</td>
</tr>
<tr>
<td>noanoa</td>
<td>'wavy'</td>
</tr>
<tr>
<td>srisri</td>
<td>'bony'</td>
</tr>
<tr>
<td>iiyohyo</td>
<td>'sweaty'</td>
</tr>
<tr>
<td>loaloa</td>
<td>'reedy'</td>
</tr>
<tr>
<td>kihrisris</td>
<td>'greasy'</td>
</tr>
<tr>
<td>mihsacsac</td>
<td>'frayed'</td>
</tr>
</tbody>
</table>

The derived adjectives fohkfohk and puhkpuhk are exemplified in the sentences below.

(38) Lohm sac arlac fohkfohk.  
house the very dirty  
'The house is very dirty.'

(39) Niyacl Sohn puhkpuhk na pwacye.  
leg-his John really  
'John's legs are covered with sand.'

Nouns that denote materials which are characteristic or descriptive of a certain place can be input to the
Derivational rule below.

\[
\text{DR-18} \quad [+N] \quad \rightarrow \quad \left[ +\text{Adj} \right. \\
\left. +\text{derived} \right. \\
\left. +\text{covered with } N' \right. \\
\left. +\text{lots of } N' \right. \\
\left. +\text{OBJ} \right. \\
\left. \text{ 'covered with } N' \right. \\
\left. \text{ 'lots of } N' \right.
\] 

\text{MR-10 Reduplication (See footnote 3)}

The input noun must be constrained in certain ways, because not all nouns can be input to the derivational rule above. A general characteristic of the input nouns has been made, but there are many exceptions. For example, both sahk 'tree' and mah 'grass' can be characteristic of certain places. Mah 'grass' can have its corresponding adjective mahmah 'grassy', but the expected adjective sahksahk 'lots of trees or covered with trees' does not exist.

One possible, but least desirable approach is to use a rule feature. For those nouns that can undergo DR-18, they are to be marked as [+DR-18], and for those that cannot undergo the rule they can be marked as [-DR-18].

3.5 Causativization

3.5.0 Introduction

Certain verbs and adjectives can be changed into causative verbs with the addition of the causative prefix
ahk- and the suffix -ye. We will examine the properties of the input words and those of the derived causative verbs in the following sections.

3.5.1 Causative Verbs from Intransitive Verbs

Here we will examine the properties of causative verbs derived from intransitive verbs. The two underlined verbs in (40-41) show the relation between intransitive verbs and their corresponding causative verbs. In (40) the intransitive verb sismohk 'to smoke' is used and in (41) its corresponding causative verb is used.

(40) Tuhlihk sac sismohk.
    child the smoke
    'The child is smoking.'

(41) Sohn el ahksismohkye tuhlihk sac.
    John he ahksismohkye child the

The grammatical subject tuhlihk sac in (40) stands in the AGT case relation to the verb. The grammatical subject Sohn in (41) also stands in the AGT case relation to the derived causative verb. The verb sismohk is an intransitive verb but its derived causative verb ahksismohkye is a transitive verb. When we compare the grammatical subject in (40) with the object of the causative verb in (41), we find that in both cases the one who smokes is tuhlihk sac 'the child'.

This seems to suggest that the grammatical subject in
(40) and the object in (41) both have the underlying case relation of AGT to their respective verbs. But in the case of sentence (41), the grammatical subject already has the AGT case relation. This results in sentence (41) having two AGT case relations. But these two AGT case relations are not exactly the same. The grammatical subject is an instigator and the object is a doer of the action. The AGT case relation is defined as "a typically animate instigator and doer of a certain action." In the case of sentence (41), the AGT case relation seems to have been split up into two different cases. So it is not easy to assign proper underlying case relations to the two actants. In this study the AGT case relation is assigned to the grammatical subject and the OBJ case relation to the object of the causative verb.

The following derivational rule is formulated to capture the relatedness between intransitive verbs and their derived causative verbs.

\[
\text{DR-19} \quad \begin{array}{c}
\begin{array}{c}
+V \\
+\text{intransitive} \\
+\text{NM} \\
+\text{AGT} \\
F_i \\
\end{array} \\
\end{array} \rightarrow \\
\begin{array}{c}
\begin{array}{c}
+V \\
+\text{derived} \\
+\text{causative} \\
+\text{NM} \\
+\text{AGT} \\
+\text{AC} \\
+\text{OBJ} \\
F_i \\
\end{array} \\
\end{array}
\]

\[
\text{MR-11} \quad [X]_V \quad \rightarrow \quad [\text{ahk-X-ye}] / [+\text{causative}]
\]
DR-19 states that corresponding to an intransitive verb whose grammatical subject stands in the AGT case relation, there is a causative verb. The grammatical subject of the causative verb has the AGT case relation to the verb and the object has the OBJ case relation. The grammatical subject of the causative verb is one that is added through causativization. The [+AC] actant of the causative verbs corresponds to the grammatical subject of the intransitive verb, which is indicated with the set of selectional feature $F_i$.

In the following pairs of sentences the intransitive verbs and their corresponding causative verbs are exemplified.

(42)  a. Mwet sac som nuh Ponpe.  
      man the go to Ponape  
      [+NM, +AGT]  
      'The man went to Ponape.'

      b. Sepe el ahksomye mwet sac nuh Ponpe.  
         Sepe she man the to Ponape  
         [+NM,+AGT] [+AC,+OBJ]  
         'Sepe made the man go to Ponape.'

(43)  a. Tuhlihk sac sihm-lwacta.  
      child the write-letter  
      [+NM,+AGT]  
      'The child is writing letters.'

      b. Pahpah el ahksihm-lwactaye tuhlihk sac.  
         father he child the  
         [+NM,+AGT] [+AC,+OBJ]  
         'Father made the child write letters.'

DR-19 can be made more general. The [+NM] actant of input intransitive verbs can be OBJ or NEU besides AGT and
the [+NM] actant of the derived causative verbs can be INS besides AGT. To see this, let us observe the following sentences in which an intransitive verb and its derived causative verb are used.

(44) a. Ahluh sac puhtatlac.
    bowl the fall off
    [+NM, +NEU]
    'The bowl fell off.'

b. Sohn el ahkpuintatylah ahluh sac.
    John he bowl the
    [+NM, +AGT] [+AC, +OBJ]
    'John made the bowl fall off.'

c. Kihm sac ahkpuintatylah ahluh sac.
    thump the bowl the
    [+NM, +INS] [+AC, +OBJ]
    'The thumping sound made the bowl fall off.'

In (44a) the intransitive verb puhtatlac is used and the grammatical subject has the NEU case relation to the verb. In (44b-c) the derived causative verb ahkpuintatylah is used. In (44b) the grammatical subject has the AGT case relation--and in (44c) it has the INS case relation--to the causative verb. Observe the following additional set of examples.

(45) a. Yot sac ipiplac.
    stone the roll away
    [+NM, +NEU]
    'The stone rolled away.'

b. Sah el ahkipipyelah yot sac.
    Sah eh stone the
    [+NM, +AGT] [+AC, +OBJ]
'Sah caused the stone to roll away.'

(45) c. Mukwikwi se ahkipipyelah yet sac.

quake one stone the

[+NM,+INS] [+AC,+OBJ]

'An earthquake caused the stone to roll away.'

The derivational rule below is an revised and expanded version of DR-19.

\[
\begin{array}{c}
\text{DR-19'} \\
\text{+V} \\
\text{+intransitive} \\
\text{+NM} \\
\text{\{+AGT, +NEU\}} \\
\text{F_i} \\
\end{array} \\
\begin{array}{c}
\text{+V} \\
\text{+derived} \\
\text{+causative} \\
\text{+NM} \\
\text{\{+AGT, +INS\}} \\
\text{F_i} \\
\end{array} \\
\begin{array}{c}
\text{+AC} \\
\text{+OBJ} \\
\end{array}
\]

3.5.2 Causative Verbs from Adjectives

Adjectives can be changed into causative verbs with the addition of the causative prefix and suffix. The adjective ahsor 'sad', for example, has its corresponding causative verb ahkahsorye 'to cause one to be sad'. The two words are exemplified in the following sentences.

(46) Muhtwacn sac arlac ahsor.

woman the very sad

[+NM,+DAT]

'The woman is very sad.'

(47) Pweng na kuluk se ahkahsorye muhtwacn sac.

news bad one woman the

[+NM,+INS] [+AC,+DAT]
Some bad news caused the woman to be sad.

(48) Sah el ahkahsorye muhtwacn sac.
Sah he woman the
[+NM,+AGT] [+AC,+DAT]
'Sah caused the woman to be sad.'

In (46) the grammatical subject has the DAT case relation to the adjective. In (47) the grammatical subject stands in the INS case relation and in (48) it stands in the AGT case relation to the causative verbs. The [+AC] actants in (47-48) stand in the DAT case relation. The relatedness between the adjective and the causative verbs derived from it can be generalized in the following derivational rule.

\[
\text{DR-20} \quad \begin{array}{c}
+ \quad +\text{Adj} \\
+ \quad +\text{NM} \\
+ \quad +\text{DAT} \\
\hline
F_i
\end{array} \rightarrow \begin{array}{c}
+ \quad +V \\
+ \quad +\text{derived} \\
+ \quad +\text{causative} \\
\hline
+ \quad +\text{NM} \\
+ \quad +\text{INS} \\
+ \quad +\text{AC} \\
\hline
\quad +\text{DAT} \\
\quad F_i
\end{array}
\]

MR-11

An additional set of example sentences is presented below.

(49) Tuhlihk sac arlac pwacr.
child the very happy
'The child is very happy.'
Adjectives with the case frame features [+NM, +OBJ] can also have corresponding causative verbs. To see this, let us compare the following two sentences.

(52) Lohm sac arlac fohkfohk.
house the very dirty
(+NM,+OBJ)
'The house is very dirty.'

(53) Kutkut ah ahkfohkfohkye lohm sac.
dust the house the
(+NM,+INS) (+AC,+OBJ)
'The dust makes the house dirty.'

In (52) the adjective fohkfohk is used and its grammatical subject stands in the OBJ case relation. In (53) the derived causative verb ahkfohkfohkye is used, and its grammatical subject stands in the INS case relation to it, while its [+AC] actant in the OBJ case relation. The grammatical subject in (53) is one that is added through causativization and the [+AC] actant corresponds to the grammatical subject in (52).

The derivational rule below is formulated to capture the relatedness between adjectives such as fohkfohk 'dirty' and their derived causative verbs.
3.6 Derivation of Passive Forms

Any transitive verb can have a corresponding passive form. It does not matter whether the verb is derived or not. As long as it meets the structural description in terms of case frame features, it can undergo the following derivational rule.
DR-22 states that an [+AC] actant with a certain underlying case relation to a transitive verb appears as a [+NM] actant in the corresponding passive form. The [+NM] actant of a transitive verb is not usually expressed in the passive form, but when it does, it can appear either as [+D] or [+L], depending upon the underlying case relation that it represents.

Some pairs of sentences are presented below in order to show the differences and interrelatedness of transitive verbs and their passive forms. Transitive verbs are used in the (a) sentences and passive verbs are used in the (b) sentences.

\[(54)\]  
\[a. \text{ Mwet ah liye oak soko ah.} \]
\[\text{man the canoe one the} \]
\[\text{[+NM,+DAT] [+AC,+NEU]} \]
\[\text{The men saw the canoe.'} \]
\[b. \text{Oak soko ah liyeyuhk sin mwet ah.} \]
\[\text{canoe one the by man the} \]
\[\text{[+NM,+NEU] [+D,+DAT]} \]
\[\text{The canoe was seen by the man.'} \]

\[(55)\]  
\[a. \text{Eng luhlahp se kunelah e sac.} \]
\[\text{wind big one fire the} \]
\[\text{[+NM,+INS] [+AC,+OBJ]} \]
\[\text{A big wind extinguished the fire.'} \]
\[b. \text{E sac kuhneyuhklac ke eng luhlahp se.} \]
\[\text{fire the by wind big one} \]
\[\text{[+NM,+OBJ] [+L,+INS]} \]
\[\text{The fire was extinguished by the big wind.'} \]
3.7 Intransitivization

Certain transitive verbs have corresponding intransitive verbs which have three distinct uses. In 3.7.1 we will examine two of these uses, and in 3.7.2 the other.

3.7.1 Derivation of Intransitive Verbs

The verb otwe 'to weave' is a transitive verb and its corresponding intransitive verb is otwot 'to weave'. Their use is exemplified in the following sentences.

(56) Sah el otwe fohtoh se.
[+NM,AGT] [+AC,+FAC]
'Sah is weaving a basket.'

(57) Sah el otwot.
[+NM,+AGT]
'Sah is weaving.'

(58) Fohtoh se otwot.
[+NM,+FAC]
'A basket is being woven.'

In (56) the transitive verb otwe is used. The grammatical subject has the AGT case relation, and the [+AC] actant has the FAC case relation to the verb. In (57-58) its corresponding intransitive verb otwot is used. The main difference between the transitive verb and its corresponding intransitive verb lies in the fact that the intransitive cannot take the [+AC] actant with the FAC case relation, but only an [+NM] actant. However, with the
intransitive verb the [+NM] actant can represent the underlying case relation of either the AGT or FAC of the transitive verb. In (57) the grammatical subject has the AGT case relation and in (58) it has the FAC case relation.4

Observe the following additional set of sentences.

(59) Sah el kulus muh se.
    Sah he orange one
    [+NM,+AGT] [+AC,+OBJ]
    'Sah is peeling an orange.'

(60) Sah el kulkul.
    Sah he
    [+NM,+AGT]
    'Sah is peeling.'

(61) Muh se kulkul.
    orange one
    [+NM,+OBJ]
    'An orange is being peeled.'

On the basis of observations made above the following derivational rule can be formulated.

DR-23

MR See footnote 5.
The feature [+AGT] in the structural description of the input verbs can exclude those that do not have this feature. Verbs such as liye 'to see', lohng 'to hear' or esam 'to remember', for example, have the following case frame features and therefore cannot undergo the derivational rule above.

\[
\begin{bmatrix}
  +V \\
  +[+NM] \\
  +[+DAT] \\
  +[+AC] \\
  +[+NEU]
\end{bmatrix}
\]

Another constraint imposed on input verbs is the underlying case relation of the [+AC] actant. When the underlying case relation of the [+AC] actant is INS, it is predicted that there is no intransitive verb. For example, through DR's 8 and 10, verbs with the following case frames are derived.

\[
\begin{bmatrix}
  +V \\
  +[+NM] \\
  +[+AGT] \\
  +[+AC] \\
  +[+INS]
\end{bmatrix}
\]

Verbs with the case frame features above do not have corresponding intransitive verbs.
3.7.2 Derivation of Intransitive Verbs with Included Objects

In the preceding section we observed that certain transitive verbs have corresponding intransitive verbs. We also noted that the intransitive verbs have two distinct case frames. In this section we will examine another function of the derived intransitive verbs. As a starting point, let us observe the following pair of sentences.

(62) Ninac el otwe fohtoh se.
mother she weave basket one
'Mother is weaving a basket.'

(63) Ninac el otwot fohtoh.
mother she weave basket
'Mother weaves baskets.'

In (62) a transitive verb is used and it is followed by a noun phrase, whose head noun is modified by a numeral se 'one'. In (63) a derived intransitive verb is used and it is followed by a noun fohtoh 'basket', which is not modified by the numeral se.

Superficially, the two sentences above are very similar to each other in that the verbs of both are followed by nouns. But there is a clear-cut distinction between the two sentences, for although the intransitive verb in (63) is followed by a noun, this noun cannot be modified by a numeral or a determiner. This is true whenever a derived intransitive verb is used. Look at the following ungrammatical sentences.
(64) *Ninac el otwot fohtoh se.
mother she weave basket one
'Mother weaves a basket.'

(65) *Ninac el otwot fohtoh ah.
mother she weave basket the
'Mother weaves the basket.'

On the other hand, when a transitive verb is used, its [+AC] actant must be modified by a numeral or determiner. Otherwise, ungrammatical sentences result, as the following one.

(66) *Ninac el otwe fohtoh.
mother she weave basket
'Mother weaves baskets.'

Observe the following additional sets of example sentences.

(67) a. Sohn el paki sahk soko ah.
John he chop tree one the
'John is chopping the tree.'

b. Sohn el paki sahk soko.
'John is chopping a tree.'

c. Sohn el paki sahk ah.
'John is chopping the trees.'

d. *Sohn el paki sahk.
'John is chopping trees.'

(68) a. *Sohn el pakpuhk sahk soko ah.
John he chop  tree one the
'John is chopping the tree.'
The following derivational rule is proposed.

\[ \text{DR-24} \]

\[ + \left[ \begin{array}{c} +V \\ +\text{NM} \\ +\text{AGT} \\ +\text{AC} \\ +\text{OBJ} \\ +\text{FAC} \\ +\text{NEU} \\ +\text{DAT} \\ +N_{F_{i}} \end{array} \right] \rightarrow \left[ \begin{array}{c} +V \\ +\text{intransitive} \\ +\text{included} \\ \text{object} \\ +\text{NM} \\ +\text{AGT} \end{array} \right] \]

**DR-24** is a compounding rule. It states that corresponding to a transitive verb there is an intransitive verb in which the object of the transitive verb is included. In the following paragraphs some aspects of the syntactic behavior of derived compound intransitive verbs will be compared with those of transitive verbs and derived intransitive verbs.

First, suffixes denoting aspectual meanings are attached directly to transitive verbs but they are attached
to the included objects instead. Observe the following examples.

(69) Sepe el ol-\textit{lah} nuknuk ah.
Sepe she wash-away clothes the
'Sepe washed the clothes.'

(70) Sepe el owo-nuknuk-\textit{lah}.
Sepe she wash-clothes-away
'Sepe finished washing clothes.'

In (69) the transitive verb \textit{ol} 'to wash' is used and \textit{lah} is suffixed to it. In (70) the derived intransitive verb is used with an included object. The suffix \textit{lah} is not attached to the verb \textit{owo} but to the included object \textit{nuknuk} 'clothes'. When \textit{lah} is attached to \textit{owo} as in (71), an ungrammatical sentence results.

(71) *Sepe el owo-\textit{lah} nuknuk.
Sepe she wash-away clothes

The position of the suffix \textit{lah} clearly indicates that the morphemes \textit{owo} and \textit{nuknuk} form a compound intransitive verb, to which a suffix can be attached.

Secondly, a derived intransitive verb with an included object as a unit can be subject to derivational rules like regular intransitive verbs. \textit{Owo-nuknuk} 'to wash clothes', for example, can be input to the derivational rules such as Instrumentalization (DR-10), reciprocalization (DR-13), and
causativization (DR-19). Verbs derived from owo-nuknuk through the different derivational rules are exemplified in the following sentences.

(72) Sepe el owo-nuknuk-kihn suhkan top ah. Sepe she wash-clothes-with stick-of pound the 'Sepe washes clothes with the pounding stick.'

(73) Sepe ac Srue a-owo-nuknuk-i. Sepe and Srue 'Sepe and Srue are washing clothes together.'

(74) Sepe el ahk-owo-nuknuk-ye muhtwacn sac. Sepe she woman the 'Sepe made the woman wash clothes.'

3.8 Summary

In this chapter, twenty-four derivational rules are presented. In formulating these rules, the case frame features play significant roles. They help to specify the input words and at the same time put constraints on them. They also help to specify the properties of the derived words.

Derived as well as underived words can be input to many of the derivational rules. As a result, many new words can be predicted from a single source. For an instance, the following different words can be predicted from the verb sruok 'to catch'. (See (75).)

An adjective sruoktwen 'good at catching' is derived from the verb sruok. From the derived adjective sruoktwen, a reciprocal verb asruoktweni 'all are good at catching'
and a causative verb *ahksruoktwenye* 'to train or to make one to be good at catching' can be derived through DR-15 and DR-21, respectively, and a corresponding passive can be derived through DR-22. *Sruok* can be input to DR-22 and a passive form *sruokyuhk* 'to be caught' can be derived. DR-23 predicts the presence of the intransitive verb *sruh* 'to catch' from the transitive verb *sruok*. The derived intransitive verb can be input to DR-12 and a reciprocal verb *asruhi* 'to hold each other' can be derived. *Sruok* can be input to DR-24 and a compound intransitive verb with an included object *sruh-kosro* 'to catch animals' can be derived. The causative verb *ahksruh-kosroye* 'to make one catch animals' can be derived from the compound intransitive verbs through DR-22 and its corresponding passive form *ahksruh-kosroyeyuhk* 'to be made to catch animals' can be derived through DR-22.

(75)

```
sruok → DR-17 → sruoktwen → DR-15 → asruoktweni
                      DR-22 → ahksruoktwenye
                                      DR-22
                                           ahksruoktweneyuhk
             DR-22 → sruokyuhk
                      DR-23 → sruh → DR-13 → asruhi
                DR-24 → sruh-kosro → DR-19 → ahksruhkosroye
                                    DR-22 → ahksruhkosroyeyuhk
```
To take another example, the adjective *kuluk* 'bad' can have the following derived words.

(76)

```
126
kuluk  ---DR-12---  kulukkihn  ---DR-22---  kulukkihnyuhk
       |                     |                     |
       DR-13⇒ akuluki     DR-21⇒ ahkkulukye ---DR-22--- ahkkulukyeyuhk
```

Through DR-12 a transitive verb *kulukkihn* 'to regard as bad' can be derived, which in turn can be input to DR-22 to become a passive form *kulukkihnyuhk* 'to be regarded as bad'. *Kuluk* can be input to DR-13 and becomes a reciprocal verb *akuluki* 'to be bad to each other'. *Kuluk* can be changed into a causative verb *ahkkulukye* 'to make something bad', which in turn can be input DR-22 to be changed into a passive form, *ahkkulukyeyuhk* 'to be made to become bad'.

As we can see above, in some cases derived words are different from their input words in their parts of speech. In some other cases, derived words are subclasses of the input words.

Verbs or adjectives, whether they are derived or not, can be subject to derivational rules of a different sort. The adjective *kuluk* 'bad', for example, can have the following two suffixed forms: *kulukyak* 'to have become partially bad' and *kuluklah* 'to have become completely bad'. Derivations such as these are called *aspectual derivation* because the
derived words are aspectually related to the input words. The aspectual derivations are treated in Chapters Six and Seven.
NOTES TO CHAPTER III

1. The generalizations made in this study are based upon approximately 4,000 stems, which were collected during the period of 1971-3 with the assistance of two Kusaiean speakers, Lyndon Cornelius and Elmer Asher. Collecting the stems and assigning parts of speech to them formed the first stage of the investigation.

The next step was to check the potential of derived words for each stem. This step was facilitated with the use of the SPITBOL computer program. The computer was instructed to print out all the potential derived words using the following set of affixes.

\[
\begin{align*}
  \text{a-} \quad &\text{(reciprocal)} \\
  \text{suh-} \quad &\text{(negative)} \\
  \text{-i} \quad &\text{(transitivizer)} \\
  \text{reduplication} \\
  \text{ahk-} \quad &\text{(causative)} \\
  \text{-kihn} \quad &\text{(instrumental)} \\
  \text{-iyac} \quad &\text{(nominalizer)}
\end{align*}
\]

Given a stem X, it was possible to derive all the potential derived words of the following forms:

\[
\begin{align*}
  \text{a-X} \\
  \text{suh-X} \\
  \text{X-i} \\
  \text{X-X} \\
  \text{ahk-X} \\
  \text{X-kihn} \\
  \text{X-iyac}
\end{align*}
\]

Using the print-out, occurring and nonoccurring derived words were sorted out. In the case of nonoccurring derived
words, possible constraints for the nonoccurrence were investigated. In the case of occurring derived words, their syntactic and semantic properties were investigated by eliciting example sentences.

As the purpose of this study is confined to verbal derivations, rules which do not derive adjectives or verbs have not been included. In other words, rules which derive nouns from adjectives or verbs, or rules which derive compound nouns or subclasses of nouns are not included in this study.

2. For the purpose of this study the term transitive verb will be used to refer to any verb that has the following case frame features:

As long as a verb has the surface case forms [+NM] and [+AC] and the [+NM] actants manifest either the AGT or INS case relation with the [+AC] actant manifesting the OBJ, FAC, NEU or INS case relation, the verb will be referred to as a transitive verb. Verbs other than transitive verbs will
be referred to as intransitive verbs.

3. There are two types of reduplication in Kusaiean: initial syllable and final syllable reduplication. There are also two functions of reduplication: derivational and aspectual. Initial syllable reduplication is associated with the aspectual function, and the final syllable reduplication with the derivational function. We can see this with words that can undergo both types of reduplication.

For example, the word fiyoh can be used both as a noun meaning 'sweat' and as a verb meaning 'to sweat'. There are two reduplicated forms:

\[
\begin{align*}
\text{fi-fi-yoh} & \quad \text{'to sweat continuously' (aspectual)} \\
\text{fiyoh-yoh} & \quad \text{'sweaty' (derivational)}
\end{align*}
\]

The initial syllable reduplication fi-fi-yoh is associated with the verb fiyoh, and the final syllable reduplication fiyoh-yoh with the noun fiyoh. Observe the following additional pairs.

\[
\begin{align*}
\text{sah-sah-rom} & \quad \text{'to sparkle continuously'} \\
\text{sahrom-rom} & \quad \text{'sparkling'} \\
\text{kihp-kihpat} & \quad \text{'to be being broken'} \\
\text{kihpat-pat} & \quad \text{'broken'} \\
\text{fihr-fihr-rihr} & \quad \text{'to be flaming'} \\
\text{fihr-rihr-rihr} & \quad \text{'red (burning color)'}
\end{align*}
\]
4. Certain verbs in English have four distinct uses analogous to the Kusaiean uses presented in this section and 3.7.2. The verb *to wash*, for example, can be used in four different ways as in the following.

1. Mary washed the clothes.
2. Mary washed.
3. The clothes washed (easily).
4. Mary washed clothes.

In Kusaiean there are two verb forms corresponding to the English verb *to wash*: they are *oul* and *owo*. The two verb forms are used in the following sentences.

5. Macri el *oul*-lah nuknuk ah.
   Mary she wash-away clothes the
   'Mary washed the clothes.'

6. Macri el *owo*-lah.
   Mary she wash-away
   'Mary washed.'

   clothes the washed-away
   'The clothes are washed.'

8. Macri el *owo nuknuk*-lah.
   Mary she wash clothes-away
   'Mary washed clothes.'

The different uses of *to wash* in English and *oul* and *owo* in Kusaiean can be compared meaningfully in terms of case frame features. *To wash* in (1) and *oul* in (5) can be characterized in the following way:
The grammatical subject in (1) and (5) stands for the AGT case relation to the verbs wash and oul. The [+AC] actant in each case stands for the OBJ case relation.

Wash in (2) and owo in (6) can be represented in the following way:

In this case, both wash and owo are intransitive verbs. Their corresponding transitive verbs have two actants representing AGT and OBJ case relations. In the intransitive use of wash in English and owo in Kusaiean, only the AGT case relation is represented.

Wash in (3) and owo in (7) can be characterized in the following way:
Both of verbs are intransitive, but they differ from the preceding intransitive verbs in their case frame features: the grammatical subjects in this case represent the OBJ case relation, whereas the AGT case relation is represented by the grammatical subjects in the preceding intransitive verbs.

Wash in (4) can be represented in the following way:

\[
\begin{array}{c}
\text{wash} \\
\text{+V} \\
\text{+NM} \\
\text{+AGT} \\
\text{+AC} \\
\text{+OBJ} \\
\text{-specified}
\end{array}
\]  

or

\[
\begin{array}{c}
\text{wash} \\
\text{+V} \\
\text{+[NM,+AGT]} \\
\text{+AC,+OBJ,} \\
\text{-specified}
\end{array}
\]

Owo in (8) is characterized in DR-24. (See 6.6.3 for similarities between wash in (4) and owo in (8) in terms of aspect.)

What we have observed in this note suggests that despite the differences in morphological distinctions, the English wash has uses which are represented by the two verb forms in Kusaiean. See Jespersen (1933:116-9) for a discussion of verbs which are used both transitively and
intransitively. See also Halliday (1967:42-3) for a discussion of the transitive and intransitive uses of certain verbs in terms of the participant roles and process types.

5. The following are some pairs of transitive verb forms and their corresponding intransitive verb forms. With the present orthography, it is impossible to relate the two forms in each pair. But by postulating somewhat abstract underlying representations, it is possible to do so. But the derivation is not attempted here. Instead, the pairs are presented in groups according to their characteristic patterns.

1. Transitive Intransitive
   - til titi 'to pick'
   - kahl kahkah 'to touch'
   - sral srasra 'to extend'
   - tul tutu 'to copulate'
   - lihs lihl or 'to chase'

2. Transitive Intransitive
   - pwen pwacpa 'to discuss'
   - nwek nwacna 'to hold'
   - twem twacta 'to sharpen'
   - ngwes ngwacnga 'to aim'

3. Transitive Intransitive
   - kulus kul or 'to peel'
   - nukum nuknuk 'to cover'
lihpihk lihplihp 'to chop'
lihsrihng lihsrlihsr 'to partition'
siki siksik 'to pull'

4. Transitive Intransitive
kuhruh kar or 'to mix' 'to stir'
karkar
sruhmuhn sramsram 'to talk'
suhpuh sap 'to send'
kuhluhs kalkal 'to fence'
puhtuh patpat 'to bore'

5. Transitive Intransitive
ngusrok ngosr 'to sniff'
kihne kuhn 'to concoct'
wihte woht 'to vomit'
urok wor 'to turn'
tuong to 'to babysit'
fure for 'to twist' 'to spin'

6. Transitive Intransitive
kihte kihtakat 'to give'
srihke srihkasrak 'to measure'
pihsre pihsrapasr 'to steal'
sriluhng srilasral 'to alternate'
fule fulohfohl 'to squeeze'
sule sulohsohl 'to choose'
luwos luwohlohm 'to lick'

7. Transitive Intransitive
une unohn 'to scale'
ituhng itact 'to press'
ise isacs 'to rub'
uke           ukohk    'to chase'
ikuhs         ikack    'to open'
isong         isohs     'to push'

8. Transitive Intransitive
fakihs        fakfuhk  'to spear'
falihs        falfuhl  'to floor'
lafihs        lafluhf  'to scoop'
patihk        patpuht  'to hammer'
taun          tatuh    'to bury'
sauk          sasuh    'to catch'
srawi         srasruh  'to cover'
kawi          kakuh    'to scratch'
tawi          tatuh    'to weave'

9. Transitive Intransitive
apihs         apyuhp   'to sting'
afiihn        afyuuf    'to cover'
awi           ayuh      'to tie'

10. Transitive Intransitive
tahpuhk       taptap    'to lift'
tahkuhs       taktak    'to take coconut meat out'
tahluhk       taltal    'to root out'

11. Transitive Intransitive
pahngon       pahngpahng 'to call'
pahtok        pahtpaht  'to push'
ahnongon      ahngyahng 'to bother'

12. The derived causative verbs, which are transitive verbs according to the definition made for this study, also
have their corresponding intransitive verbs. The only
difference between the two forms lies in the presence and
absence of the suffix -ye. For example, the intransitive
verb form of the derived causative verb ahkkahtoye 'to make
pretty' is ahkkahto. Notice the absence of the suffix -ye
in the intransitive verb form.

13. The intransitive verb forms of the transitive verbs
derived from nouns with the addition of the suffix -i are
derived when the suffix -i is removed from the transitive
verb forms. For example, puhlwengi 'to plane' or 'to
smooth with a plane' is a transitive verb form which has
its corresponding intransitive verb form puhlweng. This
means that puhlweng can be used both as a noun and as an
intransitive verb.
4.0 Introduction

The purpose of this chapter is to review definitions of aspect and some representative treatments of aspect in different languages as a general background for this study. Some studies are mainly concerned with classifying verbs in terms of their inherent nature and others with relations of verbs to actants in sentences. But as will be seen immediately below, all the studies have a great deal in common.

4.1 Definitions of Aspect

This section will focus definitions or characterizations of aspect in general in an effort to see what aspect is and how it differs from tense. The main purpose of this review is not to give any new definition, but to present a general overview of what is to be dealt with in Chapter Six.

Some definitions of aspect follow.

Allen (1966:219)

If aspect is defined as a speaker's way of "looking at" a Predication that he makes, it will be seen that English has only two aspects: INCLUSIVE ASPECT and INTRUSIVE ASPECT (or, to give the two aspects their common customary names, perfective aspect and imperfective aspect). Inclusive aspect is the marked member of the opposition "inclusive"/"intrusive" in English, as it seems also to be in Russian. Intrusive aspect, signaled by expanded verb forms, is "noncommittal with respect to completion or non-completion."
Pei (1966:21)

A verbal category indicating whether an action or state is viewed as completed or in progress, instantaneous or enduring, momentary or habitual.

Bloomfield (1933:272)

The English categories of aspect distinguish between 'punctual' action (some grammarians call it 'perfective'), envisaged as a unit (he wrote a letter), and 'durative' action (some call it 'imperfective'), which extends over a segment of time during which other things can happen (he was writing the letter). This distinction is at best hard to define for the practical world...

Hockett (1968:237)

Aspects have to do, not with the location of an event in time, but with its temporal distribution or contour.

Sapir (1949:108)

Aspect indicates the lapse of action, its nature from the standpoint of continuity.

Curme (1947:55)

Aspect indicates the aspect, the type, the character of the action.

According to these definitions, aspect can be generalized as a speaker's way of looking at an event or activity and the different forms that are employed in so doing. The way of looking at an event or activity is dependent on a reference point in time. The relationship between these
two is made clear in Jakobson's definition of tense and aspect.

In classifying verbal categories, Jakobson (1957) made the following distinctions:

1. speech itself (s), and its topic, the narrated matter (n);
2. the event itself (E), and any of its participants (P), whether "performer" or "undergoer".

Based on these two basic distinctions, four items are distinguished: a narrated event (En), a speech event (Es), a participant of the narrated event (Pn), and a participant of the speech event (Ps), whether addressee or addressee.

Jakobson makes the following definitions of tense and aspect on the basis of the four distinctions above: tense characterizes the narrated event with reference to the speech event and aspect characterizes the narrated event itself without involving its participants and without reference to the speech event.

Jespersen does not give any definition of aspect. Nevertheless, he presents various distinctions that have to be dealt with in studying aspect. The distinctions Jespersen (1924:287) noted follow:

1. The tempo-distinction between the aorist and the imperfective.
2. The distinction between conclusive and non-conclusive verbs.
3. The distinction between durative or permanent and punctual or transitory.
4. The distinction between finished and unfinished.
5. The distinction between what takes place only once, and repeated or habitual action or happening.
6. The distinction between stability and change.
7. The distinction between the implication or non-implication of a result.

Jespersen divides and describes these distinctions. He says they should be distributed into totally different pigeonholes. But he does not present any specific proposal. In Chapter Six of this dissertation all of these distinctions will be dealt with in an overall system. We will also note that some of them are due to the inherent nature of verbs and others are due to the nature of verbs to actants in sentences.

4.2 Treatments of Aspect

In this section we will review some studies of aspect in specific languages in order to see what factors have been taken into consideration and how they are treated. The studies reviewed range from traditional to modern. Some are mainly concerned with classifying verbs in terms of inherent nature, and others with the relation of verbs to other actants. The main purpose of this section is to assemble insights already gained into the category of aspect.

4.2.1 Poutsma (1921)
Poutsma's study is mainly concerned with classifying verbs in terms of what he calls their "character". His classification follows.

1. Momentaneous: covering one moment, or comprised between two closely contiguous moments, so that the beginning and the end practically synchronize. The verbs in the following sentences are momentaneous.

(1) He **arrived** at six o'clock.
(2) He **stabbed** his assailant.

2. Durative: extending over a contiguous succession of moments. The durative character is subdivided into four groups:

A. indefinitely durative: with no particular stage of the action thought of, as the following underlined verbs.

(3) He **lives** at Oxford.
(4) He **bore** his grief with fortitude.

B. ingressively durative: with the initial stage of the action more distinctly thought of than the rest.

(5) The moon **rose**.
(6) The function has developed.

C. terminatively durative: with the final stage of the action more distinctly thought of than the rest.

(7) The hen hatched the eggs.

D. continuatively durative: thought of as continuing beyond a certain point of time.

(8) He had outlived nearly all his early friends.

3. Iterative: consisting of an indefinitely prolonged succession of like acts and from the nature of these acts distinguished into:

   A. momentaneously iterative, which may be graphically represented by a succession of dots.

(9) He panted like a chased deer.

   B. duratively iterative, which may be graphically represented by a succession of lines.

(10) He clambered into a tree.
Poutsma thinks that the characters of the verbs listed above are not fixed ones that can never be changed. But they can be changed depending upon contexts.

4.2.2 Ferrell (1951), Garey (1957), Allen (1966)

These three studies are grouped together here because they all regard the relation of the verbs to other actants as important.

Ferrell in his paper *The meaning of the perfective aspect in Russian* reviews some definitions of perfective aspect and proposes a new definition. His definition differs from others that he reviewed in that he takes into account the different relations that verbs have with other elements in sentences, as can be seen in the following quotation.

The verb functionally must not be regarded as something that can be isolated from the remainder of the sentence. The verb within the sentence has various relationships. These relationships fall into two general classes: the inward-looking relationships of the verb, that is, the connections that exist between the verb and its nominal objects, whether direct or indirect, and the adverbs that modify it, whether the adverbs are in the form of words, phrases, or clauses; and the outward-looking relationships of the verb, that is, the relationship of the verb to its subject and to other verbs toward which it has an adverbial relationship when it functions as the verb of a dependent adverbial clause or as a dependent infinitive. (Ferrell 1951:123)

In the following sentence the Russian verb *ubival* 'to kill' (imperfective) has the inward-looking relationship
to the nominal object.

(11) On ubival zenu. 'He was killing his wife.'
    (inward-looking relationship)

The above sentence "does not merely imply doubt that the subject performed the full action, but implies doubt that the object was fully acted upon." Ferrell (1951:125) says that in such a case it is in the relationship between the verb and its modifiers that we get the true picture of the aspect force of the perfective in respect to the completion of the action.

On the other hand, in the following sentence the verb sagnul 'to take a step' has the outward-looking relationship.

(12) On sagnul. 'He stepped once.'
    (outward-looking relationship)

In this case the perfective aspect characterizes the subject as performing the complete action of the verb. However, when the phrase tri raza 'three times', which puts a term to the action follows, the verb comes to have an inward-looking relationship to the phrase.

(13) On sagnul tri raza. 'He stepped three times.'
    (inward-looking relationship)
Garey reviews literature dealing with verbal aspect in French. In the latter part of the paper he introduces two interesting concepts of telic and atelic verbs. Verbs are telic when they express an action tending toward a goal, and verbs are atelic when they do not have to wait for a goal for their realization, but are realized as soon as they begin. One criterion of distinction used for the two classes of verbs is the answer to the following question:

If one was verbing but was interrupted while verbing, has one verbed? If the answer is positive, the verb is atelic for the action does not have to reach a goal to be fully realized, but is realized as soon as it begins. If the answer is negative, the verb is telic because the goal of the action has not been attained because of the interruption.

Garey adds the following comment: "The distinction between telic and atelic verbs is not part of the formal structure of French, since it does not correlate with any formal criterion, but is rather part of the semantic structure of the language, determined as it is by a semantic trait."

Besides the verbs, the complements (objects or prepositional phrases) are also classified either as telic or atelic. The telicity of a construction is determined in the following way.

1. When a verb is atelic and its complement is also
atelic, the whole construction of the verb and the complement is atelic.

(14) He played chess.

\[
\begin{array}{c}
\text{atelic} \\
\text{atelic}
\end{array}
\]

2. When a verb is atelic but its complement is telic, the whole construction is telic. Observe the following.

(15) He played a game of chess.

\[
\begin{array}{c}
\text{atelic} \\
\text{telic}
\end{array}
\]

3. When the verb is telic, a construction including it is always telic regardless of the telicity of its complement.

Allen (1966) classifies predications instead of verbs. First, predications are subdivided into bounded and non-bounded. The classification is based primarily on Garey's distinction of telic and atelic verbs, but Allen thinks that telic or atelic nature is not confined to verbs alone but is a property of whole predications, and he uses the term \text{predication} rather than \text{verb}. In the following quotation his reason for using the term predication can be seen.
It would appear, then, that it is not so much the verb itself which is telic or atelic, but rather the kind of predication in which the verb participates. (Compare the discussion of nominals like cake and a cake above.) If we substitute the terms "bounded" and "non-bounded" for Garey's "telic" and "atelic", and use "bounded" not for verbs but for Predications, we can avoid calling the same item both "bounded" and "non-bounded": thus the predication are playing a rubber of bridge (like the nominal a cake in the sentence I've bought a cake for your birthday) is bounded, whereas the Predication are playing bridge (like the nominal cake in the sentence I like cake) is non-bounded. (Allen 1966:198)

Bounded predications are of two classes: unique and repeated. A unique predication is one that refers to a single event. A repeated predication is one that refers to an event occurring more than once. Observe the following sentences.

(16) We ate supper at seven o'clock last night. (unique)

(17) We ate supper at seven o'clock every night. (repeated)

Unique predications are of two classes: momentary and extended. Momentary predications are those that are conceived of lacking duration, as occurring "all at once", or "all in a moment".

(18) Percy arrived just at seven-twenty. (momentary)
Extended predications are those that can cooccur with either a time-expression referring to a period of time long enough to include the whole of the event.

Mementary predications are of two kinds. One may be conceived of as extended or stretched out.

(19) We were just beginning to get along, and he has to do this. (extendable momentary predication)

The other momentary predication may not be conceived of as extended or stretched out.

(20) As it happened, I was down in the vicinity of the courthouse this morning.
(nonextendable momentary predication)

Extended predications are also of two kinds: suffusive and profusive. Suffusive predications are those that refer to events that "fill" the period of time referred to or, when no period of time is mentioned, the events referred to extend in both directions in time. The predication in (21) is suffusive in that it refers to an event with no foreseeable termination, nor would the beginning of the event, even if its time were known, play a significant part.

(21) Hamdan lies at the foot of Mt. Alvand.
profusive predications are those that denote a definite suggestion of change or development or "flow of activity."

Compare the following two sentences.

(22) That pail is leaking. (profusive)
(23) That pail leaks. (suffusive)

The predication of sentence (22) suggests an unfolding of the activity, a flowing toward the future, but the predication of sentence (23) does not suggest that there will be any difference in the state of affairs ten minutes from now or that there was any difference ten minutes ago.

Suffusive predications are often used to state:
1. what one does for a living as in He teaches English.
2. one's ability as in Do you play chess?
3. habitual things such as Irish buses run late.
4. information that is printed in a book or article as in Emerson says...

Suffusive predications are again subdivided into public and private predications. Compare the following two sentences.

(24) Percy resembles his father.
(25) Percy likes his father.
Both these predications are suffusive. But in (24) bystanders other than Percy himself are able to observe the fact that Percy resembles his father, and such a predication is called a public predication. On the other hand, in (25) only Percy himself knows that he likes his father, and such a predication is called a private predication.

Nonbounded predications, which correspond to Garey's atelic verbs or construction, are those that do not suggest any termination in time or space. The predications below are nonbounded.

(26) They played bridge.
(27) They walked in the garden.

The three studies reviewed in this section all take into account the relation of a verb to other elements in a sentence. The following terms are used to express their major dichotomies.

<table>
<thead>
<tr>
<th>Ferrell</th>
<th>Garey</th>
<th>Allen</th>
</tr>
</thead>
<tbody>
<tr>
<td>inward-looking</td>
<td>telic</td>
<td>bounded</td>
</tr>
<tr>
<td>outward-looking</td>
<td>atelic</td>
<td>nonbounded</td>
</tr>
</tbody>
</table>

Although the studies are insightful and show that aspect is not the property of a verb alone, these insights cannot easily be extended to other data, since they have not been made sufficiently explicit.
For example, Garey says that a construction with an atelic verb can be telic when its complement is telic. This generalization is ambiguous in the following respects. First of all, we do not know exactly what Garey means by the term complement. We can only guess that the term refers to noun phrases or prepositional phrases following a verb in a sentence. Secondly, Garey does not present any criteria for the telicity of complements, and consequently there is no way to tell, for example, which complements in the following sentences are telic and which are atelic.

(28) He ran a mile.
    for two hours.
    yesterday.
    to the beach.
    along the beach.
    in the school.
    toward the market.
    three times.

Assuming that the verb run is atelic, the telic nature of these whole constructions must be imposed on them by the verb complements. However, there being no clear way of telling which complements are telic and which are atelic, it is equally unclear which constructions are telic and which atelic.

Another problem which seems to be overlooked by Garey is the fact that an NP which is an atelic complement with
Some verbs must be regarded as a telic complement with certain other verbs. For example, the underlined NP the piano is an atelic complement in (29) is an atelic complement, but a telic complement in (30).

(29) John played the piano.
(30) John repaired the piano.

Similarly, although Garey classifies verbs as telic and atelic, the distinction is purely a notional one, as he does not present any syntactic differences between the two classes. (See Vendler 1957 for some cooccurrence restrictions between telic and atelic verbs in 4.2.3.)

4.2.3 Vendler (1957) and Kenny (1963)

Vendler classifies verbs in terms of what he calls time schemata. Verbs are first classified into two classes: those that admit continuous tenses, and those that do not. Verbs that allow continuous tenses are subclassified into verbs of activity and accomplishment. Verbs that do not allow continuous tenses are classified into verbs of achievement and those of state. The following diagram represents his classification.
Verbs such as running or writing that can have continuous tenses denote progress going on through time, and verbs that do not admit continuous tenses do not. So verbs that admit continuous tenses such as run or write can be used in answers to the following question, but verbs such as love or recognize cannot.

(31) What are you doing?
    I am running.
    I am writing a letter.
    #I am loving.

Verbs that admit continuous tenses are subclassified into verbs of activity and those of accomplishment. When a verbs has a set terminal point or a climax which has to be reached if the action is to be what it claims to be, it is a verb of accomplishment. Verbs in the following sentences are verbs of accomplishment.

(32) He drew a circle.
(33) He ran a mile.
(34) He painted a canoe.
(35) He played a game of chess.
(36) He shouted out a greeting.

On the other hand, verbs that do not have such a set terminal point or a climax are verbs of activity. Verbs used in the following sentences are verbs of activity.

(37) He drew.
(38) He ran.
(39) He painted.
(40) He played chess.
(41) He shouted.

The distinction between the two classes of accomplishment and activity verbs becomes clear when the following interrogative sentences are used.

(42) How long did he _____?
(43) How long did it take _____?

Verbs of activity can be used in (42) but not those of accomplishment, as can be seen in (44) and (45).

(44) How long did he draw?
     paint?
(44) How long did he walk?
    swim?
    shout?

(45) *How long did he draw the picture?
    run a mile?
    paint the house?

On the other hand, verbs of accomplishment can be used in (43) but not those of activity, as can be seen in (46) and (47).

(46) How long did it take to draw the picture?
    to build the house?
    to write the book?
    to run a mile?

(47) *How long did it take to run?
    to walk?
    to swim?
    to wash clothes?

Verbs of accomplishment and those of activity are characterized in the following way:

For accomplishments: A was drawing a circle at t means that t is on the time stretch in which A drew that circle.

For activities: A was running at time t means that time instant t is on a time stretch throughout which A was running.
Verbs that do not admit continuous tenses are classified into verbs of achievement and verbs of state. Verbs that are predicated for single moments of time are verbs of achievement. Verbs that are predicated for shorter or longer periods are verbs of state. Reaching a hilltop, winning a race or spotting something all take place at a definite moment.

Verbs of achievement can be used in (43) like verbs of accomplishment, as can be seen in (48).

(48) How long did it take to reach the hilltop? to win the game? to spot the thing?

But verbs of achievement differ from those of accomplishment in the following respect. If someone says that it took him three hours to write a letter, it is implied that the writing of the letter fully occupied those three hours, but this is not the case with verbs of achievement. If one says that it took him three hours to reach the hilltop, it is not meant that the reaching of the hilltop went on during those hours.

The two classes of verbs of achievement and state are characterized in the following way:

For achievement: A won a race between $t_1$ and $t_2$ means that the time instant at which A won that race is between $t_1$ and $t_2$. 
For states: A loved somebody from $t_1$ to $t_2$ means that at any moment between $t_1$ and $t_2$ A loved that person.

A classification of verbs which is very similar to that of Vendler's is made by Kenny (1963:171-186). But Kenny uses different criteria to set up the classes of verbs. His two major classes are stative verbs which do not admit continuous tenses, and nonstative verbs, which do.

Nonstative verbs are of two kinds: performance verbs and activity verbs. If a statement of the form "A is VERB- (someone or something)" implies a statement of the form "A has not yet VERBen (it)", the verb is a performance verb. For example, the following statements imply those in parentheses and the verbs are performance verbs.

(49) A man is building a house. (He has not yet built it.)

(50) Mary is cutting the cake. (She has not yet cut it.)

(51) John is deciding whether to join the army. (He has not yet decided to.)

On the other hand, if a statement of the form "A is VERBing (someone or something)" implies a statement of the form "A has VERBen (it, him or her), the verb is an activity verb. Each of the following statement implies the statement...
in parentheses, and the verbs are activity verbs.

(52) I am giggling. (I have giggled.)
(53) He is laughing. (He has laughed.)
(54) He is keeping a secret. (He has kept a secret.)

For stative verbs the following implication is proposed: "A has VERBened (someone or something)" implies "A still VERBs (him, her, or it)." For example, the following statements imply those in parentheses and the verbs are statives.

(55) I have loved her for seven years.
     (I still love her.)
(56) I have been afraid of this all day.
     (I still am afraid.)

Besides these implicational differences, Kenny presents some other criteria for differentiating these verb classes. One is the cooccurrent restrictions of time actants with verbs. Performances take time and are performed in a period of time. Activities go on for a time and can be prolonged for a time. Another is the fact that only performances can be complete or incomplete. Activities and states may cease, which can be seen in the following pairs of sentences.
In this section (4.2.3) we have observed the classifications of English verbs by Vendler and Kenny. Both have backgrounds in philosophy, and their classifications are very similar, as the following diagram shows. (Kenny's terms appear in parentheses.)

![Diagram of verb classifications]

When we confine our attention to verbs that allow continuous tenses, we can also find a great deal of similarity between Vendler and Kenny's classifications on the one hand and Garey's distinction of telic and atelic verbs on the other hand (cf. 4.2.2). The classifications can be equated in the following way.
Garey  Vendler  Kenny

telic verbs = verbs of accomplishment = performance verbs
atelic verbs = verbs of activity = activity verbs

Vendler and Kenny uses the term verb but it is clear from the context that what they really mean is not the verb alone but a construction of a verb and its accompanying element(s). For instance, the verb run is classified both as a verb of activity and as a verb of accomplishment, as can be seen in the following sentences.

(61) John ran. (verb of activity)
(62) John ran a mile. (verb of accomplishment)

In (61) run is a verb of activity (in Vendler's terms) and in (62) it is a verb of accomplishment. The difference stems from the presence of the noun phrase a mile in the second sentence. This shows clearly that Vendler's and Kenny's classifications take into account not only the verb but its related elements as well.

Garey defines the telic and atelic natures of the verbs only notionally. But Vendler and Kenny present us with test-frames to distinguish the different classes. In this respect, Vendler and Kenny's approach is an improvement over previous approaches.
4.2.4 Forsyth (1970)

Forsyth (1970:47) classifies Russian verbs into five groups in his study of Russian aspect, taking the following points into consideration.

1. the type of 'action' in objective reality, e.g. a physical action producing a tangible result, an abstract mental attitude, a continuous state etc.;

2. the presentation of a given type of action inherent in the verb, e.g. an instantaneous change of state--to disappear, a gradual change of state--to freeze, the continuous manifestation of the phenomenon--to flow, a series of identical acts--to knock etc.;

3. the possibility of expressing various additional nuances by means of the opposition of the imperfective to the inherent aspectual meaning of the perfective, and the use of procedural prefixes and suffixes.

Forsyth's five groups of verbs with their characterizations follow:

Group 1: unpaired perfectives

Unpaired perfectives do not denote process as such, but rather the instant of performance and the 'leap' into a new state. Verbs meaning 'to conceive hatred', 'to take a liking to', and 'to start to weep' are some of the verbs that belong to Group 1.

Group 2

Verbs whose action cannot be presented as a process tending gradually towards a critical point at which the action takes place. Verbs meaning 'to find', 'to lose', 'to happen' and 'to switch on' are some of the verbs that
belong to Group 2.

Group 3

Verbs that belong to this group do not denote any real performance but can express the tendency towards, and gradual approach to, the critical point at which the action takes place in the imperfective form. In other words, the imperfective form of this group denotes conation. The totality of the event expressed by the perfective embraces its successful conclusion. Verbs meaning 'to waken', 'to recollect' and 'to choose' are some of the verbs that belong to Group 3.

Group 4

With verbs belonging to this group, the process denoted by the imperfective represents in itself the gradual achievement of the result. The performance of the action is cumulative. Some verbs that belong to this group are 'to shave', 'to drink', 'to build' and 'to weave'.

Group 5

Verbs that express the subject's existence, essence, physical state, emotion or intellectual state, occupation with an activity which does not imply any necessary conclusion, various types of movement, and activities which are presented inherently as series of repeated identical acts. Verbs meaning 'to be', 'to live', 'to shine' and 'to know' are some of the verbs that belong to Group 5.
4.2.5 Verkuyl (1972)

In his study of Dutch aspecual system Verkuyl claims the following points: the category of aspect exists in languages whose verbal system is not marked for perfective and imperfective aspect, and the category of aspect is not confined to the verb alone, but it has a compositional nature, consisting of a verbal subcategory on the one hand and of a configuration of a nominal nature on the other hand.

In his analysis, verbs subclassified with semantic features such as MOVEMENT, PERFORM, TAKE, ADD TO, TRANSITION, etc. For example, verbs such as to walk and to drive have the semantic feature MOVEMENT. Verbs such as to play and to perform have the semantic feature PERFORM. Verbs such as to eat, to drink and to take have the semantic feature TAKE. Verbs such as to knit and to build have the semantic feature ADD TO. Noun phrases are classified in terms of countability, finiteness or delimitation. When noun phrases are delimited or finite, they are specified. Otherwise, they are unspecified.

Based on the inherent semantic nature of the verb and the specificity of the noun phrase a set of aspecual schemata of the following form is presented.

\[(63) \text{ Durative Aspect (imperfective)} \]

\[\text{[[VERB]}_V + \text{[UNSPECIFIED QUANTITY of } X]_{NP}]_{VP}\]
(64) Nondurative Aspect (perfective)

\[ ([\text{VERB}]_V + [\text{SPECIFIED QUANTITY of X}]_{NP})_{VP} \]

According to the scheme in (63), sentence (65) is nondurative (perfective). The underlined part in (65) fits semantic primitive ADD TO and the following noun phrase is delimited in terms of number.

(65) He knitted a sweater.

The aspect of sentence (66) below is durative (perfective). The underlined part meets the structural description of the durative scheme in (63): the noun phrase is unspecified.

(66) He knitted sweaters.

The difference between the durative and nondurative aspect is shown with prepositional phrases of duration. With the nondurative aspect the time adverbials such as in two hours or in two days can be used, but not with the durative aspect, as can be seen in (67-70).

(67) She knitted a sweater in two days.

(68) "She knitted sweaters in two days.

(69) He built a house in two years.
(70) *He built houses in two years.

(The starred sentences are unacceptable only in those readings where the noun phrases are kept as unspecified quantity and the time adverbials are understood as delimited periods, not as points in time measured from another point. They are unacceptable if read in these senses:

(71) *She engaged herself in two days to the second in sweater-knitting.

(72) *She occupied herself in two years to the moment in house-building.

But they are acceptable if read in these generic senses:

(73) It always (or at least generally) took her two days (or less) to knit each sweater she knit (when she used to knit sweaters).

(74) It always (or at least generally) took him two years (or less) to build each house he built (when he used to build houses).

And they are also acceptable in these senses:

(75) She knit sweaters (with) in two days after getting the cast off her hand.

(76) He built houses (with) in two years after getting out of the iron lung.)

On the other hand, time adverbials such as for two hours
or *for two years* cannot be used with nondurative aspect but can be with durative aspect, as can be seen in (77-80).

(77) *She knitted a sweater for two hours.*
(78) She knitted sweaters for two hours.
(79) *He built a house for two years.*
(80) He built houses for two years.

(The starred sentences would be acceptable only as the substandard versions of "She knitted on a sweater..." and "He built at a house...".)

To summarize, in Verkuyl's study of aspect the following factors are taken into account:

1. the inherent nature of verbs such as MOVEMENT, PERFORM, TAKE, etc.,
2. the nature of noun phrases in terms of specificity and,
3. the interrelationship of verbs and noun phrases in sentences.

The fact that aspect is not a property confined to the verb alone was already recognized by previous scholars such as those whose work is examined in 4.2.1-4, but Verkuyl's study is explicit. Nevertheless, his aspecual schemata are not sufficiently tight. To see this, let us examine the verb *to walk*, which Verkuyl uses in his study.
(81) He walked the dog.
(82) He walked ten miles.

The two verb phrases in (81-82) would be durative according to Verkuyl's aspectual schemata, since the verb walk is followed by a specified noun phrase in (81) and (82). But in actuality only one is durative, as can be seen in (83-84).

(83) He walked the dog for two hours.
    *in two hours.

(84) He walked ten miles *for two hours.
    in two hours.

The observations made above suggest that not all specified noun phrases in verb phrases make the verb phrases non-durative. Certain specified noun phrases with certain specific relations to the verb can make verb phrases non-durative. Let us look at the following sentences in which the verb walk is followed by different prepositional phrases whose noun phrases are all specified.

(85) a. He walked to the beach.
    b. He walked toward the beach.
    c. He walked along the beach.
    d. He walked on the beach.
    e. He walked near the beach.
The verb phrase in (85a) is nondurative. But the rest of the verb phrases in (85) are durative as can be seen in (86).

(86)  
- a. He walked to the beach in two hours.
- b. *He walked toward the beach in two hours.
- c. *He walked along the beach in two hours.
- d. *He walked on the beach in two hours.
- e. *He walked near the beach in two hours.

The examples above suggest that the two factors—the inherent nature of the verbs and the specifiedness of the noun phrases—developed and used in accounting for the perfective and imperfective aspect in Dutch are not adequate for dealing with other data such as the English data just examined. The relation of the noun phrases to the verbs must also be specified. In the following section (4.3) it will be shown that the underlying case relations used in derivational rules are also important in accounting for aspect.

4.2.6 Miller (1971)

In his "informal" discussion of Russian aspect, Miller adopts a generative semantic model of description. He assumes that postulation of abstract underlying structures can be justified as long as one can account for certain
cooccurrence restrictions and near synonymity between sentences. To him, it does not matter whether one can derive surface structures from the underlying structures. His claim is that "explanation is every bit as vital as explicitness." (Miller 1971:236)

On such an assumption he postulates the underlying structure of the Russian sentence *Ivan napisal pis'mo* 'Ivan wrote a letter' in the following way.

(87)

Putting aside the matter of deriving a surface structure from the underlying structure (87), we can ask the following question: does the underlying structure really explain anything about the Russian sentence *Ivan napisal pis'mo* 'Ivan wrote a letter', as Miller claims?

The three sentences dominated by $S^0$ are postulated as "tenseless" in Miller's analysis. How are the three tenseless sentences to be interpreted? $S_1$ is directly dominated
by one of the tenseless sentences, and the relation between \( S_1 \) and its dominating sentence is not made clear.

Another problem with Miller's underlying structure is the meaning of the term "state". He never makes this clear. One possible interpretation might be "state of writing a letter." "State" being interpreted in this way, the underlying structure may mean that Ivan went into, was in and came out of the state of writing a letter. But again this is not clear: does it mean that Ivan stopped writing a letter or he finished writing a letter? The perfective form napisal means that the action of writing has come to an end and at the same time that a letter has been finished. But such a meaning is not represented in Miller's underlying structure. (Cf. 4.2.2.)

Miller's underlying structure, although complicated, falls far short of even describing the perfective aspect in Russian, not to mention explaining it.

4.3 A New Proposal

The following factors gleaned from this review of the literature on aspect are to be regarded as important: the inherent nature of verbs; the nature of associated noun phrases in terms of specifiedness; and the relation of the verbs to the noun phrases (or prepositional phrases). Poutsma and Forsyth's analyses reviewed in this study are important with regard to the first point: they analyse
verbs in English and Russian in terms of their inherent natures. With regard to the second point above, Allen introduces the concept of "boundedness" of noun phrases and Verkuyl that of "specifiedness". Ferrell, Garey, Allen, Vendler, Kenny and Verkuyl all emphasize the importance of the relation of the verb to a noun phrase in a sentence.

Each of the studies reviewed gives useful insights into the study of aspect. But none presents a coherent system incorporating the three main points capable of dealing exhaustively with aspectual phenomena in other languages such as Kusaiean. The following is a brief sketch of what is hoped will prove to be such a framework and which will be tested in this study of Kusaiean aspectual derivational rules.

Verbs are classified according to their inherent nature (or character) in the following way, using the features [+stative], [+motion] and [+instantaneous].

```
VERBS
  +stative  -stative
    +motion  -motion
      +instant -instant  +instant -instant
```

Stative verbs are those that denote state or condition and nonstative verbs are those that denote action. The distinction is recognized by Vendler and Kenny, who use the
formal criterion of be...ing. (See 4.2.3.) Recently Lakoff (1970) presents some additional criteria for the distinction between statives and nonstatives.

Nonstatives are subclassified into motion and nonmotion verbs. Motion verbs are those that denote physical changes in the location of certain objects. Nonstative verbs, whether motion or nonmotion, are subclassified into two groups with the features [+instantaneous]. Instantaneous verbs are those that denote actions that take place instantaneously.

The above classification concerns the inherent nature of verbs. Their telic and atelic nature can be captured most effectively by using case frame features. Verbs in English, for example, can potentially be used as either telic or atelic verbs. The telic nature is usually imposed upon verbs by certain actants with which they are used. Motion verbs are telic when they are used with LOC actants that denote goal or extent. (See 2.4.1.7.) The motion verb to walk, for an instance, is telic in (88) but the same verb in (89) is atelic.

(88) a. John walked to the beach. 
    [+LOC,+goal]

b. John walked ten miles. 
    [+LOC,+ext,+specified]

(89) a. John walked miles and miles. 
    [+LOC,+ext,-specified]
In (88) the verb walk is used with the expression to the beach and ten miles, which impose a telic nature. In (89) the expressions miles and miles and along the beach do not impose such a nature. What this implies is that the verb walk (or any other verb) can be used with different actants but that only some of the actants can impose a telic nature on it.

The telic and atelic natures of the verbs above can be tested using time expressions such as in two hours or in two days, which denote duration as well as completion. Observe the following.

(90) a. He walked to the beach in two hours.
   b. *He walked along the beach in two hours.
   c. *He walked in two hours.

The TIM actant in two hours indicates not only a duration of time but also a completion or accomplishment of a certain goal. So it can be used with telic constructions but not atelic constructions, such as (90b-c).

We can observe the same phenomena with the transitive motion verbs. Let us observe the verb to push in (91-93).
(91)  a. He pushed the carts to the wall.
       b. He pushed the carts a mile.
(92)  a. He pushed carts to the wall.
       b. He pushed carts a mile.
(93)  a. He pushed the carts toward the wall.
       b. He pushed the carts along the wall.

The LOC actants to the wall and a mile impose the telic nature on the verb push in (91). The same LOC actants are used in (92) but the telic nature is not imposed because the objects of the transitive verb push are unspecified. In (93) the objects of the verb are specified but the prepositional phrases following them are those that cannot impose the telic nature. This can be tested with the time expression such as in three minutes or in three days.

(94)  a. John pushed the carts to the wall in ten minutes.
       b. *John pushed carts to the wall in ten minutes.
       c. *John pushed the carts along the wall in ten minutes.

The two motion verbs to walk and to push are examined in the preceding paragraphs. The verbs can be either telic or atelic depending upon the actant used with them. To be specific, LOC actants that denote goal or extent can impose
the telic nature to the motion verbs. It will be recalled that in Verkuyl's analysis only the specifiedness of the noun phrase is taken into consideration, as can be seen in the following nondurative aspectual scheme:

$$[[\text{VERB}]_V + [\text{SPECIFIED QUANTITY of } X]_{NP}]_{VP}$$

We have now seen that simply the specifiedness of the noun phrase is not always sufficient to tell whether a given construction is telic or atelic. In addition, the relation of the noun phrase to the verb must be taken into consideration. The following redundancy rule suggests a possible approach.

$$\text{RR-1} \quad \left[ \begin{array}{c} +V \\
+\text{motion} \\
+\text{NM} \\
+\text{AGT} \\
+ ( \begin{array}{c}
+\text{AC} \\
+\text{NEU} \\
+\text{specified} \\
+\text{LOC} \\
+\text{gol/+ext} \\
\end{array} ) \\
\end{array} \right] \rightarrow [+\text{telic}]$$

The parentheses around the $ [+\text{AC}, +\text{NEU}, +\text{specified} ]$ actant indicates that the redundancy rule applies to verbs with or without that actant. The rule states that motion verbs, whether transitive or intransitive, are telic when
LOC actants with the feature [+gol] or [+ext] are used.

On the basis of the above rule, the following rule can be formulated.

\[
\begin{align*}
\text{RR-2} & \quad \left[ +v \quad \text{J-telic} \right] \quad \rightarrow \quad \left[ -_{\text{telic}} \quad +\text{TIM} \quad +\text{dur}, +\text{com} \right]
\end{align*}
\]

The above rule states the cooccurrence restriction between the TIM actants with the features [+dur,+com] and atelic verbs: it says that such TIM actants cannot occur with atelic verbs. (Cf. the ungrammatical sentences in (94b-c).)

With nonmotion verbs we can observe similar phenomena. The verb to build, for example, is a nonmotion verb. It can be used with several different actants in a sentence, as in (95).

\[(95) \quad \text{John built the house with cement last year.} \quad [+\text{AGT}] \quad [+\text{FAC}] \quad [+\text{INS}] \quad [+\text{TIM}]\]

Of the four actants the FAC actant is the one that can impose a telic nature on to build. When the FAC actant is specified, the construction is telic, as in (96).

\[(96) \quad \text{John built a house with cement in two months last year.}\]

However, when the FAC actant is not specified as in
(97), a TIM actant with the features [+dur, +com] cannot be used (except in a generic sense, as noted in 4.2.5).

(97) *John built houses with cement in two months last year.

The observations that we made above can be captured in the following redundancy rule.

The above redundancy rule states that nonmotion verbs which have [+NM, +AGT] and [+AC, +FAC] actants are telic when the [+AC, +FAC] actant is specified. Otherwise, they are atelic. Verbs with the case frame features above can have corresponding passive forms, whose redundancy rule is presented below.
The FAC and AGT case relations are common in RR-3 and RR-4. But the AGT case relation is not essential to the telic nature of the nonmotion verb to build and RR-3 and RR-4 can be collapsed, as in RR-5.

To summarize, it has been shown in this section that the case frame features entered for verbs in the lexicon showing their relations with actants in sentences can be used as key factors in accounting for aspectual phenomena. Only a limited amount of data—mostly those that used by Verkuyl—are used to show this. In the following chapters the proposed system will be applied more fully to the entire Kusaiean aspectual system.
CHAPTER V
GENERAL OBSERVATIONS ON KUSIEAN VERB SYSTEM

5.0 Introduction

In Chapter Three we examined derivational rules that predict the existence of words from given words. Verbs can be derived from nouns, adjectives or other verbs. Verbs in Kusaiean, whether derived or not, can have different forms which are aspectually related. These can be represented in the following schematic way.

Simple Form (SF) \(\rightarrow\) Perfective Form (PF)
\[\downarrow\]
Reduplicated Form (RF) \(\rightarrow\) Perfective Form (PF)

A simple verb can have its corresponding reduplicated form, and a verb, whether simple or reduplicated, can have its corresponding perfective form(s). The verb *apihs* 'to sting', for example, can have the following aspectually related forms.

*apihs* (SF) \(\rightarrow\) *apihsyac* (PF)
'\(\rightarrow\)'to sting' \(\rightarrow\)'to have stung'

*apuhslah* (PF)
'to have stung all'

*apapihs* (RF) \(\rightarrow\) *apapihsyac* (PF)
'to sting repeatedly'

'\(\rightarrow\)'to have stung repeatedly'
To take another example, the adjective kuluk 'bad' has the following aspectually related forms.

\[
\begin{array}{c}
\text{kuluk (SF)} \\
'bad' \\
\downarrow \\
\text{kulkuluk (RF)} \\
'rather bad' \\
\end{array}
\rightarrow
\begin{array}{c}
\text{kulukyak (PF)} \\
'to have become bad partially' \\
\downarrow \\
\text{kulkulukyak (PF)} \\
'to have become rather bad partially' \\
\downarrow \\
\text{kulkuluklah (PF)} \\
'to have become rather bad completely'
\end{array}
\]

The purpose of this chapter is to survey different aspectually related forms of verbs and adjectives and their meanings. Section 5.1 treats reduplicated forms and their meanings, and 5.2 perfective forms and their meanings. Attendant problems are also discussed. A general characterization of perfective and imperfective forms in Kusaiean is presented in 5.2.1, and their cooccurrence restrictions are noted. Lastly, in 5.3, functions and meanings of directional suffixes are presented.

5.1 Reduplicated Forms and Their Meanings

Verbs and adjectives can be reduplicated with a few exceptions. This can be captured in the following redundancy rule.

\[
\text{RR-1 } [+V / +Adj] \rightarrow [+\text{reduplication}]
\]
RR-1 states that verbs or adjectives can be simple or reduplicated. The meanings of the reduplicated forms are varied, however, as can be seen in the following sentences.

(1) Lwen se nge arlace ohu / ohyohu.
    day one this very cold chilly
    'Today is very cold / chilly.'

(2) Sepe el otwe / ototwe susu se.
    Sepe she weave / weave lazily hat one
    'Sepe is weaving / weaving lazily a hat.'

(3) Sohn el puok / pupuok tuhlihk sac.
    John he hit at / child the
    'John hit at / is hitting at the child.'

(4) Sohn el on / onon fong.
    John he sing / last night
    'John sang / sang and sang continually last night.'

In each sentence in (1-4) the simple form of the verb is given first and the reduplicated form appears after the slash line. At a glance, their meanings seem to be unpredictable, differing with each word. In (1) the reduplicated form ohyohu, compared with its simple form ohu, has a weaker meaning. In (2) ototwe conveys the idea that weaving a hat takes a longer time than is usual or expected. In (3) pupuok describes a repeated unsuccessful attempt. In (4) onon conveys the idea that singing went on and on in a prolonged succession.

In Chapter Seven it is shown that such different meanings of reduplicated forms are predictable when the
inherent semantic features of verbs such as [+stative] and [+instantaneous] and the relational features [+telic] are taken into consideration.

5.2 Perfective Forms and Their Meanings

A verb or an adjective can be suffixed by one of the directional suffixes listed in (5). The suffixed forms denotes that a certain change of state has been brought about. In the case of verbs the verb stems indicate the action and the suffixes the resulting state. For example, one suffixed form of the verb kulus 'to peel' is koloslah which means that as a result of peeling, something is removed from another object. In the case of adjectives the suffixed forms denote new states brought about. One suffixed form of the adjective rangrang 'yellow' is rangranglah 'to have become yellow'. The term perfective form is used to refer to the suffixed forms. (Cf. 5.2.1-2.)

Verbs or adjectives, whether derived or not, whether simple or reduplicated, can have corresponding perfective form(s), as observed in 5.0. This can be formulated in the following redundancy rule.

\[
RR-2 \quad [+V / +Adj] \quad \rightarrow \quad [+\text{perfective}]
\]

RR-2 is an overall generalization which raises many specific questions which must be answered. Some of these questions
are presented in this section.

There are eight directional suffixes in Kusaiean. They are:

(5)  
-\textit{lah} \quad 'away'
-\textit{acng} \quad 'to a reference point'
-\textit{vac} \quad 'down'
-\textit{ack} \quad 'up'
-\textit{ma} \quad 'to the speaker'
-\textit{oht} \quad 'hence'
-\textit{eni} \quad 'to one place'
-\textit{elihk} \quad 'to different places'

Certain verbs have all eight perfective forms. Others have only two perfective forms. Others have only one. The following table presents a sampling of the seemingly random and haphazard picture of the number and kinds of perfective forms that can occur with given verbs. (The symbol X is used when a certain verb can be used with a particular suffix.)
<table>
<thead>
<tr>
<th>VERBS</th>
<th>DIRECTIONAL SUFFIXES</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>lah</td>
</tr>
<tr>
<td>muhsahi</td>
<td>X</td>
</tr>
<tr>
<td>'to build'</td>
<td></td>
</tr>
<tr>
<td>muhlkihn</td>
<td>X</td>
</tr>
<tr>
<td>'to forget'</td>
<td></td>
</tr>
<tr>
<td>fototo</td>
<td>X</td>
</tr>
<tr>
<td>'short'</td>
<td></td>
</tr>
<tr>
<td>ahkos</td>
<td>X</td>
</tr>
<tr>
<td>'to light'</td>
<td></td>
</tr>
<tr>
<td>fulus</td>
<td>X</td>
</tr>
<tr>
<td>'to paste'</td>
<td></td>
</tr>
<tr>
<td>pahtok</td>
<td>X</td>
</tr>
<tr>
<td>'to push'</td>
<td></td>
</tr>
</tbody>
</table>

Note that verbs like muhlkihn 'to forget' and ahkos 'to light' have one perfective form each. But different suffixes are used for each case: lah is used with muhlkihn and ack with ahkos. But the verb muhsahi can have three perfective forms.

The suffix lah is used with the following verbs: muhsahi, muhlkihn, fototo, fulus and pahtok. However, the meanings denoted by the suffix are not the same. Lah in muhsahelah denotes that a building has come into existence. Lah in muhlkuhnlah denotes that something is out of one's mind or consciousness. In fototolah 'to have become short', the suffix denotes a change of state. Lah in pahtoklah denotes a change in location of a certain object.

To take the suffix ack as another example, it is used with the following verbs: muhsahi, fototo, ahkos and
pahtok. The suffix ack in muhsaheack denotes that building has started but has not been finished—a partial accomplishment. The same suffix ack in fototoack denotes a partial change of state. The same suffix in ahkosack denotes that as a result of starting, something is in a state of activity or operation. The suffix ack in pahtokack denotes a change of location.

With regard to the above observations we can raise the following general questions. Is the number of perfective forms a verb can take predictable? Are the meanings of the perfective forms predictable? These two questions are crucially related to the approaches possible in dealing with perfective forms. If the number and the meanings of the perfective forms are not predictable, they must be listed in the lexicon as well as their simple forms.

On the other hand, if their number and meanings are predictable with a set of rules, we need list only the simple forms in the lexicon. My research on Kusaiean leads me to believe that this latter alternative is in fact possible: that despite seeming diversity and irregularity, there are underlying regularities. Consequently, the second approach is adopted in this dissertation. In Chapter Six a set of aspectual derivational rules formulated to capture the underlying regularities are presented.

5.2.1 A General Characterization of Perfective Forms
The concept of the marked and unmarked opposition can be applied to the opposition between the simple and perfective forms to be found in Kusaiean. Jakobson (1957:136) defines the concept in the following way:

The general meaning of a marked category states the presence of a certain property A; the general meaning of the corresponding unmarked category states nothing about the presence of A and is used chiefly, but not exclusively, to indicate the absence of A.

Both in terms of form and meaning the perfective forms can be seen as the marked category. They are formed by the addition of a suffix, and have the following meanings beyond those of the simple forms, to list just a few.

1. The perfective forms denote a change of state: wo 'good' versus wolah 'to have become good'.

2. The perfective forms denote an occurrence of a certain action and its cessation: kihmkihm 'to make a series of thumping sounds' versus kihmkihmlah 'to have made a series of thumping sounds'.

3. The perfective forms denote a state resulting from a certain action: sruok 'to catch' versus sruokyac 'to have caught something and it is in a captive state'.

Simple forms can be defined negatively according to Jakobson's definition. Simple forms do not say anything about the presence of the increments of meaning listed
above, and are used chiefly but not exclusively to indicate their absence.

This opposition between the simple and the perfective forms is reflected in different parts of Kusaiean grammar, several of which will be observed in the following section.

5.2.2 Cooccurrence Restrictions

Generally perfective forms denote that a certain action or process has come to an end and describe the resulting state. This basic semantic distinction is reflected well in the cooccurrence of other parts of speech.

1. srwack 'still'

The adverb srwack 'still' implies that a certain action which was going on previously is still going on. It can be used with simple but not with perfective forms. This seems quite natural in view of what has been said about the contrast in meaning between simple and perfective forms.

In the following sentences srwack is used grammatically with simple forms. But the sentences would be ungrammatical if the verbs were perfective instead, as in parentheses.

(6) Sah el srwack na tahtahi (tahtahelah) sahk soko. Sah he still saw saw-away tree one 'Sah is still sawing a tree.'

(7) Kuhn el srwack na koem (koemlah) kaki ah. Kuhn he still husk coconut the 'Kuhn is still husking the coconuts.'
2. *nwe* 'and' *na* 'and'

The conjunction *nwe* 'and' joins one action or state that was going for some time with another that follows before the first has come to an end. This accounts for the fact that perfective forms, which denote completion, cannot occur in the first part of a compound sentence joined by the conjunction *nwe*. In (9) the verb *sroali* is a simple form and the sentence is grammatical. But in (10) the perfective form of *sroali* is used and the sentence is ungrammatical.

(9) Sah el *sroali* fahsuc tin sac *nwe* puhtatlac.
    Sah he paint roof tin the and fall-off
    'Sah was painting the roof and fell off.'

(10) *#Sah el sroalelah* fahsuc tin sac *nwe* puhtatlac.
    paint-away
    'Sah painted the roof and fell off.'

In contrast, when two sentences are joined by the conjunction *na*, the verb in the first clause of a compound sentence must be a perfective form. Before sending a letter, one must have finished writing it. The conjunction *na* is used to express such a sequence of related actions. The perfective form *suhamuhslah* 'to have written' is used in the following grammatical sentence. Its corresponding simple form used with the conjunction *na* would be ungrammatical.
(11) Nga suhmuhslah lwacta se na suhpucahlah.  
I write-away letter one and send-away  
'I wrote a letter and sent it away.'

(12) *Nga sibmihs lwacta se na suhpucahlah.  
I write letter one and send-away  
'I am writing a letter and sent it.'

3. tihlac 'not any more, not any longer'

The negative word tihlac can be used with simple but not with perfective forms, since it means that a certain action that was going on stopped short of reaching its intended goal. In (13-14) the verbs appear in their simple unsuffixed forms and their perfective counterparts (in parentheses) would be ungrammatical.

(13) Ninac el tihlac oul (ollah) nuknuk ah.  
mother she wash clothes the  
'Mother did not wash the clothes any longer.'

(14) Eltalh tihlac nihm (nuhmlah) piru uh.  
they drink beer the  
'They did not drink the beer any more.'

4. puhtakhah 'how long has one been...ing?'

The question word puhtakhah 'how long has one been...ing?' also denotes that an action or process has not come to an end and thus it cannot be used with a perfective form. The words in parentheses are perfective and cannot be used with it.
(15) Sepe el sihmihs (suhmuhslah) lwacta se
Sepe she write letter one

puhtahkah?
how long
'How long has Sepe been writing a letter?'

(16) Kuhn el pihkihn (puhkuhnack) luhf sac
Kuhn he dig ditch the

puhtahkah?
how long
'How long has Kuhn been digging the ditch?'

5. muhta 'to stay' 'to sit'
The verb muhta has a basic meaning of 'to stay' or 'to sit', as it is used in the following sentences.

(17) Eltahl muhta ke acn Awaii.
they stay in land Hawaii
'They stay in Hawaii.'

(18) Sepe el muhta Ponpe.
Sepe she stay Ponape
'Sepe stays in Ponape.'

The verb muhta has an extended meaning of 'to continue ...ing', 'to keep ...ing', or 'to remain in a certain state or condition'. In (19-20) the verb is used in this extended meaning.

(19) Ninac el muhta manman ik.
mother she cook fish
'Mother kept on cooking fish.'
(20) Eltahl muhta pwacr.
   they happy
   'They remained happy.'

Verbs that follow muhta, such as manman 'to cook' and pwacr 'happy', must not be perfective ones. 'To continue ...ing', or 'to keep on ...ing' or 'to remain in a state' implies that a certain action or process has not come to an end. This predicts that perfective forms cannot be used with the verb muhta.

5.3 Uses of Directional Suffixes as Perfective Markers

English verb particles such as up, down, off, away, etc., have uses that are similar to those of Kusaiean directional suffixes. The particles in English have non-aspectual and aspectual meanings. Bolinger (1971:98-100) claims, however, that there is no real borderline between nonaspectual and aspectual uses of the particles, but rather a gradient. With regard to different uses of the particle up, he writes:²

The primitive directional meaning was probably modified to the aspectual one by the direction that most physical acts of completion take. When a glass is filled, the level moves up toward the eye of the viewer; when a flow is suddenly checked, the level rises. This associates up with completion and with arrest, and also with the notion of closing a gap between the eye of the viewer and the thing viewed, which colors up in contrast with down in the following:

   He came up (to me) and said...
Bolinger grades the meanings of the particle up in the following way.

1. the primitive directional meaning, literal or metaphorical, as in The work piled up or He pushed up the window;
2. extended directional meaning (something "up" is visible, for example), as in Has he turned up yet? or They brought up a different argument;
3. perfective meaning as manifested in resultant condition, as in It shriveled up or They marked up the windows;
4. perfective in the sense of completion or inception, as in The rain let up, or He followed up the lead I gave him; and
5. perfective in the sense of attaining a high intensity, as in They revved up, or Let's brighten up the colors.

Similarly, each of the directional suffixes in Kusaiean has dual semantic features of terminus (or result) and motion. Thus a perfective form, which is suffixed by one of the directional suffixes, denotes that a certain action has come to an end and as a result something has changed its location. The meaning of motion, however, can be (1) concrete physical change of location, (2) abstract change of hands or (3) figurative change of state. Both meaning (2)
and (3) are extended from the first meaning of direction.

To illustrate the different meanings, the following set of sentences is presented in which perfective forms expressed by the suffix *lah*.

(21) *Nga kuhipackuhnlah yot sac.*
I throw-away stone the 'I threw away the stone.'

(22) *Nga kuhipakuhlnah pik soko ah.*
I sell-away pig one the 'I sold away the pig.'

(23) *Nga koloslah muh se.*
I peel-away orange one 'I peeled an orange.'

The suffix *lah* in (21) denotes that as a result of throwing the location of the stone has changed: it is away from its original location. The same suffix in (22) denotes an abstract change of location. The same suffix in (23) denotes a resultant state or condition: the orange is peeled off.

Resultant states or conditions are varied and numerous. But in Kusaiean they are classified into six groups. This means that a directional suffix can represent not one but several different resultant states. To see this, let us observe the following set of sentences in which the suffix *yac* 'down' is used.
A common semantic thread that runs through the resultant states in (24-25) is that something is attached or fixed to another object. A common semantic thread that runs through the resultant states in (26-27) is that some animate object is killed. Furthermore, we can also find a common semantic thread running through the resultant states of attachment and inanimateness: both can be generalized as a state of rest or immobility.

In what follows, the meanings of each directional suffix are presented in the order from more literal directional meanings to more figurative meanings. (Thirteen meanings of the suffix lah, for example, are presented. But I do not mean to suggest that the suffix has exactly thirteen meanings. What I am suggesting is that the thirteen characterizations together pretty effectively map out the range of meanings of the suffix. It is possible that another investigator would come up with a different number of meanings.
5.3.1 Meanings of Directional Suffixes

lah

1. Away from a reference point:

Sohn el sinuhkuhnlah pohk sac liki inum ah.
John he push-away box the from kitchen the
'John pushed away the box from the kitchen.'

2. Away from the beach:

Noa luhlahp se pucklah oak okoacl Sah ah.
wave big one wash-away canoe Cl-his Sah the
'A big wave washed away Sah's canoe.'

3. From a vertical position to a horizontal position:

Kuhn el puhtatlac.
Kuhn he fall
'Kuhn fell over.'

4. Back to one's point of departure:

Kenye el fohlohklah nuh Kosrae.
Keny she return to Kusaie
'Kenye returned to Kusaie.'

5. To the other side of a line or an obstacle:

Tuhlwen el tuhpallah pot sac.
Tuhlwen she jump wall the
'Tuhlwen jumped over the wall.'

6. Ahead of something:

Sepe el tolollah Sohn.
Sepe she overtake John
'Sepe overtook John.'

7. Change of hands:

Nga molelah pik soko ah.
I buy pig one the
'I bought the pig.'

8. Out of one's consciousness or view:
Nga muhlkun nalh inen tuhlihk sac.
I forget name-of child the
'I forgot the child's name.'

9. A state of separation, removal or detachment:

Sepe el ngaleslah ikonen ik ah.
Sepe she bite meat-of fish the
'Sepe bit the meat of the fish off.'

10. A state of complete exhaustion or consumption:

Eltahl kanglah mos ah.
they eat breadfruit the
'They ate up the breadfruit.'

11. A state of extinction or discontinuity:

Srue el kunelah e sac.
Srue she put out fire the
'Srue put out the fire.'

12. Completion of the whole series (totalization):

Pihlismacn el kaprelah mwet pihsrapasr ah.
policeman he arrest man steal the
'The policeman arrested all of the thieves.'

13. A state of pervasiveness:

Ninac el fihkarelah inum ah.
mother she sand kitchen the
'Mother spread sand all over the kitchen floor.'

acng

1. At a new location or at a reference point:

Sohn el pahtokaacng pohk sac nueh lohm sac.
John he push box the to house the
'John pushed the box to the house.'

2. To a contact or closed position:

Sah el urokacng fohnoht sac.
Sah he turn cork the
'Sah turned the cork in.'
3. In a position of covering:

Sepe el nokomacng wah se luhk ah.
Sepe she wear shirt one Cl-my the
'Sepe wore my shirt.'

4. To one who receives care or attention:

Ninac el liyeacng ahowo sac.
mother she look baby the
'Mother looks after the baby.'

ack

1. To a higher location from a lower location:

Kom fin etuh top nuh kac, sruhkack poum.
you if know answer to it raise hand-your
'If you know the answer to it, raise your hand.'

2. To a vertical position from a horizontal position:

Nga tulohkuhnack sru soko ah.
I set pillar one the
'I set up the pillar.'

3. To the beach or ashore:

Eng luhlahp se puokack sahk na loes soko.
wind big one push one tree long one
'A big wind pushed a long tree ashore.'

4. To the line of vision from below the horizon; in the air above the ground; out of the ground; out of the surface of water:

Faht ah takack.
sun the rise
'The sun rose.'

Won sac sohkack.
bird the fly
'The bird flew up.'

5. Suspended aloft:

Ninac el sruhpulsrack nuknuh ah.
mother she hang clothes the
'Mother hung up the clothes.'
6. In a pile or in a heap:

Pahpah el _elosack_ kaki ah.
father he pile coconut the
'Father piled up the coconuts.'

7. Facing upwards:

Ahwowo el _ekuhlack_ kaht ah noh fohn.
baby he turn card the all
'The baby turned up all of the cards.'

8. At a higher rate, speed, degree or amount:

El _kuhlack_ molin ma sac.
he move price-of thing the
'He raised the price of the thing.'

9. A state of activity or operation:

Sah el _ankosack_ insin soko ah.
Sah he light boat one the
'Sah started up the motorboat.'

10. A state of agitation:

Sepe el _kuhruhack_ is ah.
Sepe she mix yeast the
'Sepe mixed up the yeast.'

11. In one's consciousness or view; to the notice of:

Sepe el _fahkack_ ma lukmac se nuh seltahl.
Sepe she say thing secret one to them
'Sepe disclosed the secret thing to them.'

12. Partial accomplishment:

El _orvacack_ lohm se.
he build house one
'He has started building a house (but has not finished it yet.)'

13. Ready (with regard to cooking):

Sohn el _poheleack_ mos ah.
John he boil breadfruit the
'John boiled the breadfruit (and it is ready).'
vac

1. At a lower position or place:

Sepe el *ipihsyac* tuhram soko ah.
Sepe she roll drum one the
'Sepe rolled down the drum.'

2. Below the horizon or at the bottom of the water:

Oak soko ah *tihli*.
canoe one the sink
'The canoe sank down.'

3. At a lower point on a river:

Sahk soko ah *pahti* nuh ten.
tree one the drift to down
'The stick drifted down.'

4. Into the stomach:

Tuhlilk sac *ukumyac* mongo ah.
child the swallow food the
'The child swallowed down the food.'

5. The upper face facing downwards:

El *ohnkiyac* ahluh se.
he put bowl one
'He put a bowl upside down.'

6. At a lower rate, speed, amount, or volume:

El *srikhiyac* molin suhtohr yohrohl ah.
he cut down price-of store Cl-his the
'He cut down the prices of things at his store.'

7. A state of complete stoppage, inactivity, submission or inanimateness:

Pahpah el *uniyac* pik soko nuh ke macruht sac.
father he kill pig one to marriage the
'Father killed a pig for the marriage.'

8. That a spot or a speck of an area is affected:

Nga *sroaliyac* wes se.
I paint shirt one
'I dropped a drop of paint on my shirt.'
elihk

1. At different places:

Nga kihpackuhnelihk yot ah.
I throw stone the
'I threw the stones in different directions.'

2. Apart, asunder, in pieces or parts:

Sepe el fokolelihk ahluh se.
Sepe she break bowl one
'Sepe broke the bowl into pieces.'

3. Increase in size, length, volume or quantity:

Muhtwacn sac arlac factelihk.
woman the very fat
'The woman has become very fat.'

eni

1. To one point or location from different directions:

Won ah sohkeni.
bird the fly
'The birds flew to one place.'

2. In contact or in union:

Pwepuh ah fulfuleni.
paper the paste
'The (sheets) of paper are pasted together.'

3. Decrease in size, length, volume or quantity:

Wik sac arlac fototoeni.
wick the very short
'The wick has become very short.'

3.4 Summary

The purpose of this chapter was to survey the Kusaiean verb system and related matters. Included in the survey are reduplicated forms and perfective forms and the meanings of both. The directional suffixes in Kusaiean are used as
perfective markers and their meanings are presented in summary forms. The questions have been raised as to (1) whether the meanings of reduplicated forms are predictable and (2) whether the number and kind of perfective forms a certain verb can have are predictable.

It was noted that there can be at least two different approaches to the treatment of the different verb forms, depending upon whether the answers to the questions above are positive or negative. If negative, we would have to list simple forms, reduplicated forms and perfective forms together with their meanings in the lexicon. On the other hand, if the answers are positive, all we have to do is to list simple forms in the lexicon and derive the reduplicated and perfective forms through a set of aspect-related derivational rules.

The second approach is adopted in this study on the following grounds. Despite the seemingly random and haphazard picture of the verb system one gets at first glance, there are underlying regularities. Discovering these regularities and presenting a set of aspectual derivational rules are the main purpose of Chapters Six and Seven.

It will be shown that perfective forms expressed by the same suffix result from certain common semantic factors to be found, in some cases, in the common underlying case relations that the verbs share. In the case of verbs which share the same underlying case relations but take different
suffixes for their perfective forms, the choice of suffixes is determined by the resultant states that they can bring about.

The number of perfective forms certain verbs can take is not random: it is determined in some cases by the inherent nature of the verbs and in other cases by the nature of the actants that impose the telic nature on the verbs.

A similar claim is made for a certain set of verb-particle combinations in English. Fraser (1972:16), for example, made the following observation on the verbs listed below:

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bolt, cement, clamp, glue, paste, nail, rivet
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All of these verbs combine with the particle down. There is some common semantic thread running through the list; perhaps it is the fact that all of the objects specified by the verb are used to join materials. That this class of semantically similar verbs is in a real sense productive can be easily seen in the following way. If we define a dute as a device which is corkscrew-shaped used for joining two pieces of material together, we can certainly accept the sentence, he duted down the loose corner of the rug. Such new verbs can be found for many of the classes of the systematic verb-particle combinations listed in A.2, and it would not be surprising to find that in the process of making a semantic analysis of English, there are some natural classes of systematic verb-particle combinations characterized by some common semantic feature(s) of this sort, where the difference in meaning between the verb and verb-particle combination can be characterized in a straight-forward and systematic way.
1. In investigating the number and kind of directional suffixes verbs and adjectives can take, the following form was prepared.

<table>
<thead>
<tr>
<th>VERBS</th>
<th>DIRECTIONAL SUFFIXES</th>
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<tr>
<td></td>
<td>lah acng yac ack ma oht eni</td>
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</table>

Kusaiean speakers were asked to mark X when certain suffixes can occur with certain verbs (or adjectives). But it was not long until this method of investigation was found inadequate. Different speakers gave different results. In some cases, the same speaker gave different results for the same verb at different times.

Later, I found that this inconsistency was partially due to the types of sentences—imperative, interrogative or declarative—that happened to come to mind. In imperative sentences, almost any verb can be used with any of the eight directional suffixes, with the suffixes taking on verb-like meanings, as in the following.
In addition, the two suffixes -yac and -acng can be used with slightly different meanings. The suffix -yac is used when urging somebody to get down to start a certain work, as in the following sentences.

Otweyac fohtoh sac.
weave-down basket the
'Start weaving the basket!'

The suffix -acng is used when urging somebody to continue doing something until a certain time, or until a certain result is brought about.

Otweacng fohtoh sac nuh ke ao luo.
weave-to basket the to hour two
'Keep on weaving the basket until two o'clock.'

In the case of the verb otwe 'to weave', the following two results were given.
The result (1) was given when the Kusaiean speakers (I checked with) had imperative sentences in mind. On the other hand, the result (2) was given when they had declarative sentences in mind.

In interrogative sentences which begin with Kom kuh in...? (Can you...?), the verbs can be used with directional suffixes as in imperative sentences.

Another factor that caused the inconsistency on the part of the Kusaiean speakers was the nature of a certain actant that they had in mind when checking the suffixes. For example, the following different results were given for the verb puok 'to hit'.

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</tbody>
</table>
The first two are possible when puok is interpreted as a motion verb. The difference between the first and the second stems from the number of the objects to be hit: when a plural number of objects was in the speaker's mind, the first result was given, and when a singular object, the second. The third and fourth results are possible when the verb is regarded as a nonmotion verb—a surface contact verb. The third result (in which the suffix -yac is chosen) is given when a speaker imagines a situation in which only one hitting takes place. The fourth result might be given when a speaker imagines a situation in which a total number of objects or persons are hit, or a situation in which a single object or person is exposed to extensive hitting. (Cf. 6.8.2.)

Upon realizing that the native speakers' inconsistency was due mainly to the two factors just mentioned, the following new form was prepared.

**VERBS** (or adjectives)

- lah
- acng
- yac
- ack
- eni
- elihk
- ma
- oht
The Kusaiean consultants were asked to mark the suffixes that can occur with a given verb or adjective. Afterwards, example sentences using the suffixed forms were elicited.

2. An extensive study on verb particles in English was made in Arthur Kennedy (1920). In his monograph Kennedy points out the aspectual functions of each of the verb particles. A recent study on the same topic was made by Bruce Fraser (1972). These two works along with Bolinger's quoted in this study were very helpful for the investigation of the meanings and functions of Kusaiean directional suffixes.

3. Fraser (1972) classifies verb-particle constructions into two classes: systematic and unsystematic. An example of the systematic verb-particle construction is exemplified by stowed and stowed away in the following.

   He stowed the goods.
   He stowed away the goods.

The particle away does not affect the cooccurrence restrictions between the verb and its objects. An example of the unsystematic verb-particle construction is represented by wrote and wrote off in the following.

   The man wrote off the bad debt.
The man wrote the bad debt.

The particle off affects the cooccurrence restrictions between the verb and its objects.

The systematic verb-particle construction is again subdivided into two subclasses of literal and completive construction. When a particle retains essentially an adverbial sense of the formative as in the following, the construction is literal.

dish out, give out, hand out, pour out,
glue up, hang up, nail up, paste up, screw up

deed over, give over, hand over, will over

When a particle in the verb-particle construction causes the meaning of the verb to take on a completive sense as in the following, the verb-particle construction is completive.

The man mixed up the paint. (stir, churn, shake, beat,
    boil, jiggle)
The man coiled up the rope. (curl, fold, roll, wind)
The woodsman broadened out his step. (lengthen, widen,
    deepen)
The garbage clogged up the drain. (plug, jam, stop,
    block)

Fraser recognizes another subclass of the systematic construction which is neither literal nor completive, as represented in the following examples.
The warriors fought off the attackers. (fend, frighten, hold, scare, stand)
The salesman marked off the items one by one. (check, cross, scratch, tick)
The man crossed out the entry. (blot, line, pen, pencil, cancel, paint)
He noted down the remark. (copy, pen, scribble, type, write)

For a simpler but similar classification of verb-particle combinations in English, see Lambert (1929).
6.0 Introduction

In Chapter Four we reviewed some studies on aspect. On the basis of insights gathered, the following classification of verbs was proposed in 4.3.

The classification of verbs into stative and nonstative is primarily based on Vendler's and Kenny's classifications. (Cf. 4.2.3 for their classifications and also 6.1.0 for some other studies on the distinction between stative and nonstative verbs.) Stative verbs correspond to Vendler's state terms. Nonstative verbs are subclassified into motion verbs and nonmotion verbs. Nonstatives, whether motion or nonmotion, are subclassified into instantaneous and noninstantaneous verbs. The set of features [+stative], and [+instantaneous] are regarded as inherent features of the verbs.

Another pair of features [+telic] is used, which does not appear in the above diagram. This pair is used in the sense of Garey's telic and atelic verbs. As telicity of
verbs is predictable from case frame features, redundancy rules predicting telicity will be presented in appropriate places.

As will be seen in the following sections, these features play an important role in predicting perfective forms and their meanings.

6.1 Stative Verbs

6.1.0 Introduction

The concept of stativity, which was introduced by Vendler and Kenny, was reviewed in 4.2.3. Besides them, Ota (1963), Joos (1964), Lakoff (1966) and Leech (1969) classify verbs into stative and nonstative. In this section their studies will be reviewed to see what kinds of criteria are used to distinguish these two groups of verbs.

Ota (1963:2-3) classifies verbs into two major groups: statal and actional. Statal verbs are those that rarely occur in the present progressive form. They are subclassified into I-verbs and relationship verbs. I-verbs such as to think, to hope and to believe are those that occur with the first person subject both in statement and question and the second person subject in question much more frequently than with the second person subject in statement or the third person subject both in statement and question. Relationship verbs are the copula to be, copula-like verbs such as to sound, to seem and to look, and others indicating
relationship such as to contain, to include and to belong. Ota's classification is primarily based on statistical data. He tries to account for the rare occurrence of statal verbs in the progressive form by saying that statal verbs indicate state, and state cannot be a process. But any generalization based on statistical results may not reveal the real nature of verbs, as Joos (1964a:497) points out: statistics can be a good servant of linguistics but may be a bad master.

Joos (1964b:116-120) also recognizes two classes of verbs: process and status. But he notes that there are many verbs which can be used both as process and status verbs. The verb to hear, for example, can be used either as a process verb, as in (1), or as a status verb, as in (2).

(1) The judge is hearing a case now. (process)
(2) I am hearing it better, now that the wind has died down. (status)

Two criteria are used for the distinction between process and status. First, a status verb cannot have future reference without an explicit time shifter such as will or be going to, as can be seen in (3-4).

(3) Don't worry: he leaves next week.
(4) Don't worry: the baby resembles his father tomorrow.

In (3) the process verb to leave is used, and the sentence is grammatical. But in (4) the status verb to resemble is used and the sentence is "not English." (Joos 1964b:118)

Secondly, a status verb in the progressive form necessarily refers to an intensity of meaning that is either temporary or is temporarily waxing or waning. This implies that occurrence or nonoccurrence of certain verbs in the progressive form cannot be a valid criterion for the distinction between process and status.

Joos makes a rough semantic subdividing of the status verbs in the following way (as an expository convenience): (1) psychic state, including specific perception (to see, to hear, etc.) and intellectual and emotional attitudes (to believe, to hate, etc.), and (2) relation, such as the relations of representing, depending, excluding, and so on. Some verbs belonging to the second class are to suit, to adjoin, to border on, to differ, to exclude, and to extend.

Lakoff (1966) proposed that verbs and adjectives must be subcategorized with respect to the property STATIVE. The value for the property STATIVE must be indicated in the lexicon for each verb and adjective. He presented some tests which distinguish statives from nonstatives. Some
of them are: nonstatives cannot occur in imperative sentences; in do-something constructions; and in progressive form. A stative verb to know and a nonstative verb to look at are contrasted below in the three tests.

(5) a. Look at the picture.
    b. *Know that Bill went there.
(6) a. What I'm doing is looking at the picture.
    b. *What I'm doing is knowing that Bill went.
(7) a. I'm looking at the picture.
    b. *I'm knowing that Bill went there.

Leech (1969:134-137) classifies predications into event and state, which correspond to Lakoff's nonstative and stative distinction. The distinction is made in terms of countability. Nouns can be classified either as countable or uncountable. Likewise, Leech claims that predications can be classified either as countable or uncountable. He uses the following criteria to distinguish them:

For Event Predication

1. Iterative interpretation with a perfective verbal group, e.g. 'I have always eaten a good breakfast'.

2. The simple present interpreted in iterative or instantaneous senses, but not in the sense of a continuing state.

3. Occurrence of adverbials within the semantic categories "number of times" or "frequency", e.g. twice,
sometimes, or every Friday.

4. With transitive verbs, premodifying past participles referring to the present result of a past event, not simply to a present continuing state: a broken chair, a bent pin, a deserted house.

5. In narrative using the simple past tense, verbs in a sequence semantically related by temporal succession not by simultaneity.

He saw me and ran away. (normally) ≠ He ran away and saw me.

He loved his country and feared God. = He feared God and loved his country.

For State Predication

1. With a perfect verbal group, interpretation as a state extending from the past up to the present, not as a series of separate happenings: e.g., She has always loved opera.

2. With the simple present tense, interpretation as continuing state of affairs, not as a series of happenings; e.g., Teak is harder than pine.

3. To these may be added the negative counterparts of criteria (3), (4) and (5) above.

The distinction between statal and action, status and process, stative and nonstative, or state or event is made primarily made for English. However, the features have proved very useful in stating certain cooccurrence restrictions and constraining derivational processes for languages other than English. (See Kuno (1973) for Japanese, Lee (1970) for Korean, Wilson (1972) for Palauan, and Li (1973) for Rukai.)
In the following section we will observe some characteristics of Kusaiean statives.

6.1.1 Characteristics of Kusaiean Statives

One difference between stative and nonstative verbs is shown clearly when the following interrogative sentence is used.

(8) Meac kom oruh an?
what you do
'What are you doing?'

As an answer to the above question, sentences with nonstative verbs can be used, but not those with statives. In (9) the nonstative verb *riti* 'to read' is used, and in (10) the stative verb *etuh* 'to know'.

(9) *Nga riti* puk sac.
I read book the
'I am reading the book.'

(10) *Nga etuh* puk sac.
I know book the
'I know the book.'

Another difference between stative and nonstative verbs is that nonstative verbs can be used in imperative sentences, but not statives.\(^1\) Observe the following sentences.
When stative verbs or adjectives are reduplicated, they denote diffuseness. For example, lohsr 'dark', when reduplicated as in lohsrlohsr, adds a meaning of diffuseness, and the reduplicated form can be translated as 'rather dark', or 'darkish'. (See 7.1 for details.)

6.1.2 Adjectives and Stative Verbs

Some representative stative adjectives and verbs are listed below along with their case frame features.

1. Adjectives:

   In the discussion of the derivational rules 11 and 12, adjectives are classified into emotional and nonemotional ones. However, all adjectives are stative.

   RR-1 [+Adj] → [+stative]

2. Derived Verbs:

   Words derived through the derivational rules 9, 11, and 12 are stative verbs. The case frame features of these derived verbs and some examples follow.
Some derived verbs that have the above case frame features are:

pahpahkihn  'to regard as father'
kawuhkkihn  'to regard as friend'
ninackihn   'to regard as mother'
ahwowokihn  'to regard as baby'

Some derived verbs that can have the above case frame features are:

ahsorkihn   'to be sad because of'
pwacrkihn   'to be glad of'
sokkihn     'to be jealous of'
sensenkihn   'to be worried about'
fosrngahkihn 'to be afraid of'
Some derived verbs that can have the above case frame features are:

- wokihnn 'to regard as good'
- kulukkihn 'to regard as bad'
- luhngkihn 'to regard as desirable'
- sasuhkihn 'to regard as new'
- sakihrihkkihn 'to regard as strange'

3. Verbs of Feelings

The verbs listed below are related to feelings or emotional states.

- koase 'to hate'
- luhngse 'to like'
- sruhnga 'to dislike'

The following case frame features are associated with the above words.
4. Verbs of Perception or Cognition

Verbs that are related to perception or cognition are stative. Their case frame features are the same as those for verbs of feelings. Some examples follow.

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>lohng</td>
<td>'to hear'</td>
</tr>
<tr>
<td>liye</td>
<td>'to see'</td>
</tr>
<tr>
<td>puhla</td>
<td>'to feel'</td>
</tr>
<tr>
<td>etuh</td>
<td>'to know'</td>
</tr>
<tr>
<td>esam</td>
<td>'to remember'</td>
</tr>
<tr>
<td>muhlkihn</td>
<td>'to forget'</td>
</tr>
<tr>
<td>akihlen</td>
<td>'to notice'</td>
</tr>
</tbody>
</table>

In this section we have observed adjectives and some classes of verbs that are inherently stative. In the case of stative verbs, they share a common factor: their grammatical subjects stand in the DAT case relation to the verbs. The following redundancy rule is formulated.

\[
RR-2 \quad \left[ \begin{array}{c} +V \\ +[+NM, +DAT] \end{array} \right] \rightarrow [+\text{stative}] \]
6.1.3 Perfective Forms and Meanings of Statives

A state or condition can be in a state, be in a partially new state, or be in a completely new state. Being in a state is expressed by simple forms of statives. Being in a new state, whether partial or complete, is expressed by perfective forms. This means that statives can have two perfective forms. The feature inchoation will refer to being in a partially new state, and the feature completion will refer to being in a completely new state.

Using these two features, the following aspectual derivational rule (ADR) can be formulated.

ADR-1  [+stative] \rightarrow [+perfective
\{+inchoation
+completion\}]

MR-13  \text{V,Adj} \rightarrow -\text{ack}\text{V,Adj} / [+inchoation]

MR-14  \text{V,Adj} \rightarrow -\text{lah}\text{V,Adj} / [+completion]

ADR-1 states that any stative verbs or adjectives can have two perfective forms: either inchoation or completion. The perfective form meaning inchoation is expressed by the suffix -ack 'up', and the one meaning completion is expressed by the suffix -lah 'away'.

Some examples illustrating the forms and the meanings of perfective stative verbs and adjectives are presented...
(13) a. Nga pahpahkihn mwet sac.
   'I regard the man as father.'

   b. Nga pahpahhuhnack mwet sac.
   'I began to regard the man as father.'

   c. Nga pahpahhuhnhlah mwet sac.
   'I have come to regard the man as father.'

(14) a. Inimac sac folfol.
    'The field is green.'

   b. Inimac sac folfolack.
    'The field is partially green.'

   c. Inimac sac fol follah.
    'The field has become green.'

Perfective forms in (13b-c) and (14b-c) imply that something has undergone a change. In the case of statives, what undergoes the change is the actant that appears in the nominative case form.

6.1.4 Derived Stative Verbs

In the preceding section we saw that Kusaiean verbs can be classified either as stative or nonstative. The purpose of this section is to show that even nonstative verbs can be used as stative verbs, which can be redundantly specified. Let us observe the following sentence.
(15) Sohn el sisimohk.
    John he smoke
    'John smokes.' 'John is smoking.'

In one reading sentence (15) means that John is smoking. That is, the sentence describes an actual occurrence of smoking. In another reading, the sentence is a general statement about John's habit or tendency. So, if a speaker knows that John smokes habitually, he can use the sentence above even when John is sleeping.\(^3\)

The following sentence, for another example, is also ambiguous.

(16) Sohn el orekma Maclwem.
    John he work Maclwem
    'John works in Maclwem.'
    'John is working in Maclwem.'

In one reading, sentence (16) describes an actual occurrence of working. In another reading, it describes John's occupation. The sentence can be used in the second sense even when John is vacationing somewhere else.

The ADR below is formulated to capture ambivalent nature of nonstative verbs.

ADR-2

\[
\begin{array}{c}
+V \\
\text{-stative}
\end{array} \quad \rightarrow \quad [+\text{derived stative}]
\]
The ADR above states that nonstative verbs can have corresponding "derived" stative verbs. The derived stative verbs denote habit, tendency, characteristics, or genericness.

The above ADR might be a little too strong for some nonstative verbs can be used more often as derived stative verbs than others, and there may be nonstative verbs which may not be used as derived stative verbs. Chafe (1971:169) makes a similar generalization with a similar reservation.

I shall explain in terms of the presence of a semantic unit generic, which is an inflection unit. Although some verb roots may occur more often generically, others more often non-generically, I suspect that it may be correct to say that the generic inflection may be added optionally to any verbs that is not a state, as well as to any verb that is experiential or benefactive regardless of whether it is a state or not.

The following observation made by Curme (1925:259) on the simple form of the verb in English shows that there is nothing especially peculiar about the same form being used in two different meanings or a sentence having two interpretation.

In Old English "He works" meant either "He works" or "He is working." The form is working was in those days little used. It was a foreign construction that came into English from the Vulgate. In the early history of this foreign form in English, it did not become differentiated from the common form of the verb. The later slow development of progressive force in it brought new things into our
language—terminate and progressive aspect. The progressive form has at last taken deep root. It is now often impossible to avoid it where we use a finite verb, but still as in Older English we often cannot use it at all with verbs of infinitive predication.

In what follows we will observe some example sentences in which nonstative verbs are used as derived stative verbs, expressing habit, tendency, genericness or denotation.

Habit In the following sentences the verbs describe one's personal habit or occupation.

(17) Sah el paipkihn topahko. Sah he smoke tobacco 'Sah smokes tobacco.'

(18) Kuhn el som pahtuhr Sacnri nuhkwewa. Kuhn he go fish Sunday every 'Kuhn goes fishing every Sunday.'

(19) Ninac el riti Sahm 135 lwen nuhkwewa. mother she read psalm day every 'Mother reads Psalm 135 every day.'

(20) Pahpah el orek oak. father he make canoe 'Father makes canoes.'

Denotation Simple verbs in their derived stative sense are used to name a type of action without any reference to completion. They are used as answers to the following questions, simply denoting the type of action.
(21) Kom fuhkahma?
    you how-to me
'How did you come here?'

    Nga kal.
    I sail
'I sailed.'

    Nga kofkof.
    I swim
'I swam.'

    Nga sikutuhri.
    I scooter
'I scootered.'

(22) Meac el oruh ingena?
    what he do now
'What is he doing now?'

    El oruh lohm se.
    he make house one
'He is building a house.'

    El riti puk se.
    he read book one
'He is reading a book.'

**Genericness** A habitual action is more or less related to an individual's behavior, occupation or tendency. The term *genericness* refers to such action, permanent characteristics, or tendencies of a whole class of objects or human beings. The class is expressed by the determiner *uh*, as can be seen in the following sentences.

(23) Ik uh *moul* inkof uh.
    fish the live water the
'Fish live in the water.'
6.1.5 Perfective Forms and Meanings of Derived Statives

Stative verbs or adjectives have two perfective forms. One signifies inchoation and the other completion. Derived statives are not exceptions to this generalization; they also can have two perfective forms. Sentence (26), in which a nonstative verb aacnwuhki 'to fight with each other' is used, can be ambiguous, as the two translations suggest.

(26) Eltahl aacnwuhki.
they fight each other
'They are fighting with each other.' (nonstative)
'They fight with each other.' (stative)

Corresponding to the stative sense of the verb aacnwuhki, there can be two perfective forms aacnwuhkyak and aacnwuhkilah, both of which are used in (27-28).

(27) Eltahl aacnwuhkyak.
they fight each other-up
'They began to fight with each other.'

(28) Eltahl aacnwuhkilah.
they fight each other-away
'They came to fight with each other.'
Sentence (27) in which the perfective form \textit{aacnwuhkiyak} is used denotes that some people are acquiring a new habit or tendency of fighting with each other. Sentence (28) denotes that some people have entered into a new state: they did not fight with each other before, but now they have reached a state where they fight with each other.

Observe the following additional sets of examples, which illustrate the derived stative use of nonstative verbs.

\begin{itemize}
  \item[(29)]
  \begin{enumerate}
    \item a. Sepe el \textit{owo nuknuk}.  
      Sepe she wash clothes  
      'Sepe is washing clothes.' (nonstative)  
      'Sepe washes clothes.' (stative)
    \item b. Sepe el \textit{owo nuknukyak}.  
      'Sepe began to wash clothes.' (She did not wash clothes before.)
    \item c. Sepe el \textit{owo nuknuklah}.  
      'Sepe washes clothes (now).' (She has become a washer.)
  \end{enumerate}

  \item[(30)]
  \begin{enumerate}
    \item a. Pahpah el \textit{ahksihmyeyuh}.  
      father he make-write-me  
      'Father made me write.' (nonstative)  
      'Father taught me to write.' (stative)
    \item b. Pahpah el \textit{ahksihmyeyuhyak}.  
      father he make-write-me-up  
      'Father taught me (how) to write (and I began to write.).'
    \item c. Pahpah el \textit{ahksihmyeyuhlah}.  
      make-write-me-away  
      'Father taught me (how) to write (and I can write now).'
  \end{enumerate}
\end{itemize}

Simple forms of nonstative verbs are ambiguous: they
can be interpreted as stative as well as nonstative. Their perfective forms can also be ambiguous. The perfective form aacnwuhkilah in (31) can be interpreted in two different ways.

(31) Eltahl aacnwuhkilah.
   they fight each other-away
   'They fought with each other.' (nonstative)
   'They have come to fight with each other.' (stative)

When the verb above is interpreted as a nonstative verb, the perfective form denotes an occurrence of fighting and also its cessation. (See 6.6.1.) When the verb is interpreted as a stative, its perfective form denotes a change of state.

On the basis of the observations made in this section, we can add the following redundancy rule.

RR-3 [+derived stative] → [+stative]

With the addition of RR-3, ADR-1 can be applicable to the derived stative verbs also.

6.2 Motion Verbs
6.2.0 Introduction

Nonstative verbs are classified into motion and non-motion verbs. Stative verbs are redundantly nonmotion
verbs. Verbs whose meaning is related to change in location are motion verbs. Verbs other than motion verbs are non-motion. In 6.2.1 some characteristics of motion verbs are examined and in 6.2.2 ADR's predicting the meaning and form of perfective motion verbs are presented.

6.2.1 Characteristics of Motion Verbs

A change in location implies a starting point and an ending point. Thus one main characteristic of motion verbs is that they can be used with LOC actants that denote either source or goal, or with both. Observe the following sentences in which different LOC actants are used.

(32) Sah el kofkof nuh Leluh Maclwem me.
     [+LOC,+gol] [+LOC,-gol]
Sah he swim to Leluh Maclwem to me
'Sah swam to Leluh from Maclwem.'

(33) Sah el kahsruhsr nuh lohm sac liki lohm sihk ah.
     [+LOC,+gol] [+LOC,-gol]
Sah he run to house the from house Cl-my the
'Sah ran to the house from my house.'

A second characteristic of motion verbs is that they can be used freely with any of the eight directional suffixes. The verb lihs 'to chase', for example, is a motion verb and it can be used with all eight suffixes, as they are presented below.
(34) Kuhn el lihsyac won ah.
   chase-down
   luhslah
   chase-away
   luhsacng
   chase-to
   luhsack
   chase-up
   luhsma
   chase-to the speaker
   luhsotoh
   chase-hence
   luhselihk
   chase-in different directions
   luhseni
   chase-in one direction

'Kuhn chased the hens down/ away/ to/ up/ to
the speaker/ away from the speaker/ in
different directions/ in one direction.'

This characteristic of motion verbs becomes clear when
a nonmotion verb such as ahkos 'to light' is examined in
terms of the suffixes it can take, since it can take only
the one suffix -ack, as in ahkosack 'to have lit up'.

(35) Kuhn el ahkosack lahm ah.
Kuhn he lit-up lamp the
'Kuhn lit up the lamps.'

To take another example, the nonmotion verb muhlkijn
'to forget' can take only the suffix -lah, as in (36).
Motion and nonmotion verbs differ from each other not only in the number of suffixes they can take but also in the difference in meaning of each of the suffixes used with them. The suffix -ack, for example, denotes a concrete physical change of location when used with the motion verb lihs 'to chase', but a figurative, metaphorical change of state when used with the nonmotion verb ahkos 'to light'. (Cf. 5.3 for a detailed presentation.)

6.2.2 Aspect of Motion Verbs

Motion verbs are inherently nonstative, but they can also be used in a derived stative sense. Observe the following sentence in which the motion verb kahsruhsr 'to run' is used.

(37) Sohn el kahsruhsr.
John he run
'John is running.' (nonstative)
'John runs.' (stative)

Interpreted in the original nonstative sense, the verb denotes an ongoing process. But interpreted in the derived stative sense, it denotes a type or manner of locomotion and can be used as an answer to the following question about
the type of locomotion.

(38) Sohn el fuhkahlah?
John he how-away
'How did John go away?'

Motion verbs can have corresponding perfective forms which denote that a certain movement has come to an end and as a result a change in location has been brought about.

ADR-3

\[
\begin{array}{c}
+V \\
+\text{motion}
\end{array} \rightarrow \begin{array}{c}
+\text{perfective} \\
+\text{change in location}
\end{array}
\]

The change in location can be further specified in the following way:

Change in location:
1. to the speaker
2. hence
3. away from a reference point
4. to a reference point
5. up
6. down
7. to one place
8. to different places

The following MR's are necessary to get perfective forms.
6.3 Telicity of Motion Verbs

The two features [+telic] and [-telic] are used in the sense of Garey (1957) in this study. He uses the concept of telic and atelic nature to classify verbs and complements, but, as was pointed out, his terms are notionally defined and vague, making it impossible to extend his concept to verbs other than those he discusses (cf. 4.2.2). Allen (1967) tries to revise Garey's concept but is not successful. Verkuyl's aspect scheme suffers the same vagueness. As noted in 4.3, the telic or atelic nature of a verb is determined by the nature of an actant with which it is used. In this section we will examine telicity of motion verbs and in the next section (6.4) the telicity of nonmotion verbs.

Motion verbs can be either telic or atelic, as determined by certain LOC actants. To see this, let us observe the following sentences in which the motion verb kahsruhr
'to run' is used. The LOC actant in each sentence is specified.

(39) Sah el kahruhsr lohm lutlut ah.  
    [+LOC,-dir,-ext]  
Sah he run house study the  
'Sah is running at the school.'

(39) Sah el kahruhsr mael ahkohsr.  
    [+LOC,-dir,+ext]  
Sah he run mile four  
'Sah ran four miles.'

(40) Sah el kahruhsr nuh Maclwem.  
    [+LOC,+dir,+gol]  
Sah he run to Maclwem  
'Sah ran to Maclwem.'

Motion verbs take on telic nature when they are used with LOC actants with the features [-dir, +ext] as in (39), or with LOC actants with the features [+dir, +gol] as in (40). But LOC actants with the features [-dir, -ext] do not impose telic nature on motion verbs. So the motion verb kahruhsr in (39) is atelic but it is telic in (39-40).

This difference can be shown with TIM actants which denote duration as well as completion such as in two hours or in ten minutes. Observe the following sentences.

(41) *Sah el kahruhsr lohm lutlut ah ke ao luo.  
    [+TIM,+dur,+com]  
Sah he run house study the in hour two  
'Sah ran in the school in two hours.'

(42) Sah el kahruhsr mael ahkohsr ke ao se.  
    [+TIM,+dur,+com]  
'Sah ran four miles in one hour.'
Sentence (41) is semantically odd: running at a certain location can last for a period of time but it does not take a certain amount of time. This may account for the oddness of sentence (41). Sentences (42-43) are natural: the LOC actants mael ahkohsr 'four miles' in (42) and nuh Maclwem 'to Maclwem' in (43) impose a set terminal point on the verb kahsruhsr and it takes time to achieve the goals.

The motion verb kahsruhsr is intransitive. The following sentences in which the transitive motion verb pahtok 'to push' is used show that LOC actants that impose a telic nature on intransitive verbs also impose it on the transitive motion verbs.

(44) *Kuht pahtok oak soko ah lihkhin puhk ah ke ao se. [TIM,+dur,+com]
in hour one
'We pushed the canoe on the beach in one hour.'

(45) Kuht pahtok oak ah nuh lohm oak ah ke ao se. canoe the to house canoe the
'Ve pushed the canoes to the canoe house in one hour.'

(46) Kuht pahtok oak soko ah mael se ke ao se. mile one
'We pushed the canoe one mile in one hour.'
Sentence (44) is odd in the same way that sentence (41) is odd. Sentences (45-46) are natural in the same way that sentences (42-43) are. The following redundancy rule is formulated on the basis of the observations made above. Parentheses indicate that the elements they contain are optional.

RR-4

\[
\begin{align*}
+V \\
+\text{motion} \\
+[+\text{NM},+\text{AGT}] \\
+([+\text{AC},+\text{NEU}]) \\
\{+ [+\text{LOC},-\text{dir},+\text{ext}] \} \\
\{+ [+\text{LOC},+\text{dir},+\text{gol}] \}
\end{align*}
\rightarrow [+\text{telic}]
\]

RR-4 states that motion verbs, whether transitive or intransitive, are telic when used with LOC actants that denote extent or goal. With it, the following additional redundancy rule can be formulated.

RR-5

\[
\begin{align*}
+V \\
+\text{motion} \\
-\text{telic}
\end{align*}
\rightarrow
\begin{align*}
- [+\text{TIM}] \\
+\text{dur} \\
+\text{com}
\end{align*}
\]

RR-5 states a cooccurrence restriction between TIM actants which denote duration and completion, and atelic motion verbs: atelic motion verbs cannot cooccur with TIM actants denoting duration and completion such as in two
hours or in two minutes.

6.3.1 Abstract Motion Verbs

There are two sets of verbs which are semantically and aspectually similar to nonabstract motion verbs. In this section we will examine these two sets of verbs. Motion verbs are those whose meaning is related to changes in location of objects. There is a set of verbs whose meaning is related to changes in hand of objects, i.e. where objects are changed by being passed from one person to another. The verb *kihte* 'to give' can serve as an example. This verb denotes, when its action is carried through, that an object is transferred from one person to another. This transfer of an object from one person to another is comparable to a change of an object from one place to another. The set of verbs represented by *kihte* 'to give' will be called verbs of change-of-hand. The verbs listed below are some of verbs of change-of-hand.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>eis</td>
<td>'to receive'</td>
</tr>
<tr>
<td>ngihsre</td>
<td>'to borrow'</td>
</tr>
<tr>
<td>kuhkakihn</td>
<td>'to sell'</td>
</tr>
<tr>
<td>moli</td>
<td>'to buy'</td>
</tr>
<tr>
<td>pihsre</td>
<td>'to steal'</td>
</tr>
<tr>
<td>kori</td>
<td>'to beg'</td>
</tr>
</tbody>
</table>

Another set of verbs which are similar to motion verbs is those whose meaning is related to verbal communication.
The verb **sulkackihn** 'to spread' can be a representative example of this set. The verb **sulkackihn** is similar to a nonabstract motion verb such as **pahtok** 'to push', or an abstract motion verb **kihte** 'to give' in that it also implies transmission of a story or news from one person (or place) to another. This set of verbs represented by **sulkackihn** will be called verbs of communication. The verbs listed below can be classified as verbs of communication.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>sruhmuhn</td>
<td>'to talk'</td>
</tr>
<tr>
<td>kahskahs</td>
<td>'to speak'</td>
</tr>
<tr>
<td>fahk</td>
<td>'to say'</td>
</tr>
<tr>
<td>mususi</td>
<td>'to whisper'</td>
</tr>
<tr>
<td>topuk</td>
<td>'to answer'</td>
</tr>
<tr>
<td>wo</td>
<td>'to shout'</td>
</tr>
</tbody>
</table>

In the preceding paragraphs, some similarities among the three sets of motion, change-of-hand and communication verbs are presented. These similarities are reflected in the potentials of perfective forms. Verbs that belong to change-of-hand and communication are as free as motion verbs in taking the directional suffixes and the meanings of the suffixes are also very similar. For the sake of convenience, the two sets of change-of-hand and communication verbs will be referred to as **abstract motion** verbs (in contrast to nonabstract motion verbs).

The ADR below is formulated for abstract motion verbs.
6.4 Telic Nonmotion Verbs

Kenny (1963:177) points out that all performances are brought to an end by states. Any performance is describable in the form: "bringing it about that P [something is in a new state]." For example, washing dishes is bringing it about that the dishes are clean. He further notes that one performance differs from another in accordance with the difference between states of affairs brought about. He lists the following types of resultant states:

1. Bringings-into-existence: building a house is bringing it about that a house exists.

2. Termination of existence: burning gasworks is bringing it about that the gasworks does not exist.

3. Alteration: painting a statue scarlet is bringing it about that it is scarlet when hitherto it was subfusc. (1963:178)

Following Kenny, it can be said that telic nonmotion verbs (Kenny's performance verbs) come to an end in new states. The resulting states in Kusaiean are indicated by different directional suffixes. In the following sections, we will examine telic verbs in terms of case frame features, their terminal states, and their perfective forms and meanings.
Verbs that can be represented by the following case frame features are telic nonmotion verbs.

RR-6

\[
\begin{array}{c}
+V \\
-\text{motion} \\
+ \left[ +\text{NM} \right] \\
+ \left[ +\text{AGT} \right] \\
+ \left[ +\text{AC} \right] \\
+ \left[ +\text{FAC} \right] \\
+ \left[ +\text{INS} \right] \\
+ \left[ +\text{OBJ} \right] \\
+ \left[ +\text{NEU} \right]
\end{array}
\rightarrow [+\text{telic}]
\]

The redundancy rule above is an abbreviation of four rules, each of which will be examined below separately.

6.4.1 Verbs of Creation

The meanings of the verbs listed below are related to building, making or creating a certain object.

- **muhsahi** 'to build'
- **oruuh** 'to make'
- **otwe** 'to weave'
- **tafile** 'to carve out'
- **sruhluh** 'to draw (a picture)'
- **sihmihs** 'to write'

The above verbs must have two essential actants: one who carries out the action and the other which comes into being as a result of the action. These verbs can be characterized with the following case frame features.
Verbs derived from DR-1, such as those listed below, have the above case frame features.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>osrai</td>
<td>'to make something into a spear'</td>
</tr>
<tr>
<td>mitmit</td>
<td>'to make something into a knife'</td>
</tr>
<tr>
<td>ahluni</td>
<td>'to make something into a bowl'</td>
</tr>
</tbody>
</table>

The terminal point or goal of the verbs of creation is the coming into existence of a certain object. The achievement of the goal is expressed by perfective verbs. Simple verbs, on the other hand, denote the ongoing process in its nonstative sense. (See 6.1.4 for stative and nonstative use of the nonstative verbs.)

Observe the following pairs of sentences. In the (a) sentences, simple verbs are used, and their corresponding perfective verbs are used in the (b) sentences.

(47) a. Sah el muhsahi lohm se.  
      Sah he build house one  
      'Sah is building a house.'

       b. Sah el muhsahelah lohm se.  
          build-away house one  
          'Sah has built a house.'
The perfective form of verbs of creation is expressed by the suffix -lah. The following ADR is formulated for verbs of creation.

ADR-5

\[
\begin{array}{c}
+V \\
-\text{motion} \\
+\left[ +\text{NM}, +\text{AGT} \right] \\
+ \underline{[ +\text{AC}, +\text{FAC} ]} \\
\end{array}
\rightarrow
\begin{array}{c}
+\text{perfective} \\
+\text{existence} \\
\end{array}
\]

MR-16 \quad V \rightarrow -lah}V / [+\text{perfective}, +\text{existence}]

The ADR above says that verbs of creation have corresponding perfective forms which denote the having come into existence of a certain object. The MR states that the perfective form is expressed by the directional suffix -lah.

6.4.2 Verbs of Consumption

Verbs with the following case frame features are derived through DR-10.
In the discussion of the underlying case relations in Kusaiean (cf. 2.4.1.2), we noted that the INS has three subtypes distinguished by the features, [+tool], [+material] and [+cause]. When instrumental verbs are derived from intransitive verbs, the INS can be either [+tool] or [+material], as can be observed in the following sentences.

(49) Sepe el owo nuknukkihn suhkan top ah. [+INS, +tool] Sepe she wash clothes-with stick pound the 'Sepe is washing clothes with the pounding stick.'

(50) Sepe el owo nuknukkihn sop ah. [+INS, +material] Sepe she wash clothes-with soap the 'Sepe is washing clothes with the soap.'

The [+AC] actant suhkan top ah in (49) stands in the case relation of [+INS, +tool]. This actant is one that is causally involved in the action but is not affected by the action. On the other hand, the [+AC] actant sop ah in (50) stands in the case relation of [+INS, +material]. This actant is one that is causally involved in the action and can be affected by the action.

This semantic distinction is reflected in the fact that instrumental verbs with the [+INS, +tool] do not have corresponding perfectives, whereas those with the [+INS, +material] do. Observe the following sentences in which perfective verbs are used.
(51) \(?Sepe el owo nuknukkuhnlah suhkan top ah.\)
Sepe she wash clothes-with-away stick pound the
'She used up the pounding stick in washing
clothes.'

(52) Sepe el owo nuknukkuhnlah sop ah.
soap the
'Sepe used up the soap in washing clothes.'

(The question mark in (51) indicates native speakers' un-
certain reaction to the sentence.)

The following redundancy rule can be formulated.

RR-7
\[
\begin{array}{c}
+V \\
-motion \\
+ [+NM, +AGT] \\
+ _____ [+AC, +INS, +tool] \\
\end{array} \rightarrow [-perfective]
\]

RR-7 states that instrumental verbs whose [+AC] actants
manifest the case relation [+INS, +tool] do not have per-
fective forms.

Some verbs derived through DR-10 are listed below.

otwotkihn 'to weave with'
patpuhtkihn 'to hammer with'
sritaclkihn 'to play with' 'to gamble'
sroalkihn 'to paint with'

When the [+AC] actants of the above verbs manifest
[+INS, +material], the verbs are telic. The terminal point
of these verbs is complete consumption of material. Their
perfective forms are expressed by the suffix -lah, as in
the following.

(53) Sohn el sritaclkuhnhlah mani luhk ah.
John he gambles-away money Cl-my Cl-the
'John gambled away my money.'

(54) Sohn el sroalkuhnlah tin in pein se.
draw-with-away can of paint one
'John used up one can of paint in drawing.'

(55) Sohn el owtot fohtckuhnlah sroacnu ah.
weave basket-with-away coconut leaf the
'John used up the coconut leaves in weaving
baskets.'

On the basis of observations made above, the following
ADR is formulated.

ADR-6

\[
\begin{align*}
+V \\
-\text{motion} \\
+ [+\text{NM}, +\text{AGT}] \\
+ [+\text{AC}, +\text{INS}, +\text{material}] \\
\end{align*}
\rightarrow
\begin{align*}
+\text{perfective} \\
+\text{depletion} \\
\end{align*}
\]

MR-17 \[V \rightarrow -\text{lah}]_{V} / [+\text{perfective}, +\text{depletion}]

The above ADR states that verbs with the case relation
of [+INS, +material] can have corresponding perfective
forms, which denote that as a result of the action denoted
by the verb, some material is completely exhausted or
consumed. The suffix used with the perfective forms is
again -lah.

6.4.3 Verbs of Transformation

The OBJ case relation is defined as one that is acted upon and affected by the action denoted by the verb. A group of verbs can produce the same result. For instance, as a result of hitting, striking, spearing, poisoning, stifling, killing or burning, some animate thing can be brought into an inanimate state. To take another example, as a result of chopping, cutting, sawing, tearing, axing, or breaking, one thing can be detached or removed from another. Although the types of action used are different, the same result can be brought about.

Verbs with the OBJ case relation can be classed into several different groups in terms of their resulting states. In Kusaiean a given directional suffix can represent a set of resultant states. In the following sections we will observe telic verbs with the OBJ case relation grouped according to their perfective forms.

6.4.3.1 Resultant States Represented by -vac

Verbs that belong to the following sets use the suffix -vac to denote resulting states: (1) verbs of hitting, (2) verbs of attachment, (3) verbs of catching, and (4) verbs of killing.

1. Verbs of hitting: Actions denoted by verbs such as pinching, slapping, touching or jabbing can be
successful or unsuccessful. If successful, contact will be made between two objects. In indicating the successful result, the suffix -vac is used. The verbs listed below can produce the same result.

puok 'to hit'
srihngihl 'to slap'
kahl 'to touch'
uni 'to strike'
kihnis 'to pinch'

Observe the following sentences in which simple and perfective forms are contrasted.

(56) Sepe el kihnis / kihnisvac pouk.
Sepe she pinch pinch-down hand-my
'Sepe pinched at / pinched my hand.'

(57) Sah el puok / puokvac muhtahl Sohn.
Sah he hit hit-down face-his John
'Sah hit at / hit John's face.'

(58) Ahwowo el kahl / kahlyac kek sac.
baby he touch touch-down cake the
'The baby touched at / touched the cake.'

2. Verbs of attachment: These verbs can produce the result that one object is fixed or attached to another.

fulus 'to paste'
kului 'to glue'
patihk 'to hammer'
wintoi 'to put windows in'
kulai 'to put a collar on'
pakihti 'to put a pocket on'
The [+AC] actants of the above verbs can be things which are to be attached to another object, or to (on, or in) which the other things are to be fixed, attached or placed. Observe the following sentences.

(59)  Kuhn el fulusyac stem sac.
      Kuhn he paste-down stamp the 'Kuhn fixed the stamp (to something else).'

(60)  Sepe el kalaiyac wes se luhk ah.
      Sepe she shirt one Cl-my the 'Sepe put a collar on my shirt.'

In (59) the [+AC] actant stem sac 'the stamp' is to be attached to something else. In (60) the [+AC] actant wes se luhk ah 'my shirt' is a thing to which something else is attached. In either event the suffix -yac is used.

3. Verbs of Catching: These verbs can bring about states in which something is in restraint or captivity.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>sruok</td>
<td>'to catch'</td>
</tr>
<tr>
<td>awi</td>
<td>'to tie'</td>
</tr>
<tr>
<td>los</td>
<td>'to bind'</td>
</tr>
<tr>
<td>laki</td>
<td>'to lock'</td>
</tr>
<tr>
<td>kali</td>
<td>'to confine'</td>
</tr>
<tr>
<td>kaclpousi</td>
<td>'to imprison'</td>
</tr>
</tbody>
</table>

In the following sentences the perfective forms of the verbs *sruok* and *kaclpousi* are used.
4. Verbs of Killing: The suffix -\textit{vac}, when used with verbs such as the following, denotes that some animate thing has become dead.

\begin{itemize}
  \item \textit{uni} 'to kill'
  \item \textit{lihkacski} 'to gun' 'to shoot'
  \item \textit{pwacsini} 'to poison'
  \item \textit{tuhngal} 'to hit'
  \item \textit{fakihs} 'to spear'
\end{itemize}

Observe the following sentences in which the perfective forms \textit{uniyac} and \textit{fakihsyac} are used.

\begin{itemize}
  \item \textbf{(63)} \textit{Pahpah el uniyac pik soko ah.} 'Father killed the pig.'
  \item \textbf{(64)} \textit{Kuhn el fakihsyac pahko soko.} 'Kuhn speared a shark (and it is dead).'</n\end{itemize}

In this section we have observed that four different results are expressed by the suffix -\textit{vac}. The following ADR can be formulated.
The ADR above predicts that telic verbs with the OBJ case relation can produce a state of contact, attachment, confinement or inanimateness. These resultant states are all expressed by the suffix -yac.

6.4.3.2 Resultant States Represented by -lah

Verbs that belong to the following sets use the suffix -lah to indicate resultant states: (1) verbs of cutting, splitting, etc., (2) verbs of consumption or extinction, and (3) verbs of causation.

1. Verbs of Cutting: As the result of the actions denoted by these verbs something can be removed, separated or detached.

koem  'to husk'
kulus  'to peel'
une    'to scale'
mokle  'to shake'
Observe the following pair of sentences. In (65a) the simple form kulus is used to denote an ongoing activity towards the goal of removing the skin. In (65b) the perfective form koloslah is used to denote the accomplishment of the goal.

(65) a. Sepe el kulus muh sac.  
    Sepe she peel orange the  
    'Sepe is peeling the orange.'

b. Sepe el koloslah muh sac.  
    peel-away  
    'Sepe peeled the orange.'

2. Verbs of Consumption or Extinction: Complete exhaustion, consumption, extinction or nonexistence can be a terminal point of the verbs listed below.

kang  'to eat'
nihm  'to drink'
kuni  'to extinguish'
il    'to erase'

The attainment of the terminal point of the above verbs is also expressed by the suffix -lah. In (66a) the simple form kang is used and in (66b) its perfective form is used. Note the difference in meaning.

(66) a. Sohn el kang pol in rais sac.  
    John he eat bowl of rice the  
    'John is eating the bowl of rice.'
(66)  

b. Sohn el **kanglah** pol in rais sac.  
John he eat-away bowl of rice the  
'John ate the bowl of rice.'

Sentence (66b) denotes that as a result of eating, no more rice is left, whereas sentence (66a) does not have the meaning of complete consumption.

3. Verbs of Causation: The verbs listed below can be derived from adjectives through DR-21. The terminal point of these verbs is a point at which the OBJ actants acquire the state or quality denoted by the input adjectives.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ahkkahtoye</td>
<td>'to make pretty'</td>
</tr>
<tr>
<td>ahkkahsruhpye</td>
<td>'to make rich'</td>
</tr>
<tr>
<td>ahkkasrkuhsrakye</td>
<td>'to make angry'</td>
</tr>
<tr>
<td>ahkmuhiye</td>
<td>'to make speedy'</td>
</tr>
<tr>
<td>ahksakihrihkye</td>
<td>'to make strange'</td>
</tr>
</tbody>
</table>

The attainment of the state or quality is expressed by the suffix -**lah**, as can be seen in the following sentences.

(67)  

a. Eltahl **ahkkahtoye** lohm Sacnri ah.  
they house Sunday the  
'They are making the church pretty.'

b. Eltahl **ahkkahtoyelah** lohm Sacnri ah.  
'They made the church pretty (and it is pretty now).'

In this section we have observed the three different types of resultant states (complete consumption, separation
and change of state) are expressed by the suffix -lah. On the basis of the preceding observations the following ADR is formulated.

\[
\text{ADR-8} \quad \begin{array}{c}
+V \\
-\text{motion} \\
+[+\text{NM},+\text{AGT}] \\
+ [+\text{AC},+\text{OBJ}] \\
\end{array} \quad \rightarrow \quad \begin{array}{c}
+\text{perfective} \\
+\text{separated} \\
+\text{consumed} \\
+\text{changed} \\
\end{array}
\]

\[
\text{MR-19} \quad V \quad \rightarrow \quad -\text{lah} V / [+\text{perfective}]
\]

The ADR above states that the OBJ case relation can result in complete consumption, separation from another object, or a complete change of state. The attainment of the result is expressed by the perfective form which take the suffix -lah.

6.4.3.3 Resultant States Represented by the Suffix -ack.

Verbs that belong to the following sets take the suffix -ack to indicate the attainment of the goal: (1) verbs of starting, (2) verbs of mixing or blending, and (3) verbs of cooking.

1. Verbs of Starting: The actions denoted by the following verbs can produce a state in which something is in
The attainment of the resultant state is indicated by the suffix -ack, as we can see in the following sentences.

(68) Sah el ahkosack lahm sac.  
Sah he light-up lamp the  
'Sah lit the lamp (and it is burning).'

(69) Sah el taunack insin soko ah.  
start-up boat one the  
'Sah started the motorboat (and it is running).'

(70) Sah el suwisseack retio sac.  
switch-up radio the  
'Sah switched on the radio.'

2. Verbs of Mixing: As a result of kuhruh 'to mix' or kuhlamihs 'to blend', something can be in a state of agitation or mixture. The suffix -ack is used to denote this resultant state.

(71) Nga kuhrwacack is ah.  
I mix yeast the  
'I mixed up the yeast.'

(72) Nga kuhlamuhsack fuhlao ah.  
I blend flour the  
'I blended the flour.'
3. Verbs of Cooking: Verbs whose meaning is related to cooking take the suffix -ack to indicate that some food is cooked. Look at the following sentences in which the suffix -ack is used with verbs of cooking.

(73) Ninac el muhnanack ik ekahsr ah.  
Mother she bake-up fish few the 'Mother baked the few fish.'

(74) Sepe el poheleack mos ah.  
Sepe she boil-up breadfruit the 'Sepe boiled the breadfruit.'

In this section (6.4.3.4), three different resultant states expressed by the suffix -ack are examined. The following ADR is formulated on the basis of the above observations.

ADR-9

\[
\begin{array}{c}
+V \\
-motion \\
+\left[+NM,+AGT\right] \\
+\left[+AC,+OBJ\right] \\
+\left[\text{starting},+\text{mixing},+\text{cooking}\right]
\end{array}
\rightarrow
\begin{array}{c}
+\text{perfective} \\
+\left[\text{activity},+\text{mixed},+\text{cooked}\right]
\end{array}
\]

MR-20 \[V \rightarrow -ack]_V / [+\text{perfective}]

The ADR above states that telic verbs with the case
relation of OBJ can have perfective verbs which express resultant states such as activity, mixture or cooked state.

6.4.3.4 Resultant States Represented by -elihk or -eni

One possible result of the actions denoted by the following verbs is that something is broken into pieces or parts.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>fukul</td>
<td>'to break'</td>
</tr>
<tr>
<td>uti</td>
<td>'to cut'</td>
</tr>
<tr>
<td>tuk</td>
<td>'to pound'</td>
</tr>
<tr>
<td>fihski</td>
<td>'to punch'</td>
</tr>
<tr>
<td>fuhlunng</td>
<td>'to split'</td>
</tr>
</tbody>
</table>

The suffix -elihk is used to indicate such a resultant state, as can be seen in the following sentences.

(75) Sohn el fokolelihk ahluh se.
    John he break bowl one
    'John broke a bowl into pieces.'

(76) Sohn el oteilihk sucl soko ah.
    cut string one the
    'John cut the string into pieces.'

(77) Sohn el fuhskelihk winto sac.
    punch window the
    'John punched the windowpane into pieces.'

One possible result of the actions denoted by the following verbs is that certain things or parts are in contact, in union, or put together.
ahknoe 'to assemble'
patihk 'to hammer'
amihs 'to close'
ituhung 'to press'
fulus 'to paste'

Observe the following sentences in which the suffix -eni is used.

(78) Kuhn el ahknoeni sikutuhr soko ah.
Kuhn he assemble scooter one the
'Kuhn assembled the scooter.'

(79) Kuhn el patihkeni sahk lukoac ah.
hammer stick two the
'Kuhn hammered the two sticks together.'

(80) Kuhn el fuluseni pwepuh ah.
paste paper the
'Kuhn pasted together the paper.'

The following ADR is formulated.

ADR-10

MR-21 \[ V \rightarrow -elihk]_V / [+perfective, +asunder]

MR-22 \[ V \rightarrow -eni]_V / [+perfective, +together]
6.4.4 Verbs of Mental Activity

In this section we will examine a set of telic verbs whose meaning is related to mental activities, and which will be referred to as verbs of mental activity. The verb riti 'to read' can be characterized in the following way.

\[
\begin{align*}
+V \\
-\text{motion} \\
+[+\text{NM}, +\text{AGT}] \\
+ [+\text{AC}, +\text{NEU}] \\
\end{align*}
\]

The NEU case relation is assigned to the [+AC] actant according to the definition of the relation—an actant which is acted upon but not affected by the action denoted by the verb. (While it is true that in the process of reading a letter, a book or a poem, the paper upon which it is written may be affected by being torn or dirtied, this is not essential to the meaning of the verb.) All verbs of mental activity can be characterized in terms of case frame features in the same way as riti 'to read'.

The perfective form of riti is retelah. However, it is not easy to describe its meaning. In the case of telic verbs whose telic actants stand for the FAC or OBJ case relation, the attainment of their goals is describable in terms of concrete, tangible, visible resultant states. But this is not the case with verbs of mental activity.\[9\]
The following are some verbs of mental activity.

liye 'to observe'
lohng 'to listen to'
nuhnkuh 'to think' 'to cogitate'
etuh 'to learn'

The [+AC] actants of the above verbs stand for the NEU case relation and the attainment of the terminal point cannot be read from the resulting states or effect on the actants. To make this point clear, the following example sentences are presented. In the (a) sentences, simple verbs are used and in the (b) sentences perfective counterparts are used.

(81) a. Nga riti puk se.
    I read book one
    'I am reading a book.'

    b. Nga retelah puk se.
       read-away
       'I read a book.'

(82) a. Nga liye puk in petsac se.
    I look book of picture one
    'I am looking at a picture book.'

    b. Nga liyelah puk in petsac se.
       look-away
       'I looked at the picture book through.'

(83) a. Nga nuhnkuh top nuh ke sikeng sac.
    I think answer to exam the
    'I am thinking about the answer to the exam.'

    b. Nga nuhnnkwaclah top nuh ke sikeng sac.
       think-away
       'I thought out the answer to the exam.'
The simple forms in the (a) sentences denote ongoing processes of mental activity. The perfective forms in the (b) sentences denote that the mental process has come to an end and at the same time the logical conclusion has been reached: in the case of riti, there is nothing more to read; in the case of liye, there is nothing more to look at; and in the case of nuhnkuh, an answer has been attained.

The ADR below is formulated to predict the perfective form and meaning of mental activity verbs.

\[
\text{ADR-11} \quad \begin{array}{c}
+V \\
-\text{motion} \\
+\text{mental} \\
+\text{activity} \\
+\text{[+NM,+AGT]} \\
+\text{[+AC,+NEU]}
\end{array} \rightarrow \begin{array}{c}
+\text{perfective} \\
+\text{completion}
\end{array}
\]

\[
\text{MR-23} \quad \begin{array}{c}
V \\
\rightarrow \\
-\text{lah}]
\end{array} \quad / \quad \begin{array}{c}
+\text{completion}
\end{array}
\]

6.5 Derived Telic Verbs

6.5.0 Introduction

We have observed that transitive verbs whose [+AC] actants represent the case relations FAC, OBJ, and INS are telic verbs (cf. 6.4). Telic verbs have as their terminal points certain effects on the FAC, INS, and OBJ actants. We have also observed that transitive verbs have corresponding intransitive verbs (cf. 3.6-7). The purpose of this
section is to show that some derived intransitive verbs are also telic verbs.

6.5.1 Derived Intransitive Verbs

Through DR-22, DR-23, and DR-24, three different types of intransitive verbs are derived. For instance, corresponding to the transitive verb *otwe* 'to weave', there can be three different intransitive verbs although their forms are the same. Compare the case frame features of the transitive verb on the one hand and those of the three intransitive verbs.

Transitive Verb: \[ \begin{align*}
\text{otwe} \\
+V \\
+[+\text{NM},+\text{AGT}] \\
+ \underline{[+\text{AC},+\text{FAC}]} \\
\end{align*} \]

Intransitive Verbs:

1. \[ \begin{align*}
\text{otwot} \\
+V \\
+\text{intransitive} \\
+[+\text{NM},+\text{AGT}] \\
\end{align*} \]

2. \[ \begin{align*}
\text{otwot} \\
+V \\
+\text{intransitive} \\
+[+\text{NM},+\text{AGT}] \\
\end{align*} \]

3. \[ \begin{align*}
\text{otwot} \\
+V \\
+\text{intransitive} \\
+[+\text{NM},+\text{FAC}] \\
\end{align*} \]

The first two derived intransitive verbs are similar to each other in that their [+NM] actant represents the
AGT case relation. But they differ from each other in that the second has an included object while the first does not. The third one differs from the other two in that its [+NM] actant represents the FAC case relation, which corresponds to the FAC actant of the transitive verb. In view of the fact that the terminal points of the telic nonmotion verbs are effects on the FAC, OBJ or INS case actants, we can predict that the first two intransitive verbs are atelic and the third is telic.

The telic intransitive verb, whose [+NM] actant is FAC, can take the same suffix(es) with the same meaning as the transitive verb. Compare the two sentences below.

(84) Ninac el otwelah fohtoh in ik se.
    mother she weave-away basket of fish one
    'Mother wove a fish basket.'

(85) Fohtoh in ik se otwotlah.
    weave-away
    'A fish basket is woven.'

The suffix -lah in (84-85) denotes the attainment of the terminal point: a woven thing has come into existence. On the other hand, the suffix -lah, which is used with atelic verbs in (86-87), does not denote the coming-into-existence of a woven object. It merely indicates that weaving took place (see 6.6 for details).
Observe the following additional pairs of example sentences. In the (a) sentences, transitive verbs are used and their telic intransitive counterparts are used in the (b) sentences. The case features are indicated under the actants.

(86) Ninac el _otwotlah_.
weave-away
'Mother wove (something).'</n
'Mother was engaged in weaving.'

(87) Ninac el _otwot fohtolah_.
weave basket-away
'Mother wove baskets.'
'Mother was engaged in weaving baskets.'

Observe the following additional pairs of example sentences. In the (a) sentences, transitive verbs are used and their telic intransitive counterparts are used in the (b) sentences. The case features are indicated under the actants.

(88) a. Ninac el _suhmuhslah lwacta se_.
[+NM,AGT] [+AC,FAC]
mother she write letter one
'Mother wrote a letter.'

b. Lwacta se _sihmlah_.
[+NM,FAC]
letter one write
'A letter was written.'

(89) a. _Bah el kunelah e sac_.
[+NM,AGT] [+AC,OBJ]
Bah he put out fire the
'Sah put out the fire.'

b. _E sac kunlah_.
[+NM,OBJ]
fire the put out
'The fire was put out.'

(90) a. _Tuhlwen el ahkosack lahm sac_.
[+NM,AGT] [+AC,OBJ]
Tuhlwen she light lamp the
'Tuhlwen lighted up the lamp.'
6.5.2 Passive Verbs

Any transitive verb can have a corresponding passive form. The passive verbs of telic transitive verbs are also telic. The transitive verb sihmihs 'to write' is telic and its corresponding passive form sihmihsyuukh 'to be written', being telic, can take the same suffix as its transitive counterpart to indicate that the terminal point of the action has been reached.

(91) Sohn el suhmuhslah puk se.  
John he write-away book one  
'John wrote a book.'

(92) Puk se sihmihsyuuklah sel Sohn.  
book one write-passive by John  
'A book was written by John.'

In (91) the transitive verb is used with the suffix -lah. The suffix denotes that as a result of writing, a book has come into existence. In (92) its corresponding passive verb is used and the suffix has the same meaning as in (91): it also denotes that a book has come into existence.

Observe the following additional pairs of sentences. In the (a) sentences telic transitive verbs are used and in
the (b) sentences their corresponding passive verbs are used. The case features of relevant actants are indicated.

(93) a. Tuhlwen el sroalkuhnlah pein ah. 
[+NM,+AGT] [+AC,+INS] 
Tuhlwen she draw-with-away paint the 'Tuhlwen used up the paint in drawing.'

b. Pein ah sroalkihnyuhklah. 
[+NM,+INS] 
paint the draw-with-passive-away 'The paint was used up in drawing.'

(94) a. Tuhlpe el ahkosack lahm sac. 
[+NM,+AGT] [+AC,+OBJ] 
Tuhlpe she light lamp the 'Tuhlpe lighted up the lamp.'

b. Lahm sac ahkosyuhkack. 
[+NM,+OBJ] 
lamp the light-passive-up 'The lamp was lit up.'

6.5.3 Revised ADR's

The ADR's presented in 6.4 can be revised to incorporate derived telic intransitive verbs. The ADR-5, which is repeated below, can be reformulated, as shown in ADR-5'.

ADR-5

\[
\begin{array}{c}
\text{+V} \\
\text{-motion} \\
[+NM,+AGT] \\
+ [+AC,+FAC] \\
\text{+perfective} \\
\text{+existence}
\end{array}
\]
Compared with the ADR-5, ADR-5' is more general and simpler. It is more general in that the telic derived intransitive verbs are included, and it is simpler in that the AGT case relation is removed from among the input case frame features. It is excluded because the AGT case has nothing to do with the meaning of the perfective verbs.

The following are other revised ADR's of those presented in 6.4.

ADR-6'

ADR-7'
6.6 Atelic Nonmotion Verbs

6.6.0 Introduction

Vendler's verbs of activity (and Kenny's activity terms) correspond to atelic nonmotion verbs (cf. 4.2.3). One main characteristic of atelic verbs is that they do not have any set terminal point or goal, and as soon as they occur, one can say that they have occurred. The purpose of this section is to examine atelic verbs in terms of their case frame features, and their perfective forms and meanings.

6.6.1 Atelic Intransitive Verbs

Intransitive verbs are generally atelic. But we have already noted in 6.5 that certain derived intransitive verbs are telic: specifically, those intransitive verbs whose [+NM] actants represent the FAC, OBJ, and INS. This predicts that the following intransitive verbs whose [+NM] actants represent the AGT case relation are not telic.

- pahs 'to clap'
- tuhng 'to cry'
- an 'to sit'
- acnwuhk 'to fight'
- sa 'to shout'
- el 'to turn'

The verb pahs 'to clap', for example, is atelic: it does not have any set terminal goal and as soon as we see
someone clap, we can say that he clapped. The perfective verb *pahslah* of *pahs* simply denotes that a certain action took place and the action is not going on any longer. Compare the following two sentences. A simple form is used in (95) and its perfective form in (96).

(95) Eltahl *sa.*
    they shout
    'They are shouting.'

(96) Eltahl *salah.*
    they shout-away
    'They shouted.'

The following redundancy rule can be formulated to predict the atelic nature of such verbs.

\[
\text{RR-8} \quad \begin{array}{c}
+\text{V} \\
-\text{motion} \\
+\text{intransitive} \\
+\text{[+NM, +AGT]} \\
\end{array} \rightarrow \quad [\text{-telic}]
\]

The RR above specifies that intransitive verbs whose [+NM] actants represent the AGT case relation are atelic.

The following ADR can be formulated to predict the perfective form and meaning of atelic verbs.
6.6.2 Derived Atelic Intransitive Verbs

Atelic intransitive verbs are also derived through DR-12 and DR-13. DR-12 derives intransitive verbs with the following case frame features.

ADR-12

\[ +V \quad \neg \text{motion} \quad \neg \text{telic} \]

\[ \rightarrow \]

\[ +\text{perfective} \]

\[ \quad +\text{occurrence and cessation} \]

MR-23

\[ V \]

\[ \rightarrow \]

\[ -\text{lah} \]

\[ V \]

\[ / \]

\[ +\text{perfective} \]

The [+NM] actants of the derived reciprocal verbs represent the AGT case relation, and the verbs are atelic. ADR-12 in 6.6.1 is applicable to this set of verbs. Compare the following pairs of sentences, in the (a) sentences of which simple forms are used, and in the (b) sentences, their perfective counterparts.
(97) a. Eltahl apuopo'i.
   they hit each other
   'They are hitting each other.'

   b. Eltahl apuopo'ilah.
       hit each other-away
       'They hit each other.'

(98) a. Sohn ac Sah aacenwuhki.
     John and Sah fight each other
     'John and Sah are fighting with each other.'

     b. Sohn ac Sah aacenwuhkilah.
         'John and Sah fought with each other.'

The suffix -lah is used in the (b) sentences to denote occurrences of hitting or fighting and cessation.

DR-23 can derive intransitive verbs with the following case frame features.

\[
\begin{array}{|c|}
\hline
+V \\
-motion \\
+derived \\
+[NM,+AGT] \\
\hline
\end{array}
\]

The above case features can meet the structural description of ADR-12, and verbs with these features can be input to it. The following sentences illustrate the perfective form and meaning.
Derived intransitive verbs with the case frame features
(1) are treated in 6.5.1 and those with the case frame fea-
tures (2) in 6.6.2. In this section we will examine
derived intransitive verbs with the case frame features
(3), of which the following sentences are illustrative.
In terms of aspect, a construction of a transitive verb with its object in Kusaiean is comparable to a construction of a transitive verb with a "specified" object in English. Similarly, a construction of an intransitive verb with an included object in Kusaiean is comparable to that of a transitive verb with an "unspecified" object in English. (See 4.2.5 for the definition of specified and unspecified noun phrases.) To see this, let us observe the following sentences.

(105) Sohn el une ik ekahsr ah.  
John he scale fish few the  
'John is scaling the few fish.'

(106) John is scaling the few fish.

(107) Sohn el unohn ik.  
John he scale fish  
'John is scaling fish.'

(108) John is scaling fish.
In English there is no difference in the form of transitive verbs whether an object is specified or unspecified. But in Kusaiean different verb forms must be used depending upon the specificity of the object noun phrase. In addition, there are passive forms of transitive verbs regardless of the specificity of the object noun phrase in English. But in Kusaiean the verb forms used with unspecified objects do have passive forms.

Despite these formal and syntactic differences, the pairs of constructions (sentences (105-106) and sentences (107-108)) share a great deal semantically. The Kusaiean and English sentences in (105-106) refer to a definite act performed on a specific number of fish, whereas those in (107-108) refer to a general activity for which the individual act, such that in (105) or (106), can serve as an illustration. This seems to suggest that set terminal points are imposed on the verbs in (105-106), but not on those in (107-108).

The difference we have observed in the preceding paragraph becomes clear when different subtypes of TIM actants are used. A subtype of TIM actant with the features [+dur, +com] can be used with the perfective form unelah but not with unohn iklah, as the following sentences show.
Sentence (109) in which the perfective form of the telic transitive verb is used is grammatical, but sentence (110) in which the perfective form of the atelic derived intransitive verb is used is not. The difference between the two sentences in grammaticality results from the following facts. Une is a telic verb and it has a set terminal goal, which in this case is scaling the total quantity of fish completely. It takes time to attain the goal. The perfective form unelah indicates that the goal has been reached and the TIM actant ke ao luo 'in two hours' is compatible. Unohn ik, on the other hand, is an atelic verb and does not have any set goal. So the action may last for a period of time, but does not take a given amount of time since there is no way of saying when the action is complete. Hence, an unacceptable sentence results from the pairing of the atelic verb with this sort of time actant.

A TIM actant with the features [+dur, -com] such as ao luo 'for two hours' gives the following results.
(111) a. Sah el une ik ah ao luo.
    Sah he scale fish the hour two
    'Sah has been scaling the fish for two hours.'

    b. Sah el unohn ik ao luo.
       scale fish hour two
       'Sah has been scaling fish for two hours.'

(112) a. "Sah el unelah ik ah ao luo.
       scale-away
       'Sah scaled the fish for two hours.'

    b. Sah el unohn iklah ao luo.
       scale fish-away
       'Sah scaled fish for two hours.'

Ao luo 'for two hours', which is a [+TIM, +dur,-com],
can be used grammatically with simple verbs regardless of
their telic nature, as can be seen in (111). However, the
same actant produces an unacceptable sentence when used with
the telic perfective form unelah in (112a). But the TIM
actant does not affect the grammaticality of the sentence
when used with the atelic perfective form unohn iklah in
(112b).

The observations made in this section suggest that
RR-8 in 6.6.1 is also applicable to intransitive verbs with
included objects. In other words, intransitive verbs with
included objects are atelic.

6.7 Instantaneous and Noninstantaneous Verbs

6.7.0 Introduction

So far in this chapter we have observed the following
different classes of verbs and their perfective forms.

```
VERBS
  +stative       -stative
    +motion       -motion
      +telic       -telic
```

However, we find it necessary to further subclassify the different classes of nonstative verbs. To see this, observe the following pairs of sentences.

(113) Sah el srihngihl pohl sac.
      Sah he hit ball the
      'Sah hit at the ball.'

(114) Sah el pahtok oak soko ah.
      push canoe one the
      'Sah is pushing the canoe.'

Simple forms are used in (113-114). Sentence (113) uses the verb srihngihl 'to hit' to denote attempt: Sah hit the ball but missed it. On the other hand, sentence (114) uses the verb pahtok 'to push' to denote an ongoing process.

A similar difference can be observed between the following two sentences.

(115) Sohn el kihnis pouk.
      John he pinch hand-my
      'John pinched at my hand.'
Sentence (115) denotes an unsuccessful attempt, but sentence (116) denotes an ongoing process.

Sentence (117) below can be ambiguous, but not sentence (118).

Simple forms are used in the two sentences above. The verb *sa* in (117) can be interpreted either as stative or non-stative sense. But the verb *poht* in (118) is interpreted only as stative sense.

Before going on further, it might be necessary to see what bring about these differences in meaning. The differences come from the inherent nature of the verbs. Verbs such as *srihngihl* 'to hit', *kihnis* 'to pinch', or *poht* 'to pop' denote actions that are conceived of as lacking duration, as occurring all at once, or all in a moment. These verbs will be called *instantaneous* verbs. On the other hand, verbs such as *pahtok* 'to push', *kulus* 'to peel' and
sa denote actions that can occur for a duration of time. These verbs will be called noninstantaneous verbs. ¹⁰

The purpose of this section is to examine the inter-relationship of the telic and instantaneous natures of verbs, meanings of simple forms and those of perfective forms.

6.7.1 Telic Noninstantaneous Verbs

Telic verbs are those that have set terminal points or goals and noninstantaneous verbs are those that can occur for a period of time. Hence, it takes a measurable amount of time for the verbs that have the two features, [+telic] and [-instantaneous] to achieve the goals. The beginning and ending points of such verbs are distinct.

Simple verbs with the features, [+telic, -instant] (telic noninstantaneous verbs) denote ongoing processes and their cumulative results. Observe the following examples.

(119) Tuhlwen el nihm piru soko ah.
Tuhlwen she drink beer one the
'Tuhlwen is drinking the one (bottle) of beer.'

(120) Sah el sihmihs lwacta se.
Sah he write letter one
'Sah is writing a letter.'

The verb nihm in (119) is a telic verb whose terminal point is the complete consumption of the beer. The verb sihmihs in (120) is a telic verb whose terminal point is the coming-into-existence of a letter. The goals of such
verbs are achieved through gradual and cumulative results. As the beginning and end points of the telic non-instantaneous verbs are distinct, they can have two perfective forms. For example, the verb otwe 'to weave' has the perfective forms otweack and otwelah. The perfective form with the suffix -ack denotes that weaving took place and some progress has been made. But a woven object has not been completed. On the other hand, the perfective form with the suffix -lah denotes that the terminal goal of the verb has been reached and a woven object has come into existence. (Cf. ADR-5 in 6.4.1.)

The following two sentences are illustrative of the two perfective forms.

(121) Tuhlwen el otweack fohtoh se.
    Tuhlwen she weave-up basket one
    'Tuhlwen has started weaving a basket
      (but has not finished it).'

(122) Tuhlwen el otwelah fohtoh se.
    weave-away
    'Tuhlwen has woven a basket.'

Observe the following additional pairs of sentences in which perfective forms are illustrated.

(123) Sohn el fungeack mitmit sac.
    John he knife the
    'John started putting a handle on a knife
      (but has not finished it yet).'
The following ADR is formulated on the basis of the observations that have been made.

ADR-13

\[
\begin{array}{c}
+V \\
-\text{motion} \\
+\text{telic} \\
-\text{instan}
\end{array}
\rightarrow
\begin{array}{c}
+\text{perfective} \\
+\text{partial} \\
\text{accomplishment}
\end{array}
\]

MR-24

\[
\begin{array}{c}
\text{V} \\
\rightarrow
\end{array}
\begin{array}{c}
-\text{ack}\text{V} \\
/ \text{[+partial accomplishment]}
\end{array}
\]

The ADR above predicts that telic noninstantaneous verbs can have perfective forms meaning partial accomplishment. The feature [+telic] excludes atelic verbs from the ADR, since verbs that do not have set terminal goals cannot have perfective forms meaning partial accomplishment. The feature [-instan] also excludes instantaneous verbs from the ADR, since they are verbs whose beginning and ending points are almost synchronous, and do not permit intermediate
stages of development. The following redundancy rule is formulated.

\[
\text{RR-9} \quad \begin{bmatrix}
+V \\
-\text{motion} \\
-\text{telic} \\
+\text{instan}
\end{bmatrix} \rightarrow \begin{bmatrix}
+\text{perfective} \\
-\text{partial} \\
\text{accomplishment}
\end{bmatrix}
\]

For example, the verb *sa* 'to shout' is a noninstantaneous but atelic verb. It can have a perfective form meaning 'to have shouted' (*salaḥ*), but it does not have a perfective form meaning partial accomplishment. The verb *kínhis* 'to pinch', for another example, is telic but instantaneous. It can have a perfective form (*kínhisyāc*) meaning 'to have pinched', but not a perfective form meaning partial accomplishment.

### 6.7.2 Telic Instantaneous Verbs

Some telic instantaneous verbs are listed below.

- *apihs* 'to sting'
- *kahl* 'to touch'
- *kínhfuhl* 'to trigger'
- *sauk* 'to catch'
- *fihski* 'to punch'
- *ngalis* 'to bite'
- *tongol* 'to knock'

A chief characteristic of these verbs is that the
beginning and ending points of the actions are almost synchronous and it is difficult to tell the two apart. As already pointed out, they do not have perfective forms meaning partial accomplishment. (See RR-9 in 6.7.1.)

Simple forms with the features, [+telic, +instan] in their nonstative sense denote unsuccessful attempt. The verb *apihs* 'to sting', for example, is a telic instantaneous verb and denotes unsuccessful attempt, as in the following sentence.

(127) Lohnginyacir se *apihs* yuh.
    bee    one sting me
'A bee stung at me.'

Observe the following additional sentences in which telic instantaneous verbs are used.

(128) Sohn el *kahl* kek sac.
    John he touch cake the
'John touched at the cake.'

(129) Sohn el *fihski* tuhlihk sac.
    punch child the
'John punched at the child.'

Most of telic instantaneous verbs are surface contact verbs discussed in 6.4.3.1. Perfective forms of these verbs denote that the actions denoted by the verbs are successful: contact is made between the two objects.

Perfective forms of telic instantaneous verbs seldom
allow TIM actants with the features, [+dur, +com], such as 
ke m nin te  lo "in two minutes", to cooccur. Look at the
following sentence in which a TIM actant with the features
[+dur, +com] cooccurs with the perfective form of a telic
instantaneous verb.

\[(130) \text{?Sohn el kahlyac kek sac ke m nin te } se.\]
John he touch cake the in minute one
'John touched the cake in one minute.'

Sentence (130) is not accepted as grammatical by native
speakers. This cooccurrence restriction is a natural conse-
quence of the instantaneous nature of the verb kahl 'to
touch'.

6.7.3 Verbs of Achievement

In the preceding two sections we have examined charac-
teristics of two sets of telic instantaneous and telic non-
instantaneous verbs. In this section we will examine a set
of noninstantaneous verbs which do not fit exactly into
either of those sets but which share some of their charac-
teristics. As a starting point, let us compare the two
verbs ahkos 'to start (an engine)' and muhsahi 'to build'
in the following sentences.

\[(131) \text{Kuhn el ahkos insin soko ah.}\]
Kuhn he start boat one the
'Kuhn is starting the motorboat.'
Both starting a motorboat and building a house can take time. In this respect the two verbs are similar to each other. But the two verbs denote action quite different from each other. In the case of *ahkos* 'to start', its simple form denotes attempt and its perfective form denotes "a sudden leap into a new state". On the other hand, the simple form of *muhsahi* 'to build' denotes an ongoing process of building and its perfective counterpart denotes the attainment of its goal through gradual and cumulative results. Observe the following sentences in which the perfective form of *ahkos* and *muhsahi* are used.

(133) Sohn el *ahkosack* insin soko ah. 
John he start-up boat one the  
'John started up the motorboat.'

(134) Sohn el *muhsahelah* lohm se.  
John he build-away house one  
'John built a house.'

Telic noninstantaneous verbs can have two perfective forms: one denoting completion and the other partial accomplishment. Telic instantaneous verbs, on the other hand, allow only one perfective form: the one denoting partial accomplishment is not allowed. The set of verbs represented by the verb *ahkos* will be referred to as
verbs of achievement. Verbs of achievement are similar to
telic noninstantaneous verbs in that it takes time to
attain their goal, as we have observed in the preceding
paragraphs. But they do not allow perfective forms meaning
partial accomplishment. In this respect, verbs of achieve-
ment are similar to telic instantaneous verbs. This non-
ocurrence of such a perfective form is natural in view of
the fact that the terminal goal of ahkos is not attained
gradually and cumulatively but suddenly.

The distinction between the regular telic noninstanta-
neous verbs (represented by muhsahi) and verbs of achieve-
ment corresponds to Vendler's distinction between verbs of
accomplishment and those of achievement (cf. 4.2.3).

Vendler describes the distinction in the following way.

The fact that we often say things like It took him
three hours to reach the summit, or He found it in
five minutes might tempt a novice to confuse
achievements with accomplishments. A little reflec-
tion is sufficient to expose the fallacy. When I
say that it took me an hour to write a letter (which
is an accomplishment), I imply that the writing of
the letter went on during that hour. This is not
the case with achievements. Even if one says that
it took him three hours to reach the summit, one
does not mean that the "reaching" of the summit
went on during those hours. Obviously it took three
hours of climbing to reach the top. Put in another
way: if I write a letter in an hour, then I can
say I am writing a letter at any time during that hour;
but if it takes three hours to reach the top, I
cannot say I am reaching the top at any moment of
that period. (1957:147-148)
The verbs listed below behave like **ahkos** 'to start' and can also be called verbs of achievement.

- **isihk** 'to set fire to'
- **konac** 'to discover'
- **esam** 'to recall'
- **taun** 'to start (a fire)'

What we have observed so far in this section leads us to subclassify telic noninstantaneous verbs into two classes using the features [+cumulative], as in the following.

\[
\begin{array}{c}
\text{-instant} \\
\hline
\text{+cumulative} & \text{-cumulative}
\end{array}
\]

Verbs such as **otwe** 'to weave' or **kulus** 'to peel', whose terminal points or goals are attained gradually and cumulatively, are noninstantaneous and cumulative. On the other hand, the set of verbs represented by **ahkos** (verbs of achievement) are noninstantaneous and noncumulative: in attaining the goals of these verbs, it takes time but the goals are not attained cumulatively but all at once—all in a moment.

The following redundancy rule can be formulated for verbs of achievement.
The RR above states that verbs of achievement cannot have perfective forms which mean partial accomplishment, and as noted, verbs of achievement are similar to telic instantaneous verbs in this regard.

6.7.4 Atelic Instantaneous Verbs

The atelic verbs that are presented in 6.6 are all noninstantaneous verbs. In this section we will concentrate on atelic instantaneous verbs such as those listed below.

kihm 'to thump'
rihpihk 'to flutter'
poh 'to pop'
mihsihk 'to click'
puhtwact 'to splash'
kah 'to cackle'
erar 'to rattle'
kah 'to chirp'
suh 'to sizzle'
tihpih 'to jerk'

The actions denoted by these or any other instantaneous verbs take place all in a moment or all at once, and are
seldom conceived of as lasting for any appreciable period of time. Simple telic instantaneous verbs (see 6.7.2) denote attempt or conation to attain a certain set terminal goal, but in the case of atelic instantaneous verbs there is no set terminal goal.

This seems to account for the fact that atelic verbs in their simple forms are not used in a nonstative sense, but only in a stative sense denoting tendency. In order to express ongoing processes of a series of like acts, atelic instantaneous verbs are reduplicated (see 7.2.1). Observe the following pairs of sentences.

(135) a. Won sac kahk.
    hen the cackle
    'The hen cackles.'

      b. Won sac kahkkahk.
          'The hen is cackling.'

(136) a. Kain in tin sac poht.
    kind of can the pop
    'The kind of can pops.'

      b. Ma sac pohtpoht.
          thing the
          'The thing is popping.' 'The thing is making a series of popping sounds.'

In the (a) sentences the simple forms of atelic instantaneous verbs are used and denote only tendency, not an ongoing process. On the other hand, in the (b) sentences, reduplicated forms of atelic instantaneous verbs are used
and denote an ongoing process of cackling or popping.

The following redundancy rule is formulated to capture what has been observed in the preceding paragraphs.

\[ \text{RR-11} \quad [+\text{\small{Y}}] [\text{-perfecitve}] [\text{-telic}] [+\text{\small{instant}}] \rightarrow [+\text{\small{stative}}] \]

The RR above states that simple forms of atelic instantaneous verbs do not have nonstative uses, although they can be used in a derived stative sense denoting tendency.

ADR-12 in 6.6.1 states that atelic verbs can have perfective forms, which denote occurrence and at the same time cessation of an action. The ADR is formulated for atelic noninstantaneous verbs, but is applicable to atelic instantaneous verbs, too. Observe the following sentences in which perfective forms of atelic instantaneous verbs are used to denote occurrence and cessation of certain actions.

(137) \quad \text{Won sac kahklah.} \\
\quad \text{hen the cackle-away} \\
\quad \text{'The hen cackled.'}

(138) \quad \text{Sah el mihsiiklah.} \\
\quad \text{Sah he click-away} \\
\quad \text{'Sah clicked.'}

(139) \quad \text{Tin sac erarlah.} \\
\quad \text{can the rattle} \\
\quad \text{'The can rattled.'}
6.8 Multiple Occurrence and Totalization

6.8.0 Introduction

There are certain sets of verbs that have different perfective forms depending upon the number of referents or upon the number of occurrences of the same act. The purpose of this section is to specify the sets and formulate appropriate ADR's.

6.8.1 Multiple Occurrence on a Single Object

We have observed sets of telic verbs whose perfective forms are expressed by the suffix -vact. ADR-7' and its MR are repeated below. (Cf. 6.4.3.1.)

Verbs that can be input to above rule can have another set of perfective forms expressed by the suffixes -ack and -lah. These forms can have at least two different meanings.
depending upon the number of referents. This section will examine the perfective forms and their meanings when the OBJ actant is singular.

Verbs such as kihnis 'to pinch', srihngihl 'to hit', or tongol 'to knock' are telic instantaneous verbs. When the actions denoted by these verbs are successful, they result in contact. These successful results affect certain objects locally. This local contact is expressed by the suffix -\text{yac}. The perfective forms of these verbs with the suffix -\text{lah}, on the other hand, denote that a whole given surface is affected. To see this difference, let us compare the following pair of sentences.

(140) El kihnis\text{yac} pouk.
he pinch\text{-}down hand\text{-}my
'He pinched my hand (once).'

(141) El kuhnes\text{lah} pouk.
he pinch\text{-}away hand\text{-}my
'He pinched all of my hand.'

Sentence (140) with the perfective form kihnis\text{yac} means that a pinching took place with a resultant local contact. Sentence (141) with the perfective form kuhnes\text{lah} means that pinching took place more than once with a resultant state that affects a whole surface.

Observe the following additional pairs of sentences in which different perfective forms of other verbs of the same
sort are contrasted.

(142) a. Pahpah el **puokyac** tuhlihk sac.
father he hit-down child the
'Father hit the child (once).'

b. Pahpah el **puoklah** tuhlihk sac.
hit-away child the
'Father hit the child (more than once
affecting him all over).'

(143) a. Kenye el **losyac** ap sac.
Kenye she bind-down parcel the
'Kenye bound the parcel (once).'

b. Kenye el **loslah** ap sac.
bind-away
'Kenye bound the parcel (more than
once, nearly covering it with cord).'

The ADR below is formulated to capture the generalization made in the preceding paragraphs.

ADR-14

\[
\begin{align*}
& +V \\
& \quad \text{motion} \\
& \quad [+ [NM,+OBJ, +Sg] \\
& \quad + [AC,+OBJ, +Sg] \\
& \quad + \text{hitting} \\
& \quad \text{+perfective} \\
& \quad \text{+contact} \\
& \quad \text{+multiple occurrences}
\end{align*}
\]

MR-25

\[
V \quad \longrightarrow \quad -lah + [\text{multiple occurrences}]
\]

The ADR above states that verbs of hitting can have perfective forms which denote contacts that affect a whole
surface.

6.8.2 Totalization of Multiple Occurrences

In the preceding section we have observed that certain verbs can have different perfective forms depending upon the extent to which single objects are affected. In this section we will observe that certain other verbs can have different perfective forms depending upon the number of objects that are acted upon and affected. To see this, let us observe the following two sentences.

(144) Pahpah el puoklah tuhlihk sac.
      father he hit-away child one-the
      'Father hit the child (more than once).'

(145) Pahyah el puoklah tuhlihk ah.
      hit-away child the
      'Father hit the children.'

In (144-145) the same perfective form puoklah is used. But the number of [+AC] actants is different: in (144) it is singular and in (145) it is plural. Sentence (144) means that the child was hit more than once. Sentence (145) means that the children were all hit. The perfective form puoklah in (145) means an aggregate presentation of a number of performances on a set of objects.

All the verbs which can be input to ADR-7' can have perfective forms with the suffix -lah with the meaning of totalization. Some additional examples are presented below.
The ADR below is formulated to capture the observations made in the preceding paragraphs.

ADR-15

\[
\begin{align*}
+V \\
-\text{motion} \\
{+[+\text{NM},+\text{OBJ}]} \\
{+\text{attached}+[+\text{AC},+\text{OBJ}]} \\
{+\text{contact}} \\
{+\text{confined}} \\
{+\text{killed}} \\
\end{align*}
\]

\[\rightarrow\]

\[
\begin{align*}
+\text{perfective} \\
+\text{totalization} \\
{+\text{attached}} \\
{+\text{confined}} \\
{+\text{killed}} \\
\end{align*}
\]

MR-25

\[V \rightarrow -\text{lah}V / [+\text{totalization}]\]

The ADR above states that telic verbs whose OBJ actants can result in a state of contact, attachment, confinement or inanimateness can have a perfective form which denotes that a set of objects is totally affected by the actions denoted by the verbs. The perfective form is expressed by the suffix -lah.

We noted that a perfective form meaning partial
partial accomplishment is possible only with telic noninstantaneous verbs. Instantaneous telic verbs and atelic verbs do not have this perfective form (see RR-9 in 6.7.1). The redundancy rule needs some refinement. Telic instantaneous verbs can have perfective forms meaning partial accomplishment when the OBJ actants are plural. To see this, let us compare the following two sentences. In (148) the [+AC] actant is singular, whereas in (149) it is plural.

(148) Pihlismacn el kaclpousi mwet pihsrapasr sac. policeman he arrest man steal one-the 'The policeman is trying to arrest the thief.'

(149) Pihlismacn el kaclpousi mwet pihsrapasr ah. policeman he arrest man steal the 'The policeman is arresting the thieves.'

The telic instantaneous verb kaclpousi 'to arrest' is used in (148) with a singular [+AC] actant to denote attempt. In (149) the same verb is used with a plural [+AC] actant to denote ongoing process. This seems to suggest that telic instantaneous verbs take on a noninstantaneous nature when the OBJ actants are plural.

This change of instantaneous nature into noninstantaneous becomes clear when we observe the following sentences in which the perfective form kaclpouseack is used.
Sentence (151) is accepted by the native speakers I have checked with and they give a partial-accomplishment interpretation. That is, some of the thieves are arrested but some others are still not arrested. However, sentence (150) is not accepted by the native speakers. This is another indication that the instantaneous nature of verbs is dependent upon the number in their OBJ actants.

The ADR below is formulated on the basis of the observations made in this section.

ADR-16

The ADR above states that telic instantaneous verbs become noninstantaneous when their OBJ actants are plural. As noninstantaneous verbs, they can naturally have perfective forms meanings partial accomplishment. (See ADR-13 in 6.7.1.)
NOTES TO CHAPTER VI

1. In order for the adjectives in Kusaiean to be used in imperative sentences, they must be causativized. The adjective meaning 'diligent', alken, for example, cannot be used in an imperative sentence. But when it is causativized as in ahkalkenye, it can. The first sentence below is ungrammatical.

1. *Alken!
diligent

2. Ahkalkenye kom!
make-diligent you
'Make yourself diligent!' 'Be diligent!'

2. I owe this idea to Vendler (1957:152), who points out that "many activities (and some accomplishments and achievements) have a 'derived' state sense."

3. The following Russian sentence is ambiguous.

On kurit. 'He smokes.' 'He is smoking.'

Pettersson (1972:49) accounts for the ambiguity in a way similar to mine:

The [+activity] (which corresponds to my [-stative]) interpretation establishes the fact that the action itself, designated by the predicate word, is really taking place—a fact which one can observe with one's own eyes. That is to say that one defines, so to speak, the action performed by the subject. On the other hand, the [-activity] specification means simply that the speaker asserts about the subject that he is a smoker, a man who habitually, but not
necessarily for the moment, performs the action in question, i.e. the subject's smoking is identified as a quality characteristic of the person concerned ... a person may perform the action of smoking in a given situation without being a smoker, just as he may be a smoker without performing the action of smoking at all.

4. The following is Chafe's rule (1970:169):

\[(S13-1) \quad V \quad \rightarrow \quad \text{generic}\]

\[-\text{state}
\text{experiential}
\text{benefactive}\]

According to this rule, the verb to sing, which is nonstative can be used in two different ways, as in the following.

\[V\]
\[\text{action}\]
\[\text{sing}\]

\[V\]
\[\text{action}\]
\[\text{sing}\]
\[\text{generic}\]

5. However, there are languages in which the stative use of nonstative verbs is morphologically marked. Korean is a such language. The verb phiu- 'to smoke' is a nonstative verb. When it is used as a derived stative verb, the suffix -n must be used, as can be seen in the following sentence.

\[K\dot{\mathbf{\hat{\mathbf{x}}} - n\dot{\mathbf{\hat{\mathbf{n}}}}} \cdot \text{tampe-} \cdot l\dot{\mathbf{\hat{\mathbf{l}}} n\dot{\mathbf{\hat{\mathbf{v}}}}} \cdot \text{phiu-} \cdot n\dot{\mathbf{\hat{\mathbf{t}}} n}\]

he TM cigarette-OM smoke-
'He smokes cigarettes.'

Note: TM = Topic Marker
OM = Object Marker

6. As we have already observed in the review of the literature, similar or almost identical concepts are introduced under different terms. The telic nonmotion verbs in
this study correspond to Vendler's verbs of accomplishment, Kenny's performance verbs, and Garey's telic verbs. Besides these grammarians, Jespersen and Halliday recognize a class of verbs which roughly correspond to the telic nonmotion verbs in this study.

In describing the meanings of past participles in English, Jespersen (1933:249) recognizes two classes of verbs: conclusive and nonconclusive. Conclusive verbs are those whose action (1) is confined to one single moment, e.g. catch, surprise, awake, leave, end, kill, or (2) implies a final aim, e.g. make, bring about, adorn, construct, beat. Nonconclusive verbs denote feelings, states of mind or activities which are not begun in order to be finished, e.g. love, hate, praise, blame, see, hear, etc.

When a past participle form of a conclusive verb is used as an adjunct, it denotes the result of an action in the past: a caught fish; a killed bird; a paid bill. On the other hand, a past participle form of a nonconclusive verb used as an adjunct does not say anything about the time or result: an admired friend; an honored colleague; a reserved expression on the face.

Halliday (1967:40) classifies clauses in the following way.
The following examples illustrate these clause types.

1. She looked happy. (intensive)
2. She washed the clothes. (effective)
3. He marched the prisoners. (descriptive)

His effective clause is one in which the action is directed toward a goal. This clause is almost equivalent to the telic nonmotion verbs in this study.

7. This set of verbs has the same semantic property as those Fillmore (1970:125) calls surface contact verbs. These verbs assert the occurrence of some physical contact between two objects. Fillmore does not reach a decision as to the proper classification of these surface contact verbs: whether or not they are to be classed as change-of-state verbs. The Kusaiean set is here classified as verbs of transformation [Fillmore's change-of-state] verbs with a certain amount of reservation. It is because the use of these verbs does not necessarily imply that the objects have undergone any essential change.

8. Verbs treated here can be grouped as surface contact verbs, following Fillmore (1970). It is interesting to note that most surface contact verbs in English have two
forms: one denoting successful contact and another denoting unsuccessful contact or mere attempt. The unsuccessful contact is expressed in English by the respective absence or presence of the preposition at. Compare:

He hit the ball.
He hit at the ball.

The first sentence above implies that the ball was hit, but the second does not. Observe the following additional examples.

He shot the bird.
He shot at the bird.
He caught the straw.
He caught at the straw.
He stabbed the pig.
He stabbed at the pig.

In this regard, see also Jespersen (1954:253), who made the following observation: "catch, grasp, strike, clutch, and similar verbs take an object when the accomplished action is to be expressed, and at, when an attempt is meant . . ." One common characteristic of these verbs seem to be that they all have an instantaneous nature besides being surface contact verbs, as the following additional examples suggest:

to jab (at)       sting (at)
to strike (at)    slap (at)
to punch (at)  to spank (at)
to pound (at)  to kick (at)
to poke (at)   to bite (at)

In Kusaiean successful and unsuccessful attempts are expressed by perfective and simple forms, respectively.

9. The verbs to hear, to see and to think in English are stative verbs. Corresponding to these stative verbs, there are nonstative verbs: to listen to, to look at, and to ponder, respectively. But the Kusaiean verbs listed here can also be used statively (see 6.1.2). But this is not peculiar to Kusaiean. In Korean, verbs of perception such as po- 'to see' or tát- 'to hear' are used as nonstative verbs meaning 'to look at' and 'to listen to', respectively.

10. The semantic property that is referred to as instantaneous in this study is introduced in the literature under different names. Fillmore (1969b:112), for instance, uses the term momentary and Gruber (1965:37) uses the term non-durational.

Despite these differences in terminology, the semantic property being referred to seems to be the same. Fillmore (1969b) in his discussion of semantic properties of verbs presents some characteristics of momentary and continuative (noninstantaneous) verbs. Verbs whose activities are viewed as changing in time are momentary. Other verbs are continuative. A continuative activity, or state occupies a span of time, and thus it makes sense to qualify a continuative
verb with a complement which identifies one or both of the end-points of such a span, or a distance measure of the span. The two verbs *to sleep* and *to wake up* are contrasted below.

She slept for three hours.  
until Friday.

She woke up for three hours.  
until Friday.

Two kinds of momentary verbs are recognized: repeatable ones such as *to kick* and unrepeatable ones such as *to wake up*. Repeatable momentary verbs can be understood iteratively when used with complements such as those below.

She kicked the ball for three hours.  
until Friday.

Leech (1971:19) notes the following characteristics of momentary verbs with regard to the progressive form in English.

These [momentary] verbs refer to happenings so momentary that it is difficult to think of them as having duration. Consequently, the progressive form, in attributing duration to them, forces one to think of a series of events, rather than of a single event.

Compare the following pairs of sentences.

He nodded.  (a single movement)  
He was nodding.  (a repeated movement)  

He tapped at the window.  (a single movement)  
He was tapping at the window.  (a repeated movement)
7.0 Introduction

Reduplication in Kusaiean has aspectual as well as derivation functions. The derivational function has already been presented in 3.4 (see DR-16). In this chapter we will examine the aspectual function. The main purpose is to show that the meanings of reduplicated forms are predictable on the basis of the classification of verbs presented in the preceding chapter.

We noted in 5.1 that the meanings expressed by reduplication in Kusaiean are varied. However, this does not seem to be a phenomenon peculiar to Kusaiean only. In Marshallese, another Micronesian language, various meanings are expressed by reduplication. Bender describes Marshallese reduplication in terms of meaning in the following way:

A common and productive process in Marshallese is the derivation of 'distributive' verbs from stems of all sorts. The distributive ranges semantically over emphasizing frequency, intensity, pervasiveness, multiplicity, discontinuity, and carelessness, but a common theme having to do with 'a spreading out in time or space' can be recognized. (1971:452)

Bender's semantic characterization of a common theme of reduplication is largely applicable to Kusaiean reduplication although the meanings expressed by reduplication in
Marshallese do not completely overlap those of Kusaiean. The aim of this chapter is to predict the different meanings of reduplication in Kusaiean. In doing this, factors such as stativeness, instantaneity, and telicity must be taken into consideration as in the preceding chapter.¹

Kusaiean verbs are classified in the following way, as represented diagrammatically below.

```
VERBS
+stative   -stative
    +motion +motion
        +telic -telic +telic -telic
            +inst -inst +inst -inst +inst -inst +inst -inst
```

In the following sections the meanings of reduplication will be examined separately and in order for each of the following groups of verbs: statives, telic noninstantaneous verbs, telic instantaneous verbs, atelic instantaneous verbs, and atelic noninstantaneous verbs. The following points will be treated with each of these five classes of verbs: (1) the possibility of reduplication, (2) the meanings of reduplicated forms, (3) the possibility of perfective forms of reduplicated forms, and (4) the meanings of perfective reduplicated forms.

7.1 Reduplication of Statives
Some sets of statives are presented in 6.1.2. They are: (1) adjectives, (2) verbs derived through DR's 9, 11 and 12, which are mostly related to emotional judgement or feelings, and (3) verbs of perception. Most stative verbs and adjectives can undergo reduplication, with a set of exceptions which will be examined first.

Adjectives that are derived through DR-18 in 3.4.2 do not undergo reduplication. The adjective lahlah 'branchy', for example, is derived from the noun lah 'branch' and does not undergo reduplication. This is not an idiosyncratic property of the adjective lahlah alone but a general characteristic of all adjectives derived through DR-18. The following redundancy rule can be formulated.

\[
\text{RR-12} \quad \left[ +\text{Adj} \right. \left. +\text{derived (DR-18)} \right] \rightarrow [-\text{ADR-17}]
\]

RR-12 states that adjectives derived through DR-18 cannot undergo ADR-17, which requires reduplication.

Except for such adjectives, statives can undergo reduplication and when they are reduplicated, their meanings become weakened or diffuse. The adjective kun 'blind', for instance, can be reduplicated, as in kunkun, which means partially blind. Compare the following two sentences. In (1) the simple adjective kun is used and in (2) the
reduplicated form kunkun is used.

(1) Sohn el kun.
John he blind
'John is blind.'

(2) Sohn el kunkun.
John he
'John is partially blind.'

Sentence (1) means that John is absolutely blind. On the other hand, sentence (2) means that John is partially blind: he can see at some times but not at others, or he can see things but not clearly.

Observe the following additional pairs of sentences. In the (a) sentences simple forms of statives are used, and in the (b) sentences their reduplicated forms. Note that the meanings of the reduplicated forms are weaker or more diffuse than those of the simple forms.

(3) a. Lohm sac lohser.
house the dark
'The house is dark.'

b. Lohm sac lohserlohser.
'The house is rather dark.'

(4) a. Nga koase muhtwacn sac.
I hate woman the
'I hate the woman.'

b. Nga koakoase muhtwacn sac.
'I do not like the woman.'
The following ADR is formulated on the basis of the above observations.

ADR-17 [+stative]  \[+\text{reduplication} \]
\[+\text{diffuseness}\]

MR See Chapter Three, footnote 3.

The ADR above predicts that statives can be reduplicated and that the reduplicated forms have the additional meanings of "diffuseness."

7.1.1 Perfective Forms of Reduplicated Statives

Statives can have perfective forms which mean either inchoation or complete change of state. (See ADR-1.) Reduplicated statives can still be input to ADR-1. This means that reduplication does not change the stative feature. For example, the adjective kahto 'pretty' has two perfective forms: kahtoyak 'to have become pretty partially' and kahtolah 'to have become pretty'. The reduplicated counterpart kahkahto 'rather pretty' can have two perfective forms:
kahkahtoyak 'to have started to become partially pretty'
and kahkahtolah 'to have become rather pretty'.

Observe the following additional examples. In the first column simple statives and their perfective forms appear and in the second their reduplicated counterparts and their perfective forms.

<table>
<thead>
<tr>
<th>Simple</th>
<th>Reduplicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>ahsor 'sad'</td>
<td>aahhsor 'somewhat sad'</td>
</tr>
<tr>
<td>ahsorack 'to get sad'</td>
<td>aahhsorack 'to get somewhat sad'</td>
</tr>
<tr>
<td>ahsorlah 'to have become sad'</td>
<td>aahhsorlah 'to have become somewhat sad'</td>
</tr>
<tr>
<td>pwacrkihn 'to enjoy'</td>
<td>pwacpwacrkihn 'to enjoy somewhat'</td>
</tr>
<tr>
<td>pwacrkuhnack 'to start to enjoy'</td>
<td>pwacpwacrkuhnack 'to start to enjoy somewhat'</td>
</tr>
<tr>
<td>pwacrkuhnlah 'to come to enjoy'</td>
<td>pwacpwacrkuhnlah 'to come to enjoy somewhat'</td>
</tr>
</tbody>
</table>

7.1.2 Reduplication of Derived Statives

Nonstative verbs can be used in their derived stative sense (see 6.1.4). The underlined verb in (6) can be interpreted either in its original nonstative sense or in its derived stative sense. Hence, the sentence can be ambiguous.

(6) Sohn el sritacl mani.
    John he play money
    'John gambles.' (stative)
    'John is gambling.' (nonstative)
Similarly, the perfective form sritacl manilah is also ambiguous as we can see in (7).

(7) Sohn el sritacl manilah.
    John he play money-away
    'John has started gambling.' (stative)
    'John finished gambling.' (nonstative)

The reduplicated form srisritacl is also ambiguous. When it is regarded as a reduplication of the stative use of sritacl, the reduplicated form has a weakened meaning: sritacl mani denotes that someone gambles as his steady habit; srisritacl mani means that someone gambles occasionally. Look at the following two sentences.

(8) Sohn el sritacl mani.
    John he play money
    'John gambles continually.'

(9) Sohn el srisritacl mani.
    John he play money
    'John gambles occasionally.'

Observe the following additional examples.

(10) Sohn el sismohk.
    John he smoke
    'John smokes.'

(11) Sohn el sissismohk.
    'John smokes occasionally.'
(12) Pahpah el pahtuhr ik.
father he fish fish
'Father fishes.' 'Father is a fisherman.'

(13) Pahpah el pahpahtuhr ik.
'Father fishes occasionally.'

The observations made in the preceding paragraphs show that ADR-17 is applicable to derived statives also. To see this, let us observe the following set of sentences.

(14) a. Pahpah el pahpahtuhr ik.
father he fish fish
'Father fishes occasionally.'

b. Pahpah el pahpahtuhr ikyak.
'Father started to fish occasionally.'

c. Pahpah el pahpahtuhr iklah.
'Father has come to fish occasionally.'

In (14a) the simple reduplicated form is used. In (14b) the suffix yak (an alternating form of ack) is used and denotes an initial stage of change. In (14c) the perfective form is expressed by the suffix lah and denotes that father has acquired a habit of fishing occasionally, which he did not do before.

7.2 Atelic Instantaneous Verbs

Atelic instantaneous verbs were examined in 6.7.4. Verbs such as poht 'to pop' and kahk 'to cackle' whose
beginning and ending points of the actions denoted are almost synchronous. Their simple forms do not denote an ongoing process, and their perfective forms denote single occurrences of certain actions.

When these verbs are reduplicated, the following points can be observed: an atelic instantaneous verb can be compared to a single dot, whereas its reduplicated counterpart can be compared to a stretch of space interspersed with dots. For example, the verb kahk 'to cackle' is atelic instantaneous. Its reduplicated counterpart denotes a series of repeated acts forming a phenomenon of a stretched-out character. In this regard, the reduplicated form can be characterized as atelic noninstantaneous.2

Observe the following pairs of sentences. In (15a) a simple atelic instantaneous verb is used and in (15b) its reduplicated counterpart. Notice that the first sentence denotes genericness but not ongoing process.

(15) a. Kain tin sac poht.
    kind can the pop
    'That kind of can pop.'

    b. Sitosah soko ah pohtpoht.
    car one the pop
    'The car is making a series of backfiring sounds.'

(16) a. Won uh kahs.
    bird the chirp
    'The birds chirp.'
(16) b. Won se inge kahskahs.
   bird one here chirp
   'This bird is chirping.'

(17) a. Pik uh ngut.
   pig the grnt
   'The pigs grunt.'

b. Pik uh ngutngut.
   'The pigs are grunting.'

The following ADR is formulated to capture the observations made above.

ADR-18

\[
\begin{align*}
\text{ADR-18} & \quad +V \\
& \quad -\text{motion} \\
& \quad -\text{telic} \\
& \quad +\text{instantaneous} \\
\end{align*} \\
\rightarrow \\
\begin{align*}
& \quad +\text{reduplication} \\
& \quad +\text{repetition} \\
& \quad -\text{instantaneous} \\
\end{align*}
\]

This states that atelic instantaneous verbs can be input to ADR-18. The derived reduplicated form denotes repetition of like acts and takes on a noninstantaneous nature.

7.2.1 Perfective Forms of Atelic Instantaneous Verbs

The perfective forms of simple atelic verbs denote single occurrences of certain actions and their cessation. (See ADR-12 in 6.6.1.) The perfective forms of reduplicated atelic instantaneous verbs denote occurrences of a series of like acts and their cessation. To see this, compare the following two sentences. In (18a) the perfective form of the simple verb mihsihklah and in (18b) the perfective form
of the reduplicated verb mihsihksihklah.

(18) a. Sah el mihsihklah.
   Sah he click
   'Sah made a click.'

   b. Sah el mihsihksihklah.
      'Sah made a series of clicks.'

Observe the following additional pairs of examples.

(19) a. Tin sac erarlalh.
      can the rattle
      'The can rattled.'

   b. Tin sac erarrarlalh.
      'The can made a series of rattling sounds.'

(20) a. Won sac kahklah.
      bird the cackle
      'The bird cackled.'  'The bird made a cackle.'

   b. Won sac kahkkahklah.
      'The bird made a series of cackling sounds.'

In view of the facts observed in the preceding paragraphs, ADR-12 in 6.6.1 can be reformulated in the following way.
7.2.2 Derivation of Motion Verbs

Reduplicated forms of atelic instantaneous verbs, which can be compared to a stretch of space interspersed with dots, can be associated with motion. Kahkkahk 'to cackle', for instance, can be interpreted in two different ways.

(21) Won sac kahkkahklah.
hen the cackle-away
'The hen made a series of cackling sounds.'
'The hen went away making cackling sounds.'

Kahkkahklah interpreted as a nonmotion verb means 'to make a series of cackles at a certain location'. Interpreted as a motion verb, it means 'to move in a certain direction making cackling sounds'. In this interpretation, it can be used with any of the directional suffixes, like any other motion verbs. (See 6.2.1, for some characteristics of motion verbs.)

(22) Won ah kahkkahk- lah.
hen the cackle-away
'The hens went away cackling.'
(23) Won ah kahkkahk-elihk.
hen the cackle-apart
'The hens went in different direction
cackling.'

(24) Won ah kahkkahk-ma.
hen the cackle-to the speaker
'The hens came cackling.'

7.3 Atelic Noninstantaneous Verbs

Atelic noninstantaneous verbs are those whose actions may last for a while, although not directed to any specific goal. They are grouped into two classes for consideration in this section: (1) verbs of stationary location and (2) other atelic noninstantaneous verbs.

7.3.1 Verbs of Stationary Location

The following three verbs describe modes of remaining stationary or of designating nonmomentary locations of certain objects.

\[
\begin{array}{ll}
\text{an} & \text{'to lie'} \\
\text{tu} & \text{'to stand'} \\
\text{muhta} & \text{'to stay'}
\end{array}
\]

The simple verbs describe the more or less permanent location of certain objects. Their reduplicated forms, on the other hand, describe temporary locations. In (25) the three simple verbs are used.

(25) a. Acn Kosrae an epang in acn Ponpe.
land Kusaie lie south of land Ponape
'Kusaie lies south of Ponape.'
(25) b. Sahk soko ah tu muhtuhn lohm sihk ah.
    tree one the stand front-of house Cl-my the
    'The tree stands in front of my house.'

c. Kain wet sac muhta infohk uh.
    kind worm the stay ground the
    'The kind of worm stays under the ground.'

If the reduplicated counterparts are used instead, the resulting sentences sound extremely strange, as can be seen in (26).

(26) Acn Kosrae anan epang in acn Ponpe.
    land Kusaie lie south of land Ponape
    'Kusaie is lying south of Ponape.'

The strangeness comes from the fact that Kusaie has lain south of Ponape through all known history, it does so now, and it is expected to do so indefinitely into the future. But the sentence above means that Kusaie lies south of Ponape temporarily.

Observe the following grammatical sentence in which the reduplicated form anan is used.

(27) Pohk sac anan ke tepuh sac.
    box the lie table the
    'The box was lying at the table.'

Sentence (27) implies that the box does not always lie at the table and it may not be there at the moment, although it was earlier.
7.3.2 Other Atelic Noninstantaneous Verbs

Some verbs of atelic noninstantaneous verbs are listed below.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>mahs</td>
<td>'to march'</td>
</tr>
<tr>
<td>kap</td>
<td>'to grow'</td>
</tr>
<tr>
<td>mongo</td>
<td>'to eat'</td>
</tr>
<tr>
<td>sa</td>
<td>'to shout'</td>
</tr>
<tr>
<td>tuhng</td>
<td>'to cry'</td>
</tr>
</tbody>
</table>

The reduplicated counterparts of atelic noninstantaneous verbs describe a continual process; the actions go on in a prolonged succession or recurrence. Look at the following sentences in which the reduplicated forms are used.

(28) Eltahl mahsmahs lwen na fohn se.
    they march day whole one
    'They marched and marched a whole day.'

(29) Tuhlihk sac momongo ao na fohn se.
    child the eat hour whole one
    'The child ate and ate for an entire hour.'

The following two ADR's are formulated.

ADR-20

\[
\begin{array}{c}
+V \\
-motion \\
-telic \\
-instant \\
+location \\
\end{array}
\rightarrow
\begin{array}{c}
+\text{reduplication} \\
+\text{temporariness} \\
\end{array}
\]

The ADR above states that atelic noninstantaneous verbs which
describe stationary locations can be input to reduplication. The derived reduplicated forms add the meaning of temporariness.

ADR-21

\[
\begin{array}{c}
+V \\
\text{-motion} \\
\text{-telic} \\
\text{-instant} \\
\text{-location}
\end{array} \rightarrow \begin{array}{c}
\text{+reduplication} \\
\text{+continual process}
\end{array}
\]

The ADR above states that atelic noninstantaneous verbs other than those describing stationary locations can be input to the ADR. The derived reduplicated forms have the meaning of continual process.

7.4 Reduplication of Telic Noninstantaneous Verbs

Telic verbs are those verbs whose actions are directed to specific goals. The goals of telic noninstantaneous verbs are achieved through cumulative results. Their reduplicated forms have added meanings of prolongation: that is, a certain event takes a time longer than is normal or necessary. For example, the verb kulus 'to peel' can be reduplicated, as in kulkulus. The reduplicated form has an additional meaning that peeling takes a longer time than is necessary. The prolongation of time may be caused by carelessness, inattention, interruption or laziness. Look at the following pair of sentences.
(30) Sohn el kulus muh sac.
John he peel orange the
'John is peeling the orange.'

(31) Sohn el kulkulus muh sac.
John he peel orange the
'John is peeling the orange (lazily, carelessly or intermittently).'

In (31) the reduplicated form is used and implies that the peeling takes a longer time than is normal or usual. Sentence (30) has no such implication. Some additional examples are presented below.

(32) a. Sohn el sihmihs lwacta se.
John he write letter one
'John is writing a letter.'

b. Sohn el sihmsihmihs lwacta se.
'John is writing a letter intermittently.'

(33) a. Sah el fungi sahfuhl se.
Sah he handle shovel one
'Sah is putting a handle on a shovel.'

b. Sah el fungfungi sahfuhl se.
'Sah is putting a handle on a shovel lazily.'

(34) a. Eltahl kang mos ah.
they eat breadfruit the
'They are eating the breadfruit.'

b. Eltahl kangkang mos ah.
'They are eating the breadfruit slowly.'

The following ADR is formulated on the basis of the above observations.
The above ADR states that telic noninstantaneous verbs can be reduplicated. The reduplicated forms have an additional meaning of prolongation.

7.4.1 Reduplication of Derived Telic Noninstantaneous Verbs

In 6.5.1, we observed that derived intransitive verbs whose [+NM] actants represent FAC, a subtype of INS or OBJ case relation are telic. (Cf. DR-22 and DR-23 in 3.7.1-2.) Some transitive verbs have two derived intransitive verb forms. The transitive verb kulus 'to peel', for example, has the two intransitive verb forms: kul and kulkul. The second is derived from the first by reduplication. However, the difference between kul and kulkul in terms of meaning is not clear to the writer. Some additional examples are presented below.

<table>
<thead>
<tr>
<th>Transitive Verbs</th>
<th>Intransitive Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple</td>
<td>Reduplicated</td>
</tr>
<tr>
<td>kihnis 'to pick'</td>
<td>kihn</td>
</tr>
<tr>
<td>fulus 'to paste'</td>
<td>ful</td>
</tr>
<tr>
<td>yukwi 'to plant'</td>
<td>yok</td>
</tr>
<tr>
<td>yihrong 'to peep at'</td>
<td>yor</td>
</tr>
</tbody>
</table>

Some other transitive verbs have only one intransitive
verb form. For example, the transitive verb *fakihs* 'to spear' has only one intransitive verb form: *fakfuhk*. Phonologically, it would seem possible to have an intransitive verb form *fak*. But this does not exist. Observe the following additional examples.

<table>
<thead>
<tr>
<th>Transitive Verbs</th>
<th>Intransitive Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple</td>
<td>Reduplicated</td>
</tr>
<tr>
<td>apihs 'to sting'</td>
<td>-- apyuhp</td>
</tr>
<tr>
<td>fule 'to squeeze'</td>
<td>-- fulohfohl</td>
</tr>
<tr>
<td>kihte 'to give'</td>
<td>-- kihtakat</td>
</tr>
<tr>
<td>sule 'to choose'</td>
<td>-- sulohsohl</td>
</tr>
</tbody>
</table>

It is not clear at this point whether there is any semantic difference between transitive verbs with two intransitive verb forms and those with only one intransitive verb form. Reduplicated derived intransitive verbs are not subject to any further reduplication.

There is another type of intransitive verb which is derived through DR-22 (passivization). The passive forms of the telic verbs are also telic (see 6.5.2). The verb *oruh* 'to make' is telic and its corresponding passive form is also telic. Compared with the simple unreduplicated form *oruh*, its reduplicated form *ororuh* has additional meaning of prolongation, as observed in the preceding section. The reduplicated form of the passive *ororweyuhk* has the same additional meaning. Observe the following examples.
(35) a. Sohn el oruh tepuh se.
   John he make table one
   'John is making a table.'

   b. Sohn el ororuh tepuh se.
   'John is making a table lazily.'

(36) a. Tepuh se orweyuhk.
    table one make-passive
    'A table is being made.'

   b. Tepuh se ororweyuhk.
   'A table is being made slowly.'

7.4.2 Perfective Forms of Reduplicated Telic Noninstantaneous Verbs

Telic verbs are those that have set terminal goals, the attainment of which is expressed by perfective forms. (See 6.4.) The verb tafle 'to carve' is a telic noninstantaneous verb. Its perfective form taflelah denotes that a carved thing has come into existence. The reduplicated form taftafle means that carving takes place slowly. Conceptually and from a nonnative speaker's viewpoint, it would seem to be possible for the reduplicated telic noninstantaneous verbs to have perfective forms. But in actuality, such do not exist. 3

The following sentences in which the perfective forms of reduplicated telic noninstantaneous verbs are used are not accepted.
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(37) *Sepe el otozwelah fohtoh se.
   Sepe she weave basket one

(38) *Sepe el kolkoloslah muh ah.
   Sepe she peel orange the

(39) *Sepe el suhmsuhmuhslah lwacta se.
   Sepe she write letter one

The restriction is formulated in the following redundancy rule.

\[
RR-13 \quad [\begin{array}{c}
+V \\
+telic \\
-\text{instant} \\
+\text{reduplication}
\end{array}] \rightarrow [-\text{perfective}]
\]

The redundancy rule above states that reduplicated forms of telic noninstantaneous verbs do not have corresponding perfective forms. In the following section we will observe that reduplicated forms of telic instantaneous verbs can have such perfective forms.

7.5 Telic Instantaneous Verbs

We observed in 6.7.2 that simple (unreduplicated) forms of telic instantaneous verbs denote "attempt" and their perfective counterparts denote "successful attempt". Compare the following two sentences. In (40) the simple form puok is used and in (41) its perfective counterpart is used.
When telic instantaneous verbs such as puok 'to hit' or kihnis 'to pinch' are reduplicated, they denote repeated attempts or an ongoing process of repeating like acts. Compare the following two sentences.

(42) Sohn el puok pouk.
John he hit hand-my
'John hit at my hand.'

(43) Sohn el pupuok pouk.
'John is hitting at my hand.'

Observe the following additional pairs of sentences, in which instantaneous verbs are used.

(44) a. Ninac el srihngihl ahwovo ah.
mother she slap baby the
'Mother slapped at the baby.'

b. Ninac el srihngsrihngihl ahwovo ah.
'Mother was slapping at the baby.'

(45) a. Sah el kihnis pahol Sepe.
Sah he pinch hand-her Sepe
'Sah pinched at Sepe's hand.'
(45) b. Sah el kihnkihnis pahol Sepe.  
Sah he pinch hand-her Sepe  
'Sah is pinching at Sepe's hand.'

The ADR below is formulated to predict the meanings of the reduplicated telic instantaneous verbs.

ADR-23

\[ \begin{array}{c}
+V \\
+telic \\
+instant \\
\end{array} \rightarrow \begin{array}{c}
+\text{reduplication} \\
-\text{instant} \\
+\text{repeated attempts} \\
\end{array} \]

The ADR above predicts that telic instantaneous verbs can have corresponding reduplicated forms, which mean repeated attempts. In the process of reduplication, the instantaneous nature of the verbs is changed into a noninstantaneous which can be tested using TIM actants which denote duration such as for ten minutes or for one hour. Observe the following.

(46) *Sohn el srihngihl pohl sac ao luo.  
John he hit ball the hour two  
'John hit at the ball for two hours.'

(47) Sohn el srihngsrihngihl pohl sac ao luo.  
'John has been hitting at the ball for two hours.'

In (46) a simple unreduplicated form is used and the TIM actant cannot occur with it. On the other hand, in (47) its reduplicated counterpart is used acceptably with the TIM actant.
In 7.4.2 we observed that reduplicated forms of telic noninstantaneous verbs do not have corresponding perfective forms. But such a restriction does not hold for telic instantaneous verbs, whose reduplicated forms can have corresponding perfective forms. The verb *sihpihk* is a telic instantaneous verb. It has a perfective form *sihpihkyac* 'to have chopped down'. The reduplicated form *sihpsihpihk* of *sihpihk* also has its perfective form *sihpsihpihkyac*. The two perfective forms are used in the following sentences.

(48) Nga *sihpihkyac* mos se.
    I chop breadfruit one
    'I chopped one breadfruit (once).'

(49) Nga *sihpsihpihkyac* mos se.
    'I chopped one breadfruit (several times).'

The perfective form *sihpihkyac* in (48) denotes a single act of chopping and its resultant state. On the other hand, the perfective form *sihpsihpihkyac* in (49) denotes more than one act of chopping and its resultant state.

Observe the following additional pairs of sentences in which perfective forms of simple and reduplicated telic instantaneous verbs are used.
The ADR below is formulated to predict the meaning of
the perfective forms of reduplicated telic instantaneous
verbs.

The ADR above predicts that reduplicated forms of telic
instantaneous verbs can have corresponding perfective forms
which denote impact and at the same time repetition.

7.6 Summary

In this chapter we examined problems related to redu-
plication. Meanings denoted by reduplication are diffusion-
ness, repetition, temporariness, continualness, prolongation
and **casualness**. These are made predictable by using the inherent nature of the simple verbs and the nature of their relation with certain actants.
1. The American Sign Language uses reduplication. Fisher (1973) reports that the process of reduplication in the Sign Language is regular in terms of correspondences between the reduplication and the meaning it adds. In order to capture the correspondences, she classifies the verbs of that language using the set of features $[\text{+stative}]$ and $[\text{+durative}]$.

2. Whorf (1971:51-56) reports phenomena in Hopi which are very similar to the one presented here. The punctual aspect of certain sets of verbs in Hopi is changed into a segmentative aspect through reduplication and with an addition of a certain suffix. The following change in meaning is noted: "The phenomenon denoted by the root, shown the punctual aspect is manifested about a point becomes manifested as a series of repeated interconnected segments of one large phenomenon of a stretched-out segmental character."

3. Resultative verb compounds in Chinese are made up of two parts, the first indicating an action and the second the result of the action. In this respect, these compound verbs are similar to Kusaiean perfective forms. While most verbs in Chinese can be reduplicated to indicate a 'casual'
performing of the action, resultative verbs cannot. Thompson (1973:362) accounts for the incompatibility of resultative verbs and reduplication in this way: a resultative verb expresses an accomplished result of an action, and is incompatible with the casual 'have a go at it' reading carried by reduplication.
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