PHONOLOGICAL AND SEMANTIC ASPECTS OF ATESO

DERIVATIONAL VERBAL MORPHOLOGY.

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A dissertation submitted in partial fulfillment for the degree of Master of Arts in the University of Nairobi.

June 1981
This dissertation is my original work and has not been presented for a degree in any other University.

June 1961

This dissertation has been submitted for examination with our approval as University supervisors.

Dr. Franz Rottland

Dr. Martin Mould
# CONTENTS

<table>
<thead>
<tr>
<th>Acknowledgements</th>
<th>iv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>v</td>
</tr>
<tr>
<td>List of Symbols</td>
<td>vi</td>
</tr>
</tbody>
</table>

| 1. A brief Introduction to the Ateso Language | 1   |
| 1.1. Location of Ateso Native speakers       | 1   |
| 1.2. Linguistic background                   | 2   |
| 1.3. The Problem                            | 12  |
| 1.3.1. Rationale for the choice of the above problem | 13  |
| 1.3.2. Objectives                          | 15  |
| 1.3.3. Scope and limitations                | 15  |
| 1.3.4. Hypotheses                          | 16  |
| 1.4. Literature Review                      | 17  |
| 1.4.1. Traditional Grammarians              | 17  |
| 1.4.2. The Structuralists                   | 17  |
| 1.4.3. The generative transformationalists  | 19  |
| 1.4.3.1. Chomsky 1965                       | 19  |
| 1.4.3.2. Chomsky 1970                       | 22  |
| 1.4.3.3. Jackendoff 1975                    | 23  |
| 1.4.3.4. Hould 1978                        | 28  |
| 1.5. Theoretical model                      | 29  |
| 1.6. Modifications                         | 30  |
| 1.7. Methodology                           | 31  |
| Footnotes                                  | 32  |
2. Introduction to Verbal Derivation in Ateso
   2.1. Phonological aspects
      2.1.1. The derivational morphemes
      2.1.2. Phonological alternations
      2.2. Semantic Content of the Derivational morphemes
      2.2.1. Verbal affixes

Footnotes
3.1. Productivity, Subregularity and Lexical Rules
3.2. Lexical Derivational and Redundancy Rules
Footnotes
4.1. Remarks
4.2. Areas of further Research

Bibliography
Appendix I: Suffix /-Un/
Appendix II: Suffix /-ar/
Appendix III: Suffix /-akIn/
Appendix IV: Suffix /-akIn - [ATH]/
Appendix V: Suffix /-Ia/
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This thesis is a morphological study of Ateso, an Eastern Nilotic language. It examines some of the verbal derivational morphology in a generative framework within the Extended Standard theory. The work has been divided into four chapters.

The first chapter deals with the background to the people who speak Ateso as a native language, and an introduction to some technical terms. These are followed by the statement of the problem, rationale for the choice of the problem, the objectives, hypotheses, literature review, the theoretical framework to be used, and the methodology to be adopted.

The second chapter gives analyses of the phonological and semantic aspects of five chosen derivational suffixes, that is, the Ventive, Itive, Applicative, Applicative-Reciprocal, and Instrumental. The phonological alternations are shown to be predictable, and general rules are given for these alternations. When discussing the semantic content of the derived forms it is shown that apparently diverse readings can be unified by deeper semantic analysis and more careful translation. Readings may be further determined by context at a higher level of interpretation such as the sentence.

Chapter III deals specifically with the formulation of lexical derivational and lexical redundancy rules. Lexical derivational rules account for the productive processes while the lexical redundancy rules take care of the cases where
there is a lexical relationship between words but neither is derived from the other. Percentage figures are given to show the degrees of productivity for the chosen extensions.

The last chapter, Chapter IV, is a conclusion. It includes general remarks on the findings of this study and indicates areas of further research.

This work also includes an appendix which gives further examples of the different semantic readings that can be determined by the context of occurrence of the different derived verbs.
List of Symbols

Diachritic features

* Used on forms that are unattestable.

? Used on forms whose attestability is doubtful.

Other Symbols

/ / indicate systematic phonemic realisations

indicate systematic phonetic realisation

V Verb

N Noun

NC Noun Class

P Preposition

PP Prepositional phrase
INTRODUCTION

1. A brief Introduction to the Ateso Language

1.1 Location of Ateso Native speakers

The people who speak the Ateso language are located in three major areas in Uganda and one area in Kenya. The three major areas in Uganda are Teso District, which is within Eastern Province, the Tororo area around the town of Tororo, and the Pallisa Area in Bukedi District. The largest group is found in Teso District. The other two groups are with other districts and the influence of the neighbouring languages is quite large. The Tororo area is separated from the Teso District area by a Bantu-speaking tribe known as the Bagisu or Bamasaaba. The Pallisa group is separated from the Tororo group by a number of Bantu-speakers but the largest group is again formed by the Bamasaaba and the Bagwere.

Although the three major groups are separated by other Bantu-speakers they all belong to the Eastern Province, which means that they are quite close geographically. As one would expect, this kind of situation has led to the development of different dialects.

The fourth group of Ateso native speakers is outside the Uganda group, located in Western Kenya, in an area which is incidentally near Tororo. The Tororo and the Kenya groups are not separated by major tribes belonging to other language families, and the geographical distance is also quite close. For this
reason the two groups seem to be more closely related

Teso District shares a boundary with Karamoja District where the people speak a language known as Ngakarimojong. Since this language belongs to the same family as Ateso, that is Eastern Nilotic, the influence on Ateso is not easily discernible. Those areas bordering Bantu-speaking districts show the influence of the neighbouring tribes.

1.2 Linguistic Background

I would like to start by clarifying the differences between the language, the people, the district, and the use of gender in relation to these issues because often these are mixed up by non-native speakers.

The language of this study is known as Ateso $\text{AtEsO}$. The people who speak this language are known as Iteso $\text{ItEsO}$, and the district where this language is spoken by a majority of the people is Teso $\text{TEsO}$.

There are also gender problems related to the above names. For example, a male native-speaker of Ateso is known as Etesot $\text{EtEsOt}$ and a female is referred to as Atesot $\text{atEsOt}$. The gender marker for masculine is /E/ and that for feminine is /a/. The plural of $\text{EtEsOt}$ is $\text{ItEsO}$ while that of $\text{atEsOt}$ is $\text{atEsO}$. As can be seen above the name for the language is identical to 'female native speakers' of the language, while the word for the people is identical to 'male native-speakers' of the language. It should be observed that the gender marker for $\text{ItEsO}$ is the same as for neuter
or common gender.

It is important that the names be set out correctly because all these distinctions, when mixed up, may cause confusion. Some people have tried to get out of the problem by adding Bantu prefixes to the root as is seen in the following:

'Bateso' = the people, using the Bantu Ba - prefix as in 'Baganda' meaning the native speakers of the Ganda Language.

'Muteso' = One native speaker of Ateso, using Bantu Mu- for singular as in 'Muganda', that is one native speaker of the Ganda Language.

'Luteso' = the language of the Iteso where lu - as in Luganda, refers to the language.

This attempt to use the Bantu class system to solve the problem is not acceptable to the native speakers of Ateso. For this reason I have given the correct names so that we, in the field of linguistics, can at least avoid using another morphological solution to make the problem understood.

Having cleared the problem of terminology we can now have a brief look at the people speaking Ateso as a first language, and other factors affecting the language.

According to the 1969 census as reported by Ladefoged et. al. (1972) the percentage of the population in Uganda speaking Ateso as a first language falls second to Luganda. Ateso has 8.3% and Luganda has 16.7%. A few other examples to show the comparison are: Runyamkore 8.1%, Rukiga 7.1%,


Lango 5.6%, Acholi 4.4%, and Lugbara 3.7%. Since the total population for the 1969 census was 9,548,847, the above percentages can be used to calculate the number of people belonging to each group. The results are as follows:

Luganda 1,566,462; Ateso 792,554, Rukiga 675,968; Runyankore 773,457; Lango 534,735; Acholi 420,149, and Lugbara 353,307. Diagrammatically these figures are as shown below:

<table>
<thead>
<tr>
<th>Language</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luganda</td>
<td>1,566,462</td>
<td>16.3</td>
</tr>
<tr>
<td>Ateso</td>
<td>792,554</td>
<td>8.3</td>
</tr>
<tr>
<td>Runyankore</td>
<td>773,457</td>
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<td>Rukiga</td>
<td>675,968</td>
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<td>534,735</td>
<td>5.6</td>
</tr>
<tr>
<td>Acholi</td>
<td>420,149</td>
<td>4.4</td>
</tr>
<tr>
<td>Lugbara</td>
<td>353,307</td>
<td>3.7</td>
</tr>
</tbody>
</table>

From the above figures we can see that the Iteso form the second largest single linguistic group within Uganda.

As mentioned earlier the distribution of Ateso speakers has lead to the development of different dialects. Three major dialects correspond to the three major areas mentioned above, i.e. Teso District, Tororo, and Pallisa dialects. According to Ladefoged et al. (1972) the three dialects have 87% of their words in common, so the degree of mutual intelligibility is very high.

Within Teso District itself smaller dialectal groupings do exist. Another three sub-dialects are generally accepted. The one usually regarded as the standard dialect (Hilders and Lawrence, 1957, Scotton and Okeju, 1972) is that spoken around
Ngora in Central Teso District. The other two dialects are that spoken in the North-East of the district near the border with Karamoja District, and one in the South of the district around Serere county. It is, however, not the case that these three dialects within the district are as distinct as those earlier discussed. The differences are very small indeed and often involve differences in the lexicon but not much in other areas of the grammar.

Regardless of dialect, Ateso has had foreign influences. The Baganda, in the pre-Independence period extended their influence to most of the country and Teso, too, was affected. Then came the Waswahili and Arabs who were mainly interested in trade. Finally, the English brought their civilisation. What this intrusion meant for Teso District and other areas was that a lot of borrowing took place. As a result Ateso has a lot of borrowed words, mainly nouns, especially those related to scientific and modern cultural concepts.

The dialects of Tororo and Pallisa are even more affected by borrowing since they are actually within other linguistic areas. Most of the people in these regions actually speak more than one language and often switch from one language to the next without much problem. The Tororo Iteso can, for example, speak Lumasaaba, Dhophadhola and Luganda in addition to Ateso. Those in Pallisa can speak, for example, Lugwere, Lusoga and Luganda. Thus, the influences from these languages cannot be overemphasized.

Despite all these environmental factors it is interesting
to note that the Iteso of Tororo still retain some of the oldest items of grammar. For example, in this region we still find the use of /k/ in certain verb forms. We have, for example, the following verbs:

### Tororo dialect
- aki - nyam (akI-ŋam) to eat
- aki - lip (akI-1Ip) to pray / beg

### Teso District dialect
- ai - nyam (ai-ŋam) to eat
- ai - lip (ai-1Ip) to pray/beg

For the Imperative we have:

### Tororo dialect
- ko - nyam (ko-ŋam)
  - Eat!
- ki - lip (ki-1Ip)
  - pray/beg!

### Teso District dialect
- o - nyam (o-ŋam)
  - Eat!
- i - lip (i-1Ip)
  - pray/beg!

For nouns we have the following forms:

### Tororo dialect
- ekitabo (Ekitabo)
  - a book
- ekitoi (EktOI)
  - a tree

### Teso District dialect
- eitabo (Eitabo)
  - a book
- eitoi (EitOI)
  - a tree

According to the Teso Orthography Committee of 1947, as discussed in Hilders and Lawrence(1957) it was agreed as a general
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<table>
<thead>
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<th>Tororo dialect</th>
<th>Teso District dialect</th>
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</thead>
<tbody>
<tr>
<td>aki - nyam (akI-ʃ am)</td>
<td>ai - nyam (ai-ʃ am)</td>
</tr>
<tr>
<td>to eat</td>
<td>to eat</td>
</tr>
<tr>
<td>aki - lip (akI- lIp)</td>
<td>ai - lip (ai - lIp)</td>
</tr>
<tr>
<td>to pray / beg</td>
<td>to pray/beg</td>
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</table>

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<table>
<thead>
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<th>Tororo dialect</th>
<th>Teso District dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>ko - nyam (ko-ʃ am)</td>
<td>0 - nyam (O -ʃ am)</td>
</tr>
<tr>
<td>Eat</td>
<td>Eat</td>
</tr>
<tr>
<td>ki - lip (kI - lIp)</td>
<td>i - lip (I - lIp)</td>
</tr>
<tr>
<td>pray/beg</td>
<td>pray/beg</td>
</tr>
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</tr>
<tr>
<td>a book</td>
<td>a book</td>
</tr>
<tr>
<td>ekitoi (EkItOI)</td>
<td>eitoi (EItOI)</td>
</tr>
<tr>
<td>a tree</td>
<td>a tree</td>
</tr>
</tbody>
</table>

According to the Teso Orthography Committee of 1947, as discussed in Hilders and Lawrence (1957) it was agreed as a general
principle that all words should be written in full even though normally contracted in speech. For this reason in books written in Ateso, for example Bia Kosim translated as 'Come and Read', Awaragasia nukolosek ko Uganda translated as 'stories/fables in Ateso', the /k/ is retained although in the actual speech of most people it is deleted.

Although Ateso is spoken by the second largest group of people in Uganda, not much attention has been given to the study of it. The little that has been done was done by the missionaries who first went to the district. The concern of these missionaries was to give newcomers the rudiments of Ateso. More will be said on this at a later stage. But it should be noted that in whatever work that has been done on the language tone has been neglected altogether, apart from mentioning that it plays an important role in the language. This study, too, will not go into the problems of tone. The major concern here is derivational verbal forms, that is, the segmental aspect.

As just mentioned, there has been very little work done on the analysis of Ateso. The only outstanding work done so far on Ateso is that by Hilders and Lawrence (1957), which was followed a year later, that is, 1958, by a dictionary—An English-Ateso and Ateso-English Dictionary—by the same authors. Both works were by foreigners who happened to have worked in Teso District for many years and were interested in writing some kind of introductory grammar for the language. They were particularly concerned that later missionaries and
and administrators from Europe get a guide to the language so that their efforts at learning the language would be facilitated.

It is a sad commentary that so far no work on Ateso has been undertaken by a native speaker of the language or any linguist for that matter. If hardly anything has been done on a traditional model one cannot even talk of the generative framework that has been the most current model occupying linguists' minds. A study in which a native speaker was involved was Scotton and Okeju (1972), in which John Okeju was a co-worker. This work, basically sociolinguistic in nature, laid emphasis on the social factors that are responsible for the integration and re-analysis of loan words to fit Ateso phonotactics and inflectional systems. The study was not directly concerned with aspects of grammar like syntax, phonology, or semantics.

On the morphology of Ateso, particularly derivational verbal morphology which I am concerned with in this study, Hilders and Lawrence (1957) do have some guidelines. Since the study is rather brief and introductory, all there is in it is something to set one thinking and worrying about the problem. The book is good from the point of view of giving pointers and possible areas of study.

Even in that brief and introductory work, it is obvious that the verbal system in Ateso is very complex. The authors give the verbal system quite a large part of their book. The authors have this to say in the preface:
We have also decided, apart from brief references in Chapters XIV and XIX, to leave the vast question of word derivation untouched; but some idea of the magnitude of this field of study is also given by examples in Appendix I. (p. xi).

It is from here that I have picked on this interesting area - verbal derivational morphology. I plan to handle this problem in a generative framework. So far no similar work has been done.

Below is an illustration of some of the intriguing processes in Ateso verbal forms. The examples show how a number of complex verbs can be derived from a simple verb using different affixes or combinations of affixes with different semantic functions.

**Simple verb**

ai - buk
to pour/ empty

**Derivational Processes**

1. **Ventive**
   
a - buk - un
to pour towards the speaker

2. **Itive**
   
a - buk - Or
to pour away from speaker

3. **Applicative**
   
a - buk - OkIn
to pour for someone
4. **Applicative - Reciprocal**
   a buk - okin
to pour for each other

5. **Instrumental**
a buk - IO
to pour with

6. **Causative**
aI - tu - buk
to cause to pour

7. **Habitual**
a - buk - Enin
to pour habitually

8. **Transitive Repetitive**
a - buk - u - buk
to pour and pour - 'to pour repetitively'

9. **Intransitive Repetitive**
a - buk - u - buk - u - toi
to pour and pour and finish - 'to pour repetitively'

**Combination of Extensions**

10. **Ventive + Instrumental**
a - buk - un - IO
to pour - towards speaker - with

11. **Itive + Instrumental**
a - buk - Or - IA
to pour - away from speaker - with
12. **Applicative + Instrumental**
   
a - buk - OkIn - IA

to pour - for someone - with

13. **Causative + Ventive + Instrumental**
   
ai - tu - buk - un - IO

to cause - to pour towards speaker - with

14. **Causative + Itive + Instrumental**
   
ai - tu - buk - Or - IA

to cause - to pour away from speaker - with

15. **Causative + Applicative + Instrumental**
   
? ai - tu - buk - OkIn - IA

to cause - to pour - for someone - with

The above examples are just part of the possible derivations that are found in Ateso. There are still many others which I have not included here because I do not intend to tackle them in this study. I have given the above examples to show the complexity of Ateso verbal derivational processes. I have also included some examples of possible combinations in order to show the possible order of extensions when more than one co-occur. It would appear that the Instrumental must always be the last extension, and the Instrumental also seems to co-occur with almost all the other extensions. The applicative-Reciprocal does not co-occur with the Instrumental. Since I do not intend to deal with all these extensions I will not say more on those which are not of my present concern. My study deals with the first five extensions, that is, the
Ventive, Itive, Applicative, Applicative-Reciprocal, and Instrumental.

The examples above only show representative meanings and forms. There are other distinctions which will be made in the semantic interpretation of each of these forms and also in the phonological alternations that are relevant to the study. This will be handled in section 2.1.

The intention of this study is to find out what the native speaker's competence is as far as verbal derivations are concerned. In other words, I shall attempt to show what the native speaker "knows" to be derivable given a simple verb root, what is possible but unacceptable, and what is impossible. I am assuming that the native speaker knows that some verb roots can be extended using particular extensions and that others are restricted. This work will then show what causes acceptability or unacceptability; is it syntactic or semantic features that cause restrictions? In addition I shall try to show how productive the derivations are by use of percentage figures. I shall also attempt to show the inter-relationships among the various derived forms.

1.3 The Problem

It is the intention of this study to give an explicit and adequate account of the productivity of derivational verbal processes in Ateso using a generative-transformational
framework.

To look into the productivity of these processes involves finding out what processes are regular and which ones are irregular. One should be able to say what causes irregularity. The regular processes show some kind of systematic behaviour while some of the cases may be quite ad-hoc. There may, of course, be sub-regularities within the irregular forms.

A study of the productivity of derivational verbal forms, therefore, entails a systematic and explicit representation of the various degrees of productivity, an account of significant generalisations that can be made either in terms of lexical derivational rules or lexical redundancy rules.

1.3.1 Rationale for the choice of the above problem

As mentioned earlier, very little published work is available on the language. Whatever little has been done is quite introductory in the sense that the authors were concerned mainly with covering as many aspects of the language as possible without giving detailed analyses. They were, in fact, more concerned about morphophonemic alternations than in the syntactic and semantic aspects of the processes. Emphasis was laid on the productive processes to such an extent that the reader may get the impression that all extensions are possible and therefore all one needs to know is a simple verb and the different extensions. The rest is easy. This is, of course, not the case. There are some
restrictions.

Since so far no work has been centred on showing the close lexical relationships among the various derivational processes, it is the intention of this study to show significant generalisations and redundancies that exist in these processes. It is also hoped that some statements will be made as to which processes are regular, which are partially regular, and which are completely irregular. This will be done following other recent studies of morphology using a transformational generative framework. Among these is Mould (1978), which gives an analysis of the productivity of manner adverbs in Luganda using lexical derivational and lexical redundancy rules.

Mould's work is based on the work done by Aronoff (1976), Jackendoff (1975) and Thompson (1974). All the above-mentioned linguists agree that the place for derivational morphology is in the lexicon, before lexical insertion. The major differences concern the native and role of derivational morphological rules and how to handle productive versus non-productive or semi-productive processes. For example, Jackendoff (1975) makes use of a system of lexical redundancy rules (LRRs) to account for improductive processes, and states that the productive processes are taken care of by using LRRs generatively. Aronoff (1976), as discussed by Mould (1978), proposes word formation rules (WFRs) which operate on existing words to produce other words, new ones included. According to Aronoff, only word formation rules, which are productive by definition, can indicate redundancies.
Mould extends this study by distinguishing productive from improductive processes by combining Thompson's (1974) work with those of Aronoff and Jackendoff.

Dyangwa (1979) extends the work done by Mould (1978) so as to cover greater latitude. She also makes a few modifications of Mould's work by making use of percentage figures to show the degrees of productivity of nominalisation processes.

It is the intention of this study to try to make use of this framework in an area of derivation other than nominalisation. This study will show how complex verbs can be derived from simple verbs, and how far the model can be extended to apply in a language that is not Bantu.

1.3.2 Objectives

In order to show the nature of productive versus non-productive or semi-productive processes and the relationships between these processes, data from Ateso will be given in sufficient quantities. Attention will be focussed on the following:

a) the semantic content of the morphemes and the derived verbs

b) selectional restrictions

c) syntactic features, if any.

1.3.3 Scope and limitations

It is not the intention of this study to enter into
the controversy between the Lexicalist Hypothesis (the origin of my framework) and the generative semanticists (the major opponents of the lexicalists). For a discussion of the different ways of handling derivational and lexical representation the reader is referred to Chomsky (1970), Lakoff (1971), Jackendoff (1975), Aronoff (1975), and Mould (1978). My primary concern is to show how far the chosen model works using different data but I am not concerned with discussing the reasons why one model is better than another. At any rate, I think it is fair to say that most linguists accept some form of the lexicalist hypothesis.

1.3.4 Hypotheses

I have chosen five extensions to show how a simple verb root can be used to derive other, complex verbs. There are several other possible extensions such as /-enen/ (habitual) \( t \left\{ \begin{array}{c} \text{w} \\ \text{y} \end{array} \right\} V \) (Causative), Root- V-Root (repetitive), but I have limited myself to these five with the intention of finding out, using different verbs, how productive these processes are.

The following hypotheses are put forward:

1) Since every verb root in Ateso belongs to either of two morphological classes: 0 - class and I - clas², the shape of a specific verbal affix may depend on the morphological class to which the verbal root belongs.
2) Each verbal root has basic morpho-syntactic features associated with it which identifies it as either a punctual verb, a durative verb, or a stative verb. This grouping may affect the degree of productivity of the different derivational processes.

3) The framework chosen for this study has been shown to work for nominalisation processes but the application of this framework to verbal derivational processes may not work as well.

4) Since the framework chosen for this study has been shown to work for Indo-European and Bantu languages, there is no guarantee that it will apply as well to an Eastern Nilotic language like Ateso.

1.4 Literature Review

1.4.1 Traditional Grammarians

No work on Ateso has been done using a traditional model. By the time the missionaries came to Teso there was already a move towards structuralism. This will be discussed under section 1.4.2 below.

1.4.2 The structuralists

The only comprehensive work that has been done on Ateso, as mentioned earlier, is Hilders and Lawrence (1957)
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1.4.2 The structuralists

The only comprehensive work that has been done on Ateso, as mentioned earlier, is Hilders and Lawrence (1957) who
examined Ateso grammar from a structural point of view.
Enough has been said on this in earlier sections.

We can only add here that the concern of these grammarians was the segmentation of language into morphemes and phonemes, and the classification of morphemes and morphemes by grouping them together according to meaning and behaviour. This involved a listing of morphemes and allomorphs for the different forms and listing the meanings for these forms. No underlying meanings are posited.

Within this kind of framework one can see that there are some inadequacies in accounting for what is going on. One of the most striking inadequacies is the lack of explicit rules to show exactly what changes take place and in what environments. For example, it is not easy for us to know when to use any of the suffixes discussed, or if the suffixes can be used with all verbs. In other words the work done by Hilders and Lawrence has not accounted for the native speaker's competence.

From the above, we can see why the generative became so important. It is within this school that the idea of the native speaker competence came through. It is in this school that the idea of explicit rules and levels of adequacy in description came into being. I will, therefore, give more detail on the generative - transformationalists. The birth of the framework I have chosen came within this group of linguists and so I am paying more attention on this group.
1.4.3 The generative transformationalists

1.4.3.1 The first insight into ways of handling derivational morphology from a generative viewpoint is found in Chomsky's *Aspects* (1965). At this stage, as is usual with any breakthrough, ideas are not very definite. Possibilities are given but are always improved upon later.

Chomsky points out in this work that derivational processes give more problems to the generative transformation than inflectional ones. The reason for this, Chomsky says, is that these derivational processes tend to be "sporadic" and quasi-productive.

Chomsky then gives an outline of how morphological processes might be handled. The ideas given can be summarised in the following outline:

1) For productive derivational processes there is not much problem.

Example:

Nominalisation in English as in say 'destruction' and 'refusal'. These nominals can be derived from the verbs 'destroy' and 'refuse' respectively which are entered into the lexicon. Then the verbs appear in nominalisation transformations phonological rules which determine that

\[ \text{nom} \overset{\text{destroy}}{\longrightarrow} \text{destruction} \]
\[ \text{nom} \overset{\text{refuse}}{\longrightarrow} \text{refusal} \]

2) For quasi-productive processes problems arise.

As an example Chomsky gives the following:
There do not seem to be any general rules that will produce such derivations. This shows that there are gaps in the lexicon.

Chomsky proposes that these items might be accounted for by putting them in the lexicon separately. But he is not satisfied with this solution since there is a relationship between the phonological components of the grammar. He says there is a certain degree of predictability of these forms and therefore the internal of these forms should be given.

Chomsky also notes that there is a "wide class of examples with varying degrees of productivity". Although he sees the problem he is not certain how to handle it. He gives various suggestions as to how these quasi-productive processes might be handled. Here are some of his suggestions:

a) to regard the gaps as accidental gaps. General rules can be used to account for both occurring processes and the non-occurring ones (cf. Lakoff, 1971).

b) to extend the theory of the lexicon to permit some "internal computation". For example, forms like telegraph, horrify and frighten will be entered in the lexicon as:

i) tele $\sim$ stem$_1$ \[ P \]

ii) stem$_2$ ify \[ ? \]

iii) stem$_3$ en \[ ! \]

(Chomsky 1965: 187)

General rules will enter these forms.
c) to have the lexicon contain another form of entries such as:

i) graph \[
\begin{array}{c}
+ \text{stem}_1 \\
- - - - - -
\end{array}
\]

ii) horr \[
\begin{array}{c}
+ \text{stem}_2 \\
- - - - - -
\end{array}
\]

iii) fright \[
\begin{array}{c}
+ N + \text{stem}_3 \\
- - - -
\end{array}
\]

(loc. cited)

These forms will be inserted in strings formed by prior insertions in the preterminal strings of items selected from earlier items. For morphologically complex forms several of these layers may be used. But there are contextual restrictions on these replacements so as to choose the right stem. For example, stem\_1 is replaced by graph, scope, phone in the environment after tele-.

Chomsky also observes that the feature composition of the items analysed is important for the extensions of base derivations within the lexicon. Features like transtivity play a role. For example, the verb frighten will take an animate object. Chomsky is not certain how a rule to account for this can be formulated.

d) that the lexicon be allowed to contain context-sensitive rewriting rules to effect these extensions. This will affect the structure of the lexicon, and Chomsky dismisses this as not being preferable.

e) that the forms like frighten be taken care of by a transformation. This is the generative semanticist approach which relies on underlying causative forms
and constructions. Lakoff (1971) takes this view. It is as the result of this approach that Chomsky develops the Lexicalist Hypothesis which is opposed to the Transformation Hypothesis of people like Lakoff.

We can summarise Chomsky's position in Chomsky (1965) as being that of uncertainty as to the ways of handling the quasi-productive processes. He exposes the problem, gives suggestions, but he does not give explicit ways of handling these irregular forms.

1.4.3. 2 Chomsky (1970) is basically a development of the Lexicalist Hypothesis. Here Chomsky suggests that certain descriptive problems in grammar can be handled by

a) enriching the lexicon and simplifying the categorial component of the base.

or b) simplifying the base at the cost of greater complexity of transformations.

Chomsky chooses the former and develops what is called the Lexicalist Hypothesis. In this paper Chomsky rejects the argument that a nominal such as 'Bill's decision to go' is derived transformationally from a sentence such as 'Bill decided to go'. Chomsky proposes that the nominal is generated by the base rules as an NP with no S-node in the derivation. The paper then continues to investigate the Lexicalist Hypothesis and to explore the consequences that it suggests for the theory of syntax as a whole.
Jackendoff (1975) agrees with Chomsky (1970) in rejecting the transformationalist hypothesis of handling derivations. This paper is concerned with the development of a more highly articulated theory of the lexical treatment of nominals and the extension of this theory to a wide range of cases other than nominalisation.

Jackendoff discusses the three levels of adequacy in description that were discussed by Chomsky for grammatical theory. For observational adequacy each lexical item is provided with sufficient information to describe its behaviour in the language. For descriptive adequacy the theory must express the relationships, subregularities and generalisations among lexical items. To reach the level of explanatory adequacy the theory should describe how particular relationships and sub-regularities are chosen in the lexicon, for example, why 'decide' is more basic than 'decision.'

Two theories of the lexicon are presented in this paper, the Impoverished Entry theory and Full Entry theory. I am not here concerned with the discussion of the advantages and disadvantages of one theory over the other, but I will discuss briefly the one that Jackendoff adopts - the Full Entry theory.

Jackendoff's theory says that 'decide' and 'decision' have distinct but related lexical entries. This is a departure from Chomsky's original position that 'decide' and 'decision' constitute a single lexical entry unmarked for the syntactic feature that distinguishes verbs from nouns. The
phonological form **decision**, Chomsky said, is inserted into base trees under the node **N**, **decide** under **V**.

But for the rest of the discussion Chomsky's theory and Jackendoff's are equivalent. Jackendoff's theory, of course, extends to the treatment of other kinds of lexical relations like idiomatic expressions, prefix-stem verbs, **causation** in verbs and noun compounding.

Jackendoff says that the lexicalist hypothesis relates 'decide' and 'decision' by a lexical redundancy rule within the lexical component. The Full Entry theory assumes that both 'decide' and 'decision' have fully specified lexical entries and that the redundancy rule plays no part in the derivation of sentences. The redundancy rule, according to this theory, shows as redundant the information in a lexical entry which is predictable by the existence of a related lexical item. For example, a redundancy rule will show that 'decide' is related to 'decision' without one of them being derived from the other.

Jackendoff's paper can be summarised as having made the following contributions:

1. He developed a formalism that uses redundancy rules not for part of the derivation of lexical entries, but for part of their evaluation. This is based on the notion 'separate but related lexical entries.' For example, 'decide' is related to 'decision' but one of them is not derived from the other. The two items will be shown to be related by use of a two-way arrow, as follows:
This kind of formalism is different from previous theories.

2. Lexical rules in Jackendoff's theory are separated into morphological and semantic redundancy rules. The M-rules must play a role and the S-rules may, in every lexical evaluation in which entries are related. Jackendoff says that the redundancy rules do not completely specify the contents of one entry in terms of another, but leave some aspects open. Some of his morphological rules are stated as follows:

M1: \[
\begin{align*}
\text{/y + ion/} \\
+ N \\
\end{align*}
\] \[\begin{align*}
\text{/y/} \\
+ V \\
\end{align*}
\]

M2: \[
\begin{align*}
\text{/y + ment/} \\
+ N \\
\end{align*}
\] \[\begin{align*}
\text{/y/} \\
+ V \\
\end{align*}
\]

M3: \[
\begin{align*}
\text{/y + al/} \\
+ N \\
\end{align*}
\] \[\begin{align*}
\text{/y/} \\
+ V \\
\end{align*}
\]
The corresponding semantic rules are as follows:

\[
\begin{align*}
\text{SI:} & \quad [^{+N} \left[ {\text{NP}_1}'s \quad ((F) \text{ NP}_2) \right]] \quad \leftrightarrow \quad [^{+V} \left[ \text{NP}_1 \quad ((v) \text{ NP}_2) \right] ] \\
& \quad \text{ABSTRACT RESULT OF ACT} \quad \text{OF NP}_1's \quad Z - \text{ING NP}_2 \\
\text{S2:} & \quad [^{+N} \left[ {\text{NP}_1}'s \quad (\text{NP}_2) \right] ] \quad \leftrightarrow \quad [^{+V} \left[ \text{NP}_1 \quad ((F) \text{ NP}_2) \right] ] \\
& \quad \text{GROUP THAT Z's (NP}_2) \\
\text{S3:} & \quad [^{+N} \left[ {\text{NP}_1}'s \quad (F) \text{ NP}_2 \right]] \quad \leftrightarrow \quad [^{+V} \left[ \text{NP}_1 \quad ((F) \text{ NP}_2) \right] ] \\
& \quad \left(\text{NP}_1's \left\{ \begin{array}{c}
\text{ACT} \\
\text{PROCESS}
\end{array} \right\} \right) \quad \text{OF} \quad Z - \text{ING NP}_2 \\
\end{align*}
\]

(Jackendoff 1975: P. 650)

Jackendoff gives an example of the cross-classification of the morphological and semantic relations in the following table of nouns, where each row contains nouns of the same semantic category, and each column contains nouns of the same morphological category:

<table>
<thead>
<tr>
<th>MI</th>
<th>M2</th>
<th>M3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SI:</td>
<td>discussion</td>
<td>argument</td>
</tr>
<tr>
<td>S2:</td>
<td>congregation</td>
<td>government</td>
</tr>
<tr>
<td>S3:</td>
<td>copulation</td>
<td>establishment</td>
</tr>
</tbody>
</table>
3. In the discussion of nominalisation, Jackendoff has tried to take care of the native speaker's intuition about the nature of generality in the lexicon. He pays attention to derived forms that have no lexical sources since these form an important part of the lexicon. He gives the example of words like 'perdition', 'retribution', 'aggression', 'aggressor' and 'aggressive' which have no verb forms in the lexicon from which they can be derived. He simply treats these as items with lexical gaps. Jackendoff shows that they are related without having one of them as a base form. He rejects the generative semantist position that items like 'perdite' and 'retribute' can be used as underlying forms from which words like 'perdition' and 'retribution' can be derived transformationally.

4. The solutions which were developed specifically with nominalisation in mind are shown to be successful in other sectors of the grammar. The following results are indicated:

a) the theory allows the lexicon to accommodate comfortably both regular and ad-hoc facts without use of absolute exceptions or transformations.

b) causative verbs have been neatly accounted for by treating them as separate but related forms using related morphological and semantic rules. The syntactic component is left unchanged by using the power of the lexicon to express the partial regularity of some generalisations.
c) Idioms which cause problems of analysis have been accounted for by listing them in the lexicon and allowing them to undergo normal lexical insertion. Since the structure of the entries goes beyond the word level, the idiom must be inserted onto a complex of deep-structure nodes, in contrast with ordinary words which are inserted onto a single node.

We can conclude that Jackendoff has succeeded in justifying a theory of the lexicon using a relatively straight-forward class of intuitions.

1.4.3.4 Mould (1978) criticises Jackendoff (1975), and Aronoff (1976) because they fail to make a real distinction in their rules between psychologically real, productive processes and non-productive ones. For Mould, a generative framework requires that the psychological reality of those distinctions be examined. That is, a study ought to find out which processes the native speaker is aware of. Jackendoff's work accounts for productive forms by using the same lexical redundancy rules. This seems to bundle together both productive and non-productive processes. The same can be said of Aronoff's formulation as discussed by Mould.

Mould uses two different types of rules to distinguish the fully productive processes and the non-productive ones. He utilizes Jackendoff's lexical redundancy rules and Thompson's (1974) lexical derivational rules. Mould's effort to combine these groups of rules leads to a clear analysis of nominalisation processes in Luganda.
1.5 Theoretical Model

A brief Outline of Mould's Model

Mould examines five manner adverbial prefixes in Luganda - \{ \text{ki} \} \{ \text{ka} \} \{ \text{bu} \} \{ \text{lu} \} \{ \text{ma} \}.

His examination includes a look at the semantic content of the prefixes, the co-occurrence possibilities of adverb stems and prefixes, the kinds of nouns and verbs or adjectives that may be derived and the degree of productivity and acceptability of new forms. His conclusion is that \{ \text{ki} \} is the most productive adverb while the others are not productive.

For the non-productive processes Mould gives the following examples of lexical redundancy and semantic interpretation rules:

\[
\begin{align*}
\text{bu} + \text{aaa} - y + e & \leftrightarrow y + a \\
\text{bu} + \text{aaa} & \leftrightarrow y + a
\end{align*}
\]

The root \text{-gan} - means 'agree', \text{aaa} is the negative morpheme and the \text{bu} - is the prefix.

\[
\begin{align*}
\text{SI} + \text{Adv.} & \leftrightarrow + V \\
\text{SI} + V \quad \text{(NP)} & \leftrightarrow + V \\
\text{without Z - ING} & \leftrightarrow \text{(NP)} \quad \text{(NP)}
\end{align*}
\]

These rules account for \{ \text{lu} \} and \{ \text{bu} \}.

For productive \{ \text{ki} \} Mould formulates a lexical derivational...
1.6 Modifications

As observed by Byangwa (1979), Mould's framework does not give a method of accounting for varying degrees of productivity. It is only concerned with the productive and non-productive processes. Byangwa proposed to us percentage figures to show degrees of productivity. I shall follow this idea. I will have in my work similar rules to those pointed by Byangwa. This means that for productive processes lexical derivational rules will be formulated. These will still have categorial and semantic features incorporated in them. This is not a modification of the model chosen. The modification comes in the use of percentage figures in addition to the rules. For the non-productive processes, lexical redundancy rules will be used.

In order to show the various degrees of productivity percentage figures will be indicated. These will be calculated by taking the number of the verbs that can be extended in a particular group and dividing it over the number of verbs in that group and then multiplying by a hundred. We hope that no process will be totally unproductive.
1.7 Methodology

In the collection of the data for this study, I used some of my relatives as informants, and of course, relied quite heavily on my own intuitions about the language. Hilders and Lawrence's (1958) dictionary was also helpful in giving simple verb forms.

An Appendix has been given in which three significant groups of verbs in Ateso have been indicated. The idea of having three significant divisions in the verbs has been borrowed from Dimmendaal (1980) in which similar groups were decided on for Turkana which belongs to the same language family as Ateso, that is, Eastern Nilotic. Only a limited number of verbs have been included in the Appendix to show the various degrees of productivity and regularity in Ateso verbal derivation.

The whole thesis then has four chapters. The first is this introduction to relevant points of discussion in later chapters. Chapter 2 shows the phonological alternations and the semantic content of the derivational affixes, and the resulting derived forms. In chapter 3 a specific discussion of productivity is given. It is here that an attempt is made to write lexical rules. The fourth and last chapter is a commentary on observations made, remarks on issues of further interest, and a brief conclusion. Appendices are also provided.
FOOTNOTES

1. Capital letters are used here and later in the rest of the chapters, to indicate \([-{\text{A}TR}\)] which are not in an ordinary typewriter.

2. I-class verbs have /-1-/ in the initial position of the root and also have prefix /i-/ in the imperative. O-class verbs have roots with no initial /1/, and have /0-/ as prefix marker in the imperative.

3. Punctual and durative verbs are collectively called active verbs as opposed to static verbs.
2.1. Phonological Aspects

I want to start the study of derivational processes in Ateso by giving an introduction to some phonological alternations that are relevant to the discussion. Although my primary concern in this study lies in the semantic and syntactic content of the various derivational affixes I cannot overlook the phonological changes that take place in the derivational processes. Below are some of the relevant alternations.

Ateso has nine vowels which belong to either of two harmony sets distinguished by the feature "advanced tongue root" ATR. Vowels belonging to the [+ATR] set are i, e, o, u, and those belonging to the [-ATR] set are I, E, O, U. The vowel /a/ may co-occur with both [+ATR] and [-ATR] vowels. This can be exemplified in the infinitive markers for verbs where we can have both [ai-] and [aI-]. The vowel a does not take part in vowel harmony; furthermore it seems to be opaque, that is, it does not allow vowel harmony to go through it.

The vowel quality of the derivational suffixes depends on the advanced tongue root feature of the preceding verbal root. If the vowel in the root is
the suffix will have a [+ATR] vowel. If the vowel in the root is [-ATR] then the suffix will have [-ATR] vowels.

2.1.1 The derivational morphemes

There are a number of forms that are realized for each of the derivational affixes chosen for discussion. Since general rules can be written for the changes that take place I would like to set up underlying forms which will be used to represent the other realizations when the discussion starts. The underlying forms are as follows:

1. /-Un/ for the Ventive

   The basic meaning of the ventive is 'direction towards the speaker.' The notion of 'direction' here may or may not indicate 'motion', depending on the type of verb.

2. /-Ar/ for the Itive

   The basic meaning of the /-Ar/ suffix is 'direction away from speaker'. The notion of 'direction' here is the opposite of the Ventive. The suffixes /-Ar/ and /-Un/ are thus deictic.

3. /-akIn/ for the Applicative

   The meaning of the Applicative morpheme is basically benefactive/locative. It is for this reason that it is not just called the benefactive. The morpheme /-akIn/ can be compared to the morpheme /-ira/ in Bantu which functions
in much the same way. It has generally been called the 'Applied' or 'prepositional' by many Bantuists.

4. /-akin - [+ATR]/ for the Applicative - Reciprocal

   The basic meaning of the Applicative-Reciprocal suffix is 'for each other'. I have given the suffix the name Applicative-Reciprocal because the meaning of the suffix when incorporated embraces the meaning of the Applicative as well as the Reciprocal. The two morphemes /-akin/ and [+ATR] are treated as one. They constitute one suffix which includes an abstract feature [+ATR].

5. /-Ia/ for the Instrumental

   The Instrumental basically means 'with something'. The meaning embraces 'instrumental' and 'causal' aspects.

   These underlying forms all have [-ATR] vowels. General rules will transform these forms to different realisations when the root morpheme is [+ATR]. Ateso has the [+ATR] feature as the more dominant feature in these derivational processes. Because of this a basic rule can be stated that one [+ATR] in a form can change all [-ATR] vowels to [+ATR], except where /a/ is in the form in which case vowel harmony is blocked. Details of these processes will be shown in the discussion of specific affixes. It should be noted that the Applicative-Reciprocal suffix has an abstract feature [+ATR] which is
indicated above which works backwards to make the [-ATR] vowels [+ATR] except where /a/ is within the word.

When the derivation takes place using the Applicative-Reciprocal suffix the abstract feature [+ATR] automatically starts to operate in order to establish vowel harmony.

2.1.2 Phonological Alternations

I. The Ventive

When the vowel of the root is [+ATR] the suffix /-Un/ becomes [-un] which is also [+ATR]. If the root vowel is [-ATR] the rule applies vacuously. Both the root and suffix vowels keep their [-ATR] feature.

Examples

Roots with [-ATR] vowels or /a/

la. a - I bap → a - I bap - Un
to slap to slap someone/something so that he/it moves towards speaker.

b. a - gwel → a - gwel - Un
to buy to buy and bring towards speaker.

c. a - IkIs → a - IkIs - Un
to scrape to scrape towards speaker

d. a - InOm → a - InOm - Un
to hit (with a stick) to hit someone/something so that he/it moves towards speaker.
indicated above which works backwards to make the \([-ATR]\) vowels \([+ATR]\) except where /a/ is within the word. When the derivation takes place using the Applicative-Reciprocal suffix the abstract feature \([+ATR]\) automatically starts to operate in order to establish vowel harmony.

2.1.2 Phonological Alternations

I. The Ventive

When the vowel of the root is \([+ATR]\) the suffix /-Un/ becomes \([-un]\) which is also \([+ATR]\). If the root vowel is \([-ATR]\) the rule applies vacuously. Both the root and suffix vowels keep their \([-ATR]\) feature.

Examples

Roots with \([-ATR]\) vowels or /a/

1a. a - I bap $\rightarrow$ a - I bap - Un
to slap to slap someone/something so that he/it moves towards speaker.

b. a - gwEl $\rightarrow$ a - gwEl - Un
to buy to buy and bring towards speaker.

c. a - IkIs $\rightarrow$ a - IkIs - Un
to scrape to scrape towards speaker.

d. a - InOm $\rightarrow$ a - InOm - Un
to hit (with a stick) to hit someone/something so that he/it moves towards speaker.
e. a - IcUm $\rightarrow$ a - IcUm - Un
to spear/pierce to spear/pierce towards speaker

**Roots with [+ATR] vowels**

2a. ai - pet $\rightarrow$ a - pet - un
to kick to kick someone/something so that he/it moves towards speaker.

b. ai - dip $\rightarrow$ a - dip - un
to punch to punch someone/something so that he moves towards speaker.

c. a - ipo $\rightarrow$ a - ipo - un
to cook to cook and bring here

d. ai - buk $\rightarrow$ a - buk - un
to pour/empty to pour towards speaker

For disyllabic and polysyllabic roots vowel harmony is interrupted if /a/ is in the root. Vowel harmony only operates up to this point. In such cases if the last vowel of the root is /a/ the suffix will be /-Un/.

**Examples**

3a a - ibu$\ddot{a}$ $\rightarrow$ A - ibu$\ddot{a}$ - Un
to beat to beat someone/something so that he/it moves towards speaker

b. a - bolia $\rightarrow$ a - bolia - Un
to play to play while coming towards speaker
Roots without /a/ operate normally.

Examples:

c. a - kOkO → a - kOkO - Un
to steal to steal and bring towards speaker

d. a - nunuk → a - nunuk - uun?
to fold to fold towards speaker

There are a few verbs in Ateso which introduce a vowel when a derivational suffix is added to a simple infinitive form. It is not predictable what vowel is introduced since examples are few in the language.

Examples:

4a. a - Om00m → a - Om00m - 0 - Un
to think to think out

b. a - ilelekej → a - ilelekej - a - Un
to dance for rain to dance for rain so that it comes

The evidence for this process is so scantly that one cannot make a conclusive statement on the behaviour of these forms.

II. The Itive

When derivation takes place using the Itive Suffix roots with [+ATR] vowels take suffix [-Or] and those with [-ATR] vowels take [-ar]. Both [-Or] and [-ar] are
The choice of the allomorph here is no longer phonologically conditioned and contradicts vowel harmony. The outcome is not phonetic. We can only say that some historical process took place, as has happened in Kalenjin (Rottland, personal communication), to bring about this phenomenon. Possibly there was a \( +ATR \) vowel corresponding to /a/, possibly /\( \Lambda \)/, but because it was so close in speech to /o/ the two merged and /o/ became dominant. But this is not our concern here.

The vowel /a/ here behaves like \(-ATR\) vowels.

Examples:

<table>
<thead>
<tr>
<th>Roots with (-ATR) vowels</th>
</tr>
</thead>
<tbody>
<tr>
<td>5a. a - Ibap</td>
</tr>
<tr>
<td>to slap</td>
</tr>
<tr>
<td>b. a - gwEl</td>
</tr>
<tr>
<td>to buy</td>
</tr>
<tr>
<td>c. a - Ikis</td>
</tr>
<tr>
<td>to scrape</td>
</tr>
<tr>
<td>d. a - InOm</td>
</tr>
<tr>
<td>to hit</td>
</tr>
</tbody>
</table>
e. a - IcUm ———> a - IcUm - ar
   to spear/pierce  to spear away from speaker

Roots with [+ATR] vowels

6a. ai - pet ———> a - pet - Or
   to kick  to kick someone/something so that he/it moves away from speaker.

b. ai - dip ———> a - dip - Or
   to punch  to punch someone/something so that he/it moves away from speaker.

c. a - ipo ———> a - IpO - Or
   to cook  to cook and take away from speaker

d. ai - buk ———> a - buk - Or
   to pour/empty  to pour away from speaker

It should be noted that the verbs 'a - ipo' and 'ai - pet' show another phenomenon that is not expected. When the suffix [-Or] is introduced the root vowels /e/ and /o/ change to [-ATR]. This seems to be a reversal of the direction of vowel harmony. This can, however, be stated as an addition of a rule which might be called mid-vowel Assimilation because the operation of this rule takes place with mid vowels. The process may, however, go further back in a word as is seen in 'a-IpO-Or' where the /i/ is also affected. The rule operates after the choice of the
suffixes.

Just as is the case in the Ventive, disyllabic and polysyllabic roots that have /a/ as last vowel show that vowel harmony is interrupted by the presence of /a/.

Examples:

7a. a - ibuʃa → a - ʃua - ar

to beat to beat someone/something so that he/it moves away from speaker

b. a - bolia → a - bolia - ar

to play to play while going away from speaker

For the verbs which introduce a vowel for the Ventive a similar process takes place for the Itive.

Examples

8a. a - OmOam → a-OmOam - a - ar

to think to think out something that is far away in the mind

b. a - ilelekej → a - ilelekej - a - ar

to dance for rain to dance for rain while going away from speaker

Another rule is introduced to change /ə/ to /a/ when the suffix /-ar/ is introduced. This rule might be called Vowel Assimilation rule.
III. The Applicative

Roots ending in a consonant and having \([-\text{ATR}]\) vowels and those with /a/ take the suffix \([-\text{akIn}]\); those with +ATR vowels take \([-\text{OkIn}]\), and those that end in a vowel take either \([-\text{IkIn}]\) for \([-\text{ATR}]\) or \([-\text{ikIn}]\) for \([+\text{ATR}]\) vowels.

Examples

Roots with \([-\text{ATR}]\) vowels

9a. a - Ibap $\rightarrow$ a - Ibap - akIn
    to slap $\rightarrow$ to slap for someone

b. a - gwEl $\rightarrow$ a - gwEl - akIn
    to - buy $\rightarrow$ to buy for someone

c. a - IkIs $\rightarrow$ a - IkIs - akIn
    to scrape for someone

d. a - InOm $\rightarrow$ a - InOm - akIn
    to hit with a stick $\rightarrow$ to hit with a stick for someone

e. a - IcUm $\rightarrow$ a - IcUm - akIn
    to spear/pierce $\rightarrow$ to spear/pierce for someone

Roots with \([+\text{ATR}]\) vowels

10a. ai - pet $\rightarrow$ a - pet - okIn
    to kick $\rightarrow$ to kick for someone

b. ai - dip $\rightarrow$ a - dip - OkIn
    to punch $\rightarrow$ to punch for someone
c. ai - buk \rightarrow a - buk - OkIn
   to pour/empty       to pour/empty for someone

It should be noted that both [-akIn] and [-OkIn] are [-ATl]. This is a similar situation to the [-ar] / [-Or] alternation in the Itive. In addition, it is to be observed that while we expected 'a - pet - OkIn' from 'ai - pet' the suffix is [-okin]. This is mid-vowel assimilation the other way round. It takes place after choice of the suffix.

Roots which end in a vowel

11 a. a - ipo \rightarrow a - ipo - ikin
   to cook                to cook for someone

b. a - kO k \rightarrow a - kO kO - IkIn
   to steal              to steal for someone

The verbs with [+ATR] end vowels take a suffix which is similar to that of the Applicative-Reciprocal extension. This is due to the regular application of vowel harmony. To determine which is which will be done by looking at the context.

Disyllabic and polysyllabic roots that end in /a/ again take the [-ATR] suffix.
Examples:

12a. a - ibu\textsuperscript{\textdagger}a \quad a - ibu\textsuperscript{\textdagger}a - IkIn
   to beat \quad to beat \quad for someone

b. a - bolia \quad a - bolia - IkIn
   to play \quad to play \quad for someone

IV. The Applicative- Reciprocal

As said earlier, the Applicative-Reciprocal has an abstract feature [+ATR] which is part of the suffix. The feature [+ATR] must be in the position shown. It works backwards to affect the vowels that precede it by making them all [+ATR] if they are [-ATR]. The only time this rule does not operate fully is when there is /a/ somewhere in the word. In this case vowel harmony will not work on /a/ or across it because of its opaqueness.

The roots that take the suffix [-kIn] in the Applicative now take [-kin]. Those with suffix [-OkIn] in the Applicative now take [-okin], while those that take [-IkIn] or [-ikin] all take [-ikin] in this extension.

Examples:

Roots with [-ATR] vowels

13a. a - Ibap \quad a - Ibap - akin
   to slap \quad to slap \quad each other
13b. a - gwēl -> a - gwēl - akin
to buy to buy for each other
c. a - IkIs -> a - IkIs - akin
to scrape to scrape for each other
d. a - InOm -> a - InOm - akin
to hit (with a stick) to hit (with a stick) each other
e. a - IcUm -> a - IcUm - akin
to spear/pierce to spear/pierce each other

Roots with [\text{+ATR}] vowels

14a. ai - pet -> a - pet - okin
to kick to kick each other
b. ai - dip -> a - dip - okin
to punch to punch each other
c. ai - buk -> a - buk - okin
to pour/empty to pour/empty for each other

Roots which end in a vowel

15a. a - ipo -> a - ipo - ikin
to cook to cook for each other
b. a - k0k0 -> a - koko - ikin
to steal to steal for each other

Roots that introduce a vowel

16a. a - Om0Om -> a - omoom - o - ikin
to think to think for each other
b. a - ilelekej $\rightarrow$ a - ilelekej - a - ikin
to dance for rain to dance for rain for each other.

As is seen above vowel harmony operates in all cases except where /a/ interrupts the operation because of its opaqueness.

V. The Instrumental

Roots that have [-ATR] vowels and those with /a/ take the suffix [-Ia] and those with [+ATR] vowels take [-IC]. Just as in the Itive and Applicative, the allomorphs [-Ia] and [-IO] are both [-ATR]. They are not phonologically conditioned.

Examples:

17a. a - Ibap $\rightarrow$ a - Ibap - Ia
to slap to slap with
b. a - IkIs $\rightarrow$ a - IkIs - Ia
to scrape to scrape with
c. a - InOm $\rightarrow$ a - InOm - Ia
to hit (with a stick) to hit with
d. a - IcUm $\rightarrow$ a - IcUm - Ia
to spear/pierce to spear/pierce with

Roots with [+ATR] Vowels

18a. ai - pet $\rightarrow$ a - pes - IO
to kick to kick with
Another phonological change takes place when the last consonant of a root is /t/. The /t/ changes to [s] before a high vowel as is seen in 'a - pes - IO'.

When a root ends in a vowel a series of three vowels is created. In these cases two things happen - either the high vowel of the suffix /-la/ becomes a glide or the high vowel is lost altogether. Gliding seems to take place in monosyllabic roots with low vowels, and loss or deletion takes place in disyllabic or polysyllabic roots where the penultimate vowel is high.

Examples

19a. a - ipo → a - IpO - yO
    to cook to cook with

   b. al - la → a - la - ya
    to be clean to be clean with

   c. a - ibuja → a - ibuja - a
    to beat to beat with

   d. a - bolia → a - bolia - a
    to play to play with

Roots that introduce a vowel when an extension is
introduced behave generally in the same way as those roots that end in a vowel. The vowel /ɔ/ is assimilated to /a/ just as in cases cited earlier.

Examples:

20a. a - Om00m → a - Om00m - a - a
to think to think with

b. a - ilelekej → a - ilelekej - a - a
to dance for rain to dance for rain with

Some of the changes have a historical explanation but this is not our concern here.

2.2. Semantic Content of the Derivational Morphemes

2.2.1 Verbal Affixes

The verbal affixes chosen for this study happen to be suffixes, but a verbal derivational affix may also be an infix as in the causative. For the causative the infix is composed of a consonant /t/ and a vowel. If the root contains a glide the infix may optionally include a glide as well which will be inserted between the /t/ and the vowel.

Examples

21a. ai - jäm → aI - ta - jäm
to eat to cause to eat
21b. a - əgwE1 → ai - twE - əgE1
to buy to cause to buy

It is not the concern of this study to deal with such cases but they are mentioned here to show that the derivational morpheme is not necessarily a suffix.

Suffixation of derivational morphemes to a simple verb root introduces a variety of interpretations. Examples will be given below. It is important to note that although these are several semantic interpretations to a single derived form most of the interpretations can be represented by one underlying meaning which can then be interpreted in the different contexts. The role of interpretation is left to the semantic component of the grammar where semantic interpretation rules operate in the usual way as, for example, those discussed by Katz and Podor (1963). The different semantic readings can, therefore, be unified into one basic meaning. This fact is further enhanced by the fact that in most of the cases shown most of the several semantic readings can be found for every verb and the only distinction that can be made is determined by the context of occurrence for that particular verb. For this reason, I will, therefore, give the basic meaning of each form and what possible interpretation can be determined by context.

Before I discuss the affixes and their semantic interpretation I would like to say a word on the division I made earlier on the verbal roots. Following Dimmendaal’s (1980)
division in Turkana, I decided that the verbs in Ateso can also be divided into three major categories. Each verbal root is classified according to the basic morpho-syntactic features associated with it. It is either a punctual verb, a durative verb, or a stative verb. A punctual verb is one where an action is momentary. For example, the verbs aI - bap 'to slap', aI - pet 'to kick', and aI - kIs 'to scrape'. A durative verb is a verb where an action takes place over a period of time. Examples are: a - gwEl 'to buy', a - ipo 'to cook', aI - buk 'to pour/empty' and a - ibu|e 'to beat'. The third group of verbs, that is, the stative verbs, are those which indicate a state of affairs. In Ateso they usually have to do with quality and the verbs of being and having some quality. Examples are: aI - jEn 'to know', aI - pup 'to listen/hear, understand/feel' aI - ba 'to be soaked' and aI - la 'to be clean'.

Discussions of the different derivational suffixes will be made with this division in mind. The idea is to find out if this division is relevant in the derivational processes chosen for this study.

Having given an explanation of the distinction made in the verbs we shall now have a look at individual affixes. A basic form and meaning will be given together with possible semantic interpretations.
SUFFIX /-Un/  

Basic Meaning: 'Direction towards speaker'

The different semantic interpretations are as follows:

1. 'To do something so that someone/something moves in towards speaker.'

   This reading is restricted basically to punctual verbs. Among the durative verbs only the verb a-ibuje 'to beat' fits into this category. No stative verb has this semantic reading. The semantic component interpretes, as one of the readings for punctual verbs, the above-mentioned interpretation.

2. 'To come and do something here'.

   All the punctual verbs and two of the durative verbs in Appendix I can be interpreted to give the above meaning. The verb a-gwel 'to buy' of the durative group does not have the above-mentioned reading. There is no apparent reason for its odd behaviour. It will be treated as an exception.

3. 'To do something and bring the result here.'

   Punctual verbs do not have the above semantic reading. The above reading is confined to durative verbs with the exception of the verb a-ibuje 'to beat'. There is no reason for this exceptional behaviour. It will again be treated as an exception.
4. 'To do something and extract towards speaker'.

Only punctual verbs display the above reading. For example, if one kicks someone/something out of a house he would be extracting that person/thing from the house. Also, if a fish is speared and taken out of the water and moved towards speaker it is said to be extracted out of its place. The meaning of extraction is usually found in contexts where there is an adverbial phrase to indicate the location from which someone/something is extracted.

5. 'To do something while coming towards speaker'

Only the verb $\text{a - ibun}$ 'to beat' has reading 5 above. No particular features seem to give this verb the particular reading.

6. 'Direction towards speaker'

The verbs $\text{a - IcUm - Un}$ and $\text{a - buk - Un}$ display the reading 'direction towards speaker'. Both of these verbs are punctual verbs. No verbs in Appendix I show the reading above and belong to the durative group. But there are verbs in this group that have the particular reading. For example, the verb $\text{ai - buk}$ 'to pour or empty' has the reading under discussion. It is not clear what should move; either the subject or the object. It can be said tentatively that transitive verbs involve movement of the object while intransitive verbs involve movement of the subject. The examples given above show cases where the object moves. An example where the subject moves is the verb
53

ai-bō 'to return'. No conclusive statements can be made in this respect.

7. 'To do something a little'.

All punctual verbs and all durative verbs have the semantic reading 'to do something a little'. The reading seems to be more generalized than most of those already discussed.

8. 'To get/begin to do something' (Inceptive)

The reading 'to get/begin to do something' is related to the reading 'to do something a little'. Both have to do with beginning to do something. They can be unified as having an inceptive reading. The notion of 'beginning to do something' is confined to stative verbs and 'to do something a little' is found in the durative and punctual verbs which are all active verbs as opposed to stative verbs. The specific reading for a particular verb form will be determined by context, and interpretation is left to the semantic component of the grammar.

9. 'To become'

When a derived verb is a stative verb the reading is either 'to get/begin to do something' or 'to become'. The readings for no. 8 and no. 9 are specific to stative verbs. The two readings correspond to sub-divisions within the stative verbs. One sub-group has the interpretation 'to get/begin to do something', and the other has the
The verbs which have to do with beginning to do something are those verbs which have to do with mental activity or perception. Examples in this group are:

- *jōn-un* 'to get/begin to know'
- *gup-un* 'to hear/listen, feel, understand.

Verb within the stative group which have the reading 'to become' are those verbs which deal with the idea of 'being'. Examples are:

- *ba-un* 'to become soaked'
- *la-un* 'to become clean'

The reading 'to become' is, at a more abstract level, connected with 'come' in the active verbs. The notion of 'becoming' involves an involuntary motion from one state to another. We can, therefore, say that the semantic interpretations for the stative verbs are not altogether unrelated to the readings in the active verbs. The readings are indeed connected and the different contexts determine the specific interpretation. Interpretation rules will determine that when the verb involved is stative a specific reading is found. The unity of the different interpretations is important and is emphasised here.

While the different semantic readings for the above verbs are restricted sometimes to a particular group of verbs, we can say that this distinction is made when verbs
are interpreted in the semantic component. In the semantic component a particular class of verbs will be interpreted in one particular way and others in a different way. But all these verbs will go in with one basic meaning 'direction towards speaker'.

In order to emphasise the fact that there is semantic unity in the different interpretations I shall give an example of a verb which has different semantic interpretations which are only distinguished by contexts. The verb is a - IcÜm 'to spear/pierce'. When the suffix /-Un/ is added to derive a - IcÜm - Un, the following readings can be found:

a) 'to spear towards speaker'

Example:

Inyekik aicumun akwara lailo.
you leave - to spear this way - the spear - this way.
"Do not throw the spear this way".

b) 'to spear and extract someone/something towards speaker'.

Example

Aloto ikilik aicumun ibilenga kosamai.
they have gone - men - to spear and extract towards speaker - ibilenga - from marsh

"The men have gone to spear and extract 'ibilenga' from marsh towards speaker".


(Here, the presence of an adverbial phrase 'kosamai' indicates location from which something is extracted.)

c) 'to spear and bring here'

Example:

Nam ijo ipedori aicumun Ėkarimojongoit ne.
no - you - you can - to spear and bring- a Karamojong here
"You cannot spear and bring here a Karamojong."

d) 'to spear someone/something so that he/it moves towards speaker.'

Example:

Ikapa nes ikurok ijo aicumun togo!
a cat - it is - you have failed-you- to spear so that it moves towards - house
"It is only a cat you can't spear so that it moves towards speaker!"

From the above we can see that the verb a - IcUm - Un has several semantic interpretations. It is not by far the only verb in Ateso with this feature. Indeed most of the verbs display this phenomenon of having a basic meaning which is then interpreted differently in the contexts in which they occur.

In order to show that semantic readings for number 8 and 9 above also fit into this basic meaning I shall give two further examples.

e) Elosi esapat ngol ajenun aimar katipet.
he is going - boy - that to begin to know - counting soon "That boy will soon get to know counting."
Examples (e) and (f) are those with stative verbs. Earlier on I had indicated that the notion of 'beginning to do something' is connected to the notion of 'doing a little' in the punctual and durative verbs, and that 'becoming' is connected to that of 'coming' (towards speaker). The interpretation is determined by context.

From the above discussion we can see that whenever a derivation takes place using the suffix /-Un/ the meaning is regular and predictable. One basic meaning underlies all the different readings that are found in different contexts. Even the stative verbs which I had been suspicious about have fitted in quite neatly. More will be said on this in Chapter III which will deal with rule formalism.

**SUFFIX /-ar/**

*Basic Meaning:* 'Direction away from speaker'.

The semantic readings for the suffix /-ar/ are basically identical with those for the suffix /-Un/ except for the fact that instead of 'direction towards speaker' it is 'direction away from speaker.' I will show this relationship below in discussing the different semantic interpretations for the suffix /-ar/. The suffix /-ar/ has the following readings which correspond to those for suffix /-Un/.
1. 'To do something so that someone/something moves away from speaker.'

All punctual verbs have the above reading and only the verb *a-ibuŋa* from the durative group fits into this category. This is the same as for the suffix */-Un/*.

2. 'To go and do something there.'

All punctual verbs and all durative verbs have the above reading when the suffix */-ar/* is introduced.

3. 'To do something and take the result there.'

Just as in the Ventive, all durative verbs show the reading indicated in (e) above. Punctual verbs do not have this reading. The verb *a-ibuŋa* is the only one of the durative group which is an exception in this respect.

4. 'To do something and extract away from speaker.'

The same verbs that have the reading 'to do something and extract towards speaker' are the same verbs that have the reading 'to do something and extract away from speaker.' This is because the added meaning of extraction is got from context.

5. 'To do something while going away from speaker.'

Only the verb *a-ibuŋa* displays the reading in 5 above. This is the same verb that has the reading 'to do something while coming towards speaker' in the ventive suffix. No apparent reason exists for this unique behaviour.
6. 'Direction away from speaker'

The same verbs that in the ventive suffix have the reading 'direction towards speaker' have here the meaning 'direction away from speaker'. They are:

- a - buk - Or 'to pour away from speaker'
- a - IcUm - ar 'to spear away from speaker'
- a - b0(j) - Or 'to return there'

Again the verb is put here to show that either the subject or the object may move. The first two verbs involve movement of object, and the last one involves movement of subject.

7. 'To complete doing something.'

The notion of 'completing doing something' by extension corresponds to the notion of 'doing something a little' and 'beginning to do something which are found in the ventive extension. This is because the notion of 'beginning' in the ventive is the opposite of 'completing' in the Itive.

8. 'to become'

The notion of 'becoming' is common to both extensions that is ventive and itive. The difference is that in the ventive the speaker has some concern about the action. In the itive it is not important what change has taken place. The speaker simply makes an observation but he is indifferent to the change.
Examples

a - kwangis  a - kwangiar
to be white to become white

a - rengis  a - rengiar
to be red to become red

It is not important to the speaker whether or not something becomes white or red as shown above. Perhaps the notion of something going away from the speaker brings about this lack of concern. If something is coming towards the speaker the chances of its affecting the speaker are higher than if it goes away from him. Such verbs might be called verbs of volition. 11

From the above discussion the deictic 11 nature of the Ventive/Itive suffixes has been shown. I hope it has been clearly supported. The conclusion we can make here is that whenever a derivation takes place using the suffix /-ar/ the semantic readings for the derived verbs are the opposite of those for the ventive.

Just as I gave an example earlier of a verb that has different interpretations which are determined by context I will give examples of contexts, using the same verb, that show the opposite meaning to that in the ventive.

The verb is again a-IcUm 'to spear/pierce'.
a-IcUm - ar 'to spear/pierce away from speaker'

The different semantic interpretations are:

a) 'to spear/pierce away from speaker'
Example:

Olimok itelepai aicumar akwara ng'in okitui.

you tell them - boys - to spear away - spear - that to bushes

"Tell the boys to throw the spear away into the bushes."

b) 'to spear and extract someone/something away from speaker'

Example:

Ekotosi itelepai aicumar emun kotogo.

they want - boys - to spear and extract away from speaker-
snake - from house.

"The boys want to spear and extract the snake away from the house."

c) to spear and take away'

Example:

Ekoto lo aicumar ekamaido.

he wants - this guy-to spear and take away - my nut.

"This guy wants to spear and take away my nut."

d) 'to spear/pierce someone/something so that he/it moves away from speaker'.

Example:

Akoto eloket aicumar ikoku suj.

he had wanted -the Karamojong - to spear so that he moves to-
child - kraal.

"The Karamojong had wanted to spear the child so that he (the child) would move away from Karamojong towards the kraal."

The discussion of the suffix /-ar/ was intended to show clearly how the readings for the suffix show opposite readings to those for the ventive. Again emphasis is on
the unity of these readings rather than multiplicity.

**SUFFIX /-akIn/**

**Basic Meaning:** "To do something for someone"  
(benefactive)

The different semantic interpretations

1. 'To do something for someone'.

   All punctual verbs and durative verbs display the reading 'to do something for someone' when the suffix /-akIn/ is used to extend a simple verb. Among the stative verbs only two verbs have the reading mentioned above. These are:

   a - jen - akIn 'to know for someone'
a - pup - OkIn 'to hear for someone'

2. 'To do something at a place' (locative).

   The same verbs that have the reading 'to do something for someone' have the reading to do something at a place.' Two other verbs from the stative group are added to the list: They are:

   a - ba - IkIn 'to be soaked at a place'
a - la - IkIn 'to be clean at a place'

This now means that all the verbs in Appendix I have both reading 1 and reading 2 above.
3. 'To do something and put the result into/onto/against someone/something' (locative)

It is the same verbs that have readings 1 and 2 above that have reading 3.

It would appear from the above discussion that the different readings are found in the same verbs. Only context determines the different readings. One basic meaning is, however, underlying the several interpretations. To further emphasise this point I will give examples of contexts that give different readings which are unified under one basic meaning. I will use same verb a - IcUm 'to spear/pierce' which has been used for the ventive and itive suffixes.

Example:

a - IcUm ———> a - IcUm - akIn

to spear/pierce to spear/pierce for someone

The different interpretations

a) 'to spear/pierce for someone'

Example:

Abu eong agir aicumakin esisianakinan ikoku
I did - I - I refuse - to spear for teacher child
yen kepali.
who - had stubborness.

"I refused to spear a stubborn child on behalf of the teacher'
3. 'To do something and put the result into/onto/against someone/something' (locative)

It is the same verbs that have readings 1 and 2 above that have reading 3.

It would appear from the above discussion that the different readings are found in the same verbs. Only context determines the different readings. One basic meaning is, however, underlying the several interpretations. To further emphasise this point I will give examples of contexts that give different readings which are unified under one basic meaning. I will use same verb a - IcUml to spear/ pierce' which has been used for the ventive and itive suffixes.

Example:

a - IcUml → a - IcUml - akIn
to spear/pierce to spear/pierce for someone

The different interpretations

a) 'to spear/pierce for someone'

Example:

Abu eong agir aicumakin esisinnakinan ikoku
I did - I - I refuse -to spear for teacher child
yen kepali.
who - had stubborness.

"I refused to spear a stubborn child on behalf of the teacher"
b) 'to spear/pierce at a place'

Example:

Arono aicumakin ejaknit oreke
it was bad - to spear at - chief his home
"It was bad to spear the chief at his home".

c) 'to spear something and put the result into/onto/against someone/something'

Example:

Lukangai agiroto aicumakin emun aipany?
who (pl) have refused to spear and put into - snake-hole.
"Who are those who have refused to spear the snake and put it into the hole?"

The three readings above have been shown to be unified and only context gives the different readings.

SUFFIX /-akIn - [[+ATR]] /

Basic Meaning: 'To do something for each other'.

Two possible semantic readings can be observed when the suffix /-akIn - [[+ATR]]/ is used in a derivational process. These readings are as follows:

1. 'To do something to each other'

When an object is present in a derived form the reading is that of 'doing something to each other.' All punctual verbs and all durative verbs have the above reading
as one of their readings when derivation takes place. Two
stative verbs also fit into this group. They are:

a - jën- akin 'to know each other'
a - pup - okin 'to hear/listen to each other'

2. 'To do something for each other'

When a verb is extended using the Applicative -
Reciprocal suffix and an object is mentioned, the reading of
the extended form is interpreted as 'to do something for
each other.' The same verbs that have reading 1 above
have also reading 2.

3. 'To do something and put the result into/onto/against
each other'

All punctual verbs and three of the durative verbs
have the reading 'to do something and put the result into/
onto/against each other.' The verb a - ipo 'to cook'
which belongs to the durative group does not include read-
ing 3 above as one of its readings when derivation takes place.
Among the stative verbs only the verb al -la 'to be clean'
has the reading indicated in 3 above. The verbs al - jën
'to know' and al - pup 'to listen/hear/understand/feel'
of the stative group do not have this reading perhaps
because they are verbs of perception. The verb al - ba
'to be soaked' within this group also lacks the reading
indicated in 3 above. This may be because the verb involves
non-animate subjects. I suggest that these verbs be indicated
as one of their readings when derivation takes place. Two stative verbs also fit into this group. They are:

a - jën- akin 'to know each other'

a - pup - okin 'to hear/listen to each other'

2. 'To do something for each other'

When a verb is extended using the Applicative - Reciprocal suffix and an object is mentioned, the reading of the extended form is interpreted as 'to do something for each other.' The same verbs that have reading 1 above have also reading 2.

3. 'To do something and put the result into/onto/against each other'

All punctual verbs and three of the durative verbs have the reading 'to do something and put the result into/onto/against each other.' The verb a - ipo 'to cook' which belongs to the durative group does not include reading 3 above as one of its readings when derivation takes place. Among the stative verbs only the verb al - la 'to be clean' has the reading indicated in 3 above. The verbs al - jën 'to know' and al - pup 'to listen/hear/understand/feel' of the stative group do not have this reading perhaps because they are verbs of perception. The verb al - ba 'to be soaked' within this group also lacks the reading indicated in 3 above. This may be because the verb involves non-animate subjects. I suggest that these verbs be indicated
with certain markers to exclude them from having this particular reading.

The outcome of the Applicative-Reciprocal suffix is similar to that of other suffixes discussed earlier. The derivational processes are regular and predictable. The meaning is one but there are different semantic interpretations which are determined by context. Generalisations can, therefore, be made even when there are exceptions.

**SUFFIX /-la/**

Basic Meaning: 'To do something with an instrument'.

There are two semantic readings for the instrumental suffix, one being an instrumental and the other causal. But at a more abstract level reason can be considered a kind of instrument. Therefore the meaning is one and the differing interpretations are only superficial features. The different contexts show the different readings.

For the examples taken for this study all the verbs can be extended using the suffix /-la/. I will give examples, again using the verb a-IcUm 'to spear/pierce', to show the semantic unity just discussed. The different semantic interpretations are as follows:

a) 'To do something with'

Example

Aso ekukwai lo aicumia akongu ketroori.

have - a thorn - this - to spear/pierce with -eye- of kite

"Here is a thorn with which to pierce the kite's eye."
b) 'To do something because of'

Example

Kanukinyo ikotor ijo nucumia nes?
for what reason - you want - you - to pierce him/it.

"Why do you want to pierce him/it?

From the examples chosen for this study the instrumental
suffix has been found to be productive. We shall say more on
this in Chapter III which is dealing with productivity.

While this chapter dealt mainly with the semantic content
of the derivational morphemes and the derived forms, it has
also given us an idea of the distribution of the different
meanings and derivations in Ateso. The next chapter will
give more detail on the nature of derivational processes,
that is productivity, subregularity, and lexical rules. It
is also in that chapter that percentage figures will be
presented to show degrees of productivity.
FOOTNOTES

4. The term Ventive has been borrowed from Dimendaal 1980 on the work done on Turkana which is a language within the same family as Ateso, that is, Eastern Nilotic.

5. The term Itive is also borrowed from Dimendaal 1981, an unpublished paper, again used in the study of Turkana.

6. Vowel lengthening here is caused by the presence of two back high vowels /U/ in the root. The same process is seen in, for example, a-ijuju-uun 'to sack towards speaker', a -ibubu - uun 'to knock towards speaker'.

7. In most of the cases in Ateso a particular meaning is conveyed in a number of dis-joined morphemes. This is the case here.

8. ibilenga are a kind of mudfish that are "fished" by spearing and extracting them from the mud.

9. Verbs of volition are those verbs that normally show a permanent state but can voluntarily show a change of state when some artificial process takes place. For example, a black person can become white through painting himself with chalk.

10. Deictic here refers to words whose references are determined by the context of their occurrence e.g. come and go; yesterday, today and tomorrow; here and there. These words usually have opposite meanings.

11. "Eloket" is a derogatory name for a Karamojong, a person from Karamoja district in N. Uganda who is a native speaker of Ngakarimojong language.
CHAPTER III

3.1 Productivity, Subregularity and Lexical Rules

While the preceding chapter dealt with the semantic content of derivational morphemes and derived verbs in Ateso, this chapter is mainly concerned with the following areas:

1. a specific discussion of the nature of subregularities and degrees of productivity that exist in the derivations.

2. the nature of lexical rules

3. attempts at formulating lexical redundancy as well as lexical derivational rules to account for the processes that are possible in Ateso.

Exceptions, idiosyncrasies, and irregularities are a common feature of this kind of study. In order, therefore, to capture significant generalisations we need to look closely for specific subregularities. What is interesting is the fact that even within exceptions there may be degrees of subregularities until we reach a stage when it is no longer possible to accept a certain form. In this case it is recorded as unattestable, in which case it is marked with an asterisk as is shown in the Appendix. With this in mind we can, given a fairly productive process, determine the degree of deviation from the norm.

Since there are often problems of terminology in any discussion which lead to misunderstanding and disagreement, I will discuss what I mean by the terms I have chosen to use, giving examples from the study.
In order to determine the status of the particular formation (lexical or productive) I will use the following criteria:

1. Meaning.

If the combination of the meaning of a stem plus the meaning of a derivational affix results in an entirely predictable derived form, then the process is regular and productive.

2. Ability of a suffix to combine with any verb root of a predictable type or containing a particular feature.

3. Phonological shape of the derived form.

Productive processes tend to be constant and if they have any allomorphs, these are predictable in some way.

With the above points in mind I will now look into the notions of productivity, subregularity and lexical rules in the derivational processes in Ateso.

**Regularity**

In this study the term 'regularity' will refer to those cases of derivation where one can easily predict the correct form of the derived verb after derivational rules have applied. That means, for example, that given a simple verbal root and a suffix /Un/ we would expect the resulting derived verb to be well-formed and to have the meaning 'direction towards speaker'. If the suffix is /-ar/, then the resulting derived form is expected to refer to 'direction away from speaker.' As can be seen in
Appendix II, cases like a - buk - un 'to pour towards speaker' and a - buk - Or 'to pur away from speaker' are regular, predictable and easily accounted for by a general rule.

Most of the verbs in this study have been shown to have some kind of regularity in their derivation (semantic, syntactic and phonological). Each of the suffixes has a basic meaning which is underlying. The derived forms may have different semantic interpretations but this is a feature of the semantic component where there are different but still regular interpretation rules. In certain contexts the derived forms are interpreted in a particular way. The interpretation rules operate as discussed by Katz and Fodor (1963).

As was seen in Chapter II the derivational morphemes in this study have one basic meaning which is interpreted in several ways in different contexts. Since the different interpretations are predictable and can be unified the derivational processes can be said to be regular and generalisations can be made even when apparent exceptions exist. No separate rules are necessary for each semantic reading. Where derivation does not take place the cases are treated as exceptions and are therefore underived. If the form or meaning is not predictable the cases are treated as related to the regular productive processes but there is no derivational relationship between them.
Subregularity

The term 'subregularity' refers to those cases where derivation is unpredictable (semantically, syntactically and morphologically). Stative verbs, which seem to show a good amount of unpredictability, when looked at closely often turn out to have some sub-regularity. For example, the verbs of perception within the stative group give the reading 'to get/begin to do something' and others 'to become'. Those with the reading 'to become' are those verbs which deal with the notion of 'being'. It is clear from the above that there are sub-groups within the major group which behave in a particular way. We can, therefore, show this sub-regularity as follows:

Verbs of perception

a - jÉn - Un 'to get/begin to know'
a - pup - un 'to get/begin to hear/understand/feel'

Verbs of being

a - ba - Un 'to become soaked'
a - la - Un 'to become clean'

Rules will be written later to show this sub-regularity.

Although these sub-groups have a particular semantic reading these readings can be unified as being inceptive. The two groups have to do with the notion of 'beginning to do something.' And this, in turn, is related to the reading in the punctual and durative verbs in that one of the readings in those groups is 'to do something a little'
which has the notion of 'beginning to do something' at an abstract level. This will be further discussed in section 3.2 where specific rules will be written for the different derivational processes.

Productivity

The term 'productivity' refers to the ability of morphemes to be added regularly to any verb of a particular type with a predictable meaning. Productivity is often equated with regularity because derivations that are regular are usually those that are productive. I have separated these two for purposes of clarity. When I talk of productivity I am concerned with finding out whether any suffix can be affixed to any verb root to derive a complex verb.

In Chapter I, I said that one of my tasks in this study was to find the degrees of productivity. In order to do this I proposed that I would use percentage figures. In this chapter I am going to show these percentage figures. In order to calculate the percentages I randomly picked 25 verbs belonging to the category of punctual verbs, 50 verbs belonging to the category of durative verbs and 25 verbs for the stative group. I had initially intended to use 50 verbs for each category, but in the process of picking these verbs I discovered that a majority of the verbs in Ateso are durative. I could hardly arrive at 25 verbs for the punctual and stative groups. So I changed my figures in order to reflect the proportion of distribution of these verbs in Ateso.
The findings I made are as follows:

1. **SUFFIX /-Un/**
   
<table>
<thead>
<tr>
<th></th>
<th>Punctual Verbs</th>
<th>Durative Verbs</th>
<th>Stative Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>40%</td>
</tr>
</tbody>
</table>

2. **SUFFIX /-ar/**
   
<table>
<thead>
<tr>
<th></th>
<th>Punctual verbs</th>
<th>Durative Verbs</th>
<th>Stative Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>90%</td>
<td>28%</td>
</tr>
</tbody>
</table>

3. **SUFFIX /-akin/**
   
<table>
<thead>
<tr>
<th></th>
<th>Punctual verbs</th>
<th>Durative verbs</th>
<th>Stative verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>94%</td>
<td>28%</td>
</tr>
</tbody>
</table>

4. **SUFFIX /-akin - [+ATR]/**
   
<table>
<thead>
<tr>
<th></th>
<th>Punctual Verbs</th>
<th>Durative Verbs</th>
<th>Stative Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>94%</td>
<td>36%</td>
</tr>
</tbody>
</table>

5. **SUFFIX /-la/**
   
<table>
<thead>
<tr>
<th></th>
<th>Punctual Verbs</th>
<th>Durative Verbs</th>
<th>Stative Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>48%</td>
</tr>
</tbody>
</table>
With the data given in Appendix V it was discovered that the suffix /-la/ was very productive even with stative verbs. When more verbs were included for the calculation of percentages, it was discovered that the degree of productivity was much lower than expected, as is shown in the figures above. This may be caused by the fact that there are other features within these verbs which affect the derivation. For example, the suffix /-Un/ acquires the feature [+inceptive], which is the controlling factor. Verbs with this feature cause the high figures; they are mainly the ones that undergo derivation. For the suffix /-akin- [+ATR]/ the feature [volitional] seems to cause the high figures. In these cases the verbs that can change state voluntarily actually help to boost the figure. For example, a - kwa is 'to become white' is a state which is normally permanent, so to say. But a black man, for example, can intentionally change his state of being black to white by painting himself. This will be a volitional change of state. Quite a number of verbs within the stative group show this phenomenon. So the derivational rule seems to be sensitive to the feature volitional rather than just 'stative'. The feature [volitional] is, of course, subsumed in the feature [stative].

For the suffix /-la/ it is not so easy to find a feature that the rule will be sensitive to. No specific feature can be said to unify those verbs which undergo derivation as opposed to those which don't because most of the verbs within the stative group are those of 'being'. Some undergo derivation,
others do not for no apparent good reason.

The percentage figures also show a high productivity for the punctual and durative verbs. The figures are all above 90%. For the punctual verbs all the figures were 100%. This was also the case with some of the durative verbs. What is significant in this discussion is the fact that for the two groups of verbs - punctual and durative - the figures are above 90% for all the suffixes. This shows that the derivational processes discussed are very productive in Ateso.

I had also hypothesised in Chapter 1 that the division between punctual, durative and stative verbs would affect the degree of productivity. I have found that the division between punctual and durative verbs is not significant for productivity: at least for the five suffixes which have been discussed in this study. But for meaning some distinction must be made since some semantic interpretations are only restricted to either punctual verbs or durative verbs. These particular cases are few and can be accounted for by allowing another interpretation rule in the semantic component to operate so as to give particular readings. This is separate from the regular interpretation rules for the other cases which apply to both punctual and durative verbs. Since morphological rules and semantic rules are linked, the semantic rules always interpret correctly a given set of morphological rules in given contexts when the derivations are regular and predictable.

Since punctual and durative verbs behave generally in
the same way, they can henceforth be talked of as active verbs without necessarily distinguishing between punctual and durative verbs. We can say at this stage that the only significant distinction in Ateso verbs is between punctual/durative, which are now referred to as active and stative verbs. Stative verbs show significantly low degrees of productivity, all of them below 50%. I would, therefore, make the claim that derivational rules for the suffixes discussed are sensitive to the feature 'stative' or some feature within this category.

In terms of productivity, then, we can say that the derivational processes discussed are productive but the rules are sensitive to the feature 'stative'. For those verbs which undergo derivation the meaning is predictable within certain sub-groups. Others that display vague and unpredictable meanings are treated as cases that are related to the simple verbs but are not derived from them.

Another of my hypotheses in Chapter I was that the division of the verbs in Ateso into two major morphological classes, that is, the 0-class and I-class, would have some effect on the degree of productivity has been invalidated. As the Appendix shows those verbs that have /-i-/ in the initial position of the root fall into the I-class and those without it belong to the 0-class. So far this division has not been found to cause any significant problem. The percentage figures are for both classes. The derivations have, therefore, been shown to cut across
the same way, they can henceforth be talked of as active verbs without necessarily distinguishing between punctual and durative verbs. We can say at this stage that the only significant distinction in Ateso verbs is between punctual/ durative, which are now referred to as active and stative verbs. Stative verbs show significantly low degrees of productivity, all of them below 50%. I would, therefore, make the claim that derivational rules for the suffixes discussed are sensitive to the feature 'stative' or some feature within this category.

In terms of productivity, then, we can say that the derivational processes discussed are productive but the rules are sensitive to the feature 'stative'. For those verbs which undergo derivation the meaning is predictable within certain sub-groups. Others that display vague and unpredictable meanings are treated as cases that are related to the simple verbs but are not derived from them.

Another of my hypotheses in Chapter I was that the division of the verbs in Ateso into two major morphological classes, that is, the O-class and I-class, would have some effect on the degree of productivity has been invalidated. As the Appendix shows those verbs that have /-i-/ in the initial position of the root fall into the I-class and those without it belong to the O-class. So far this division has not been found to cause any significant problem. The percentage figures are for both classes. The derivations have, therefore, been shown to cut across
these morphological classes.

With the derivational process itself, two specific problems may be pointed out:

1. A derived form may have lost the root on which it is based, that is, the simple verb from which it was derived.

2. The semantic contribution of an extension is hard to define in forms where there is no simple verb form upon which it was derived.

**Examples**

1. Verbs with suffix /-Un/:

   adaun - to finish
   aideun - to leave something behind as a left-over
   aidoun - to give birth
   adumun - to find
   aikwarun - to revive
   amamneun - to be absent, be lacking
   aiyuun - to believe, agree, accept.

2. Verbs with Suffix /-ar/:

   aibiror - to fall, fail
   acalar - to melt, dissolve
   aiilor - to faint
   aiirar - to hear/understand
   alakar - to be merry, rejoice
   aluwor - to change, transform, become
   amudiaar - to destroy in great numbers
angolinaar - to look
apedor - to be able, capable, competent, possible
aisilar - to repent
atakar - to gallop away

c. Verbs with Suffix /-akin/

aiguikin - to stumble
aimakin - to give
aijaikin - to hand to
alimokin - to tell, inform, declare
amasikin - to rust, become stained
anaikin - to get used to
aingarakin - to aid, assist, help

d. Verbs with suffix /-akIn - [+ATR]/

abuonokin - to hesitate
aidomakin - to dip oneself into
aimurokin - to forget
angirikin - to endure, bear
aireikin - to look into

e. Verbs with suffix /-In/

aidia - to draw water in small quantities
aisia - to walk in rags

Synchronically, these verbs have no simple verbs from which they could be derived. Diachronically, they may have been derived from simple forms but these forms have since been lost. The above verbs should, therefore, be
regarded as lexicalised forms, that is, they are entered in the lexicon as separate items which do not participate in derivational processes. These forms are thus, not subject to lexical derivational rules. But they are subject to lexical redundancy rules to show that they contain morphemes that are otherwise productive and regular.

Within the above groups of verbs there are also verbs that are morphologically and semantically related. These verbs should not just be left in the lexicon without indicating that they are related. Examples are shown below.

1a. With suffix /-Un/
   adUmUn - to find here

b. With suffix /-ar/
   adUmar - to find there

c. With suffix /-akin/
   adUmakin - to find for someone

d. With suffix /akIn - [AIR]/
   adUmakin - to find for each other

2a. With suffix /-Un/
   aibirun - to fall here

b. With suffix /-ar/
   aibiror - to fall there

c. With suffix /-akIn/
   aibirokin - to fall onto someone
3a. With suffix /-un/

aijesun - to slide this way

b. With suffix /-ar/

aijesar - to slide that way

c. With suffix /a-kin/

aijesakin - to slide onto someone

d. With suffix /-akin - [AT3]/

aijesakin - to slide onto each other

Although these groups of verbs are also lexicalised items they are so related morphologically, and are so semantically predictable that they should be marked in the lexicon with some diachritic feature to indicate that they are related. I am not certain how this should be done but this is an attempt to show that there is a relationship.

3.2. Lexical Derivational and Redundancy Rules

In order to capture regularities and redundancies in various derivational processes, some rules are utilised. For the generation of potential verbs lexical derivational rules are formulated. Before these rules apply simple roots are listed in the lexicon as undervived basic forms. These roots are also listed in their basic form with abstract features indicating particular selectional restriction associated with them. For example, they may be shown as being 'stative' and, therefore, not taking certain rules.

The lexical rules which derive other verbs from simple
verbs in Ateso can be shown to have a morphological derivational feature and a semantic feature accompanying them. The morphological and semantic rules are closely related.

The lexicon is then designed in such a way that it takes care of both regular and ad-hoc verbal forms. No cases will be shown to be absolute exceptions. In order to capture the redundancies discussed above lexical derivational rules are used. For the unproductive irregular processes lexical redundancy rules are formulated. Minor rules may be used to capture the idiosyncratic and irregular nature of some derivations.

In order for a lexical rule to apply the following information should be set correctly:

a) the lexical morphemes must be fully specified in terms of their categorial and selectional features. These verbs must be specified to indicate that they are stative because lexical rules are sensitive to this feature or some feature within this group.

b) Lexical rules will operate on fully specified forms.

c) More productive processes are distinguishable from less productive ones by use of percentages within the rules themselves.
Formulation of some Lexical Derivational and Redundancy

Rules for Ateso Verbal Forms

A lexical entry makes use of the following information:

Phonological representation
Syntactic features
Semantic features
Productivity percentages

Some of the morphological rules are stated in MI below. Each of the rules refers to each of the affixes discussed. Accompanying these morphological rules are semantic Interpretation rules.

MI: \[+V\hfill /-Un/\hfill +\text{Ventive}\hfill \frac{100\%}{100\%}\hfill /V + Un/\]

The morphological rule MI says that any non-stative verb can have the suffix /-Un/ added to it to derive a complex verb that includes the suffix as part of its component. This verb will occur before an NP or two NPs, but the NP2 is optional. The percentage figures near the arrow indicate the degree of productivity for the derivational process.

The accompanying semantic rules are as follows:

Sla \[+V\hfill /-Un/\hfill V + Un\]

\[\text{stative} + \text{direction towards speaker'}\]
The Semantic rule 31a says that when the suffix /-Un/ is utilised in the derivation for a complex verb from a simple non-stative verb the result has a semantic meaning 'towards speaker'. In SI b we understand that any verb can be extended using the suffix /-Un/ to give a complex verb that has an inceptive meaning. The two rules take care of the relationship between the stative verbs and the active verbs.

The morphological rule M2 says that any non-stative verb can be extended using the suffix /-ar/ to derive a complex verb that include /-ar/ as part of the verb. Again, the percentage show productivity. The accompanying semantic rules are as follows:

The Semantic rule 31a says that when the suffix /-Un/ is utilised in the derivation for a complex verb from a simple non-stative verb the result has a semantic meaning 'towards speaker'. In SI b we understand that any verb can be extended using the suffix /-Un/ to give a complex verb that has an inceptive meaning. The two rules take care of the relationship between the stative verbs and the active verbs.

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The morphological rule M2 says that any non-stative verb can be extended using the suffix /-ar/ to derive a complex verb that include /-ar/ as part of the verb. Again, the percentage show productivity. The accompanying semantic rules are as follows:
Semantic rule S 2a above accounts for the non-stative verbs that have a reading 'to complete doing something' which is not related to the 'direction away from speaker' meaning which is found in the other regular and predictable cases. The semantic rule S2b accounts for the stative verbs that show voluntary change of state to give the reading 'to become' but with no commitment on the part of the speaker.

The M3 above says that any verb may be extended using suffix /-akIn) to derive a complex verb. The derived verb occurs before three NP's - the subject, direct object and indirect object. The NP3 is optional. The accompanying semantic rules are as follows:

S3 above says that stative verbs when extended do not give the reading 'to do something and put the result into/onto/against.' The other readings are common to all verbs and
no separate semantic rule is necessary.

M4: 

\[+ V + NP_1 NP_2 (NP_3) + /-akIn - [+ATR]/ + Applicative - Reciprocal 'for each other'\]

Morphological rule M4 above is interpreted as saying that any verb can be extended using the Applicative-Reciprocal suffix. No separate semantic rule is necessary for this M-rule because the rule takes care of all the interpretations. When NP_3 is absent we get the reading 'to each other' and when it is present we get 'for each other'.

M5: 

\[+ V + NP_1 (NP_2) + /-Ia-/ + Instrumental 'with'\]

\[\rightarrow V + Ia\]

The above morphological rule allows any verb to be extended using suffix /-Ia/. No separate semantic rule is necessary to interpret this rule.

It should be observed that the above semantic rules operate at constituent levels, that is, what has been indicated is lexical semantics and not sentence semantics.

The above lexical derivational rules account for the productive processes. They account for the fact that a native speaker considers the processes to be productive and can use the rules to coin new words. In such cases
the derived words are not listed in the lexicon separately; only the underived words and the suffixes need be listed, and these have access to the LDRs.

In order to capture the fact that a speaker-hearer knows that two or more words are related but are not derived from each other, a lexical redundancy rule is employed. Below are examples of LRR's in Ateso. They are of two types. The first shows a relationship between several words that do not have a simple verb from which they can be derived synchronically. The others show that a simple verb may be related to a form that has a productive suffix attached to it but that form is not derived from the simple form.

\[ M6 \]

\[
\begin{array}{c}
 V + \text{Un} \\
 \cdot \\
 \cdot \\
 \cdot \\
\end{array}
\quad \leftrightarrow \quad
\begin{array}{c}
 V + \text{ar} \\
 \cdot \\
 \cdot \\
 \cdot \\
\end{array}
\quad \leftrightarrow \quad
\begin{array}{c}
 V + \text{nkIn} \\
 \cdot \\
 \cdot \\
 \cdot \\
\end{array}
\]

\[ M7 \]

\[
\begin{array}{c}
 + V \\
 \cdot \\
 \cdot \\
 \cdot \\
\end{array}
\quad \leftrightarrow \quad
\begin{array}{c}
 V + \text{Un} \\
 \cdot \\
 \cdot \\
 \cdot \\
\end{array}
\]

\[ M8 \]

\[
\begin{array}{c}
 + V \\
 \cdot \\
 \cdot \\
 \cdot \\
\end{array}
\quad \leftrightarrow \quad
\begin{array}{c}
 V + \text{ar} \\
 \cdot \\
 \cdot \\
 \cdot \\
\end{array}
\]
M6 above shows a relationship between the following words: adumun 'to find here', adumar 'to find there', and adunakin 'to find for someone.' They have no base form upon which they are derived although they contain productive suffixes.

M7 shows a relationship between, say, aibir 'to throw something at', and aibiror 'to fall' or 'cause to fall'. M8 is an example of a relationship between nibong 'to return' and abongokin to answer, repeat'. M9 shows the relationship between the words aiced 'to stalk' (walk stealthily) and aecedun 'to pick something gracefully'. M7 - M9 show that a simple verb may be related to a form that has a productive suffix but there is no derivational relationship between the words. Only a redundancy relationship exists. The two-way arrow shows this redundancy relationship as opposed to one-way arrow for a derivational relationship.

Since I used several native speakers including myself for this study, I would like to claim that the psychological reality of these derivational and redundancy processes has been tested and found to be valid for the native speakers chosen for this study. I would like to claim that this is enough for my purposes.

Now that I have tried to formulate rules for Ateso based on Mould's model, I can make a statement on two further
hypotheses I had put forward in Chapter I. One of them was that while the model worked for nominalisation processes, it may not work well with verbal derivations. The other hypothesis was that with Luganda the model was seen to account adequately for the facts of derivational relationships, but for Ateso which is unrelated to Luganda, problems might arise that cannot be adequately taken care of. I can now say with confidence that the two hypotheses have been invalidated since the model has been shown to work just as well for Ateso as for Luganda, and just as well for verbal derivational processes as for nominalisation. The model has accounted well for both productive and non-productive processes.
FOOTNOTES

12. Examples in this section are orthographic rather than phonetic.
CHAPTER IV

CONCLUSION

4.1 Remarks

In Chapter I I set out a number of hypotheses and my task was to test these hypotheses. One of my hypotheses was that since every verb in Ateso belongs to either of two morphological classes, i.e. O-class and I- class, the shape of a specific verbal affix may depend on the morphological class to which the verbal root belongs. I have found that verbal derivational processes in Ateso cut across these morphological classes. Phonological alternations that show the shape of the specific verbal affixes also cut across these classes. The derivational processes are, therefore, not restricted by the division of the verbs into morphological classes.

The second hypothesis in Chapter I was that the grouping of verbs in Ateso into three groups according to the basic morpho-syntactic features associated with them, that is, punctual, durative, and stative, would affect the degree of productivity of the different derivational processes. It has been found that stative verbs behave differently from either the punctual or the durative. Some derivational rules have been found to be sensitive to the feature \([\text{stative}]\) or some feature within this group. Although semantically there are some differences between punctual and durative verbs in that some readings are restricted to one of these groups, the cases where this division is relevant are few and the particular readings have been taken care of by allowing a
separate semantic interpretation rule to operate for these cases. In the other derivations there is no significant division between punctual and durative verbs. Thus verbs can be talked of largely as active (punctual or durative) verbs as opposed to stative verbs.

I also put forward a third hypothesis in Chapter I. The hypothesis was that although the theoretical framework chosen for this study has been shown to work for nominalisation processes the application of this framework to verbal derivational processes may not work so well. It has been shown that the framework works just as well with nominalisation processes as for verbal derivational processes.

The fourth of my hypotheses was that whereas the model chosen for this study has been shown to work for Indo-European and Bantu languages, that it would apply just as well to an Eastern Nilotic language like Ateso. As has been seen in the previous chapters, this hypothesis has been validated. The model has been shown to take care of both regular and ad-hoc facts in Ateso verbal derivation. The use of percentage figures, which is a modification to the model, gives a particularly clear idea of how far these processes are productive. Since, for example, a look at a few verbs may give an erroneous picture of the productive processes we have been able to discover that the instrumental extension is not as productive generally as thought earlier using a few examples and with no percentage figures.

The notion of the psychological reality of the
derivational processes has also been gone into in order to show that the native speaker knows which processes are most productive and which are altogether unproductive. This has been done by separating rules, that is, lexical derivational rules and lexical redundancy rules. Relationships between lexical items have been shown in a systematic way.

The work done by Hilders and Lawrence (1957) was done by non-linguists who were interested in giving some guidelines to other European newcomers to Teso District. No linguist had taken up the study of the language, and no linguist particularly of the generative school had examined the language. The study I have made is the first attempt to look at Ateso from a generative viewpoint. Attempts have been made to account for the intuitions of native speakers of the language. By discussing the lexical relationships among lexical items I have tried to account for the native speaker's competence. This is a departure from Hilders and Lawrence's approach of simply listing the processes that are possible and listing a few exceptions. This work has tried to give reasons, as much as possible, for the "odd" behaviour of some derivational processes.

4.2. Areas of Further Research

What has been done in this study shows only a small part of the verbal derivational processes in Ateso. The verbal system in Ateso is very complex and there is yet a lot of work to be done in this area. While this study has been
concerned mainly with five extensions there are several other extensions that need to be examined. For example, we have the habitual extension, which makes use of the suffix /-enon/, the Causative which involves the infix t(G)V, where (G) is an optional /w/ or /y/, and V any of the 9 vowels in the language, the transitive - Repetitive which is Root - V - Root, and the Intransitive Repetitive which is Root - V - Root - V - toi. There are morphophonemic as well as semantic alternations in these processes. It would be a contribution to Ateso if these extensions could be studied with a view to comparing these extensions with what has already been done in this study, and using the same framework.

Derivational processes in Ateso also extend beyond the verbal system. There are also derivational processes that involve adjectives, nouns, and verbs. For example, Ateso has ways of deriving verbs from adjectives, nouns from verbs, and nouns from adjectives. Examples are:

1. **Verb from adjectives**
   
   a. Ereŋ ‘(it is) red’ → are jiar ‘to become red’
   b. epol ‘(he/it is) big’ → apoloor ‘to become big’/ ‘to grow’

2. **Noun from Verb**
   
   a. aipo ‘to cook’ → sepoon ‘a cook’
   b. amej ‘to hunt’ → amejan ‘a hunter’

3. **Noun from adjective**
   
   a. ejok ‘(it is) good’ → ajokan ‘a good one’
   b. ekuriana ‘he/it is) afraid’ → ekuriai ‘a coward’
So far nothing has been done in areas like the above. It would be of interest and relevance to derivational morphology to examine further the different possibilities and write explicit rules to account for these derivations.

In this study we have also found that there is some evidence for historical explanations for some of the processes. This was particularly evident in the phonological alternations where there were instances like mid-vowel assimilation which seem to have an explanation in diachronic rather than synchronic changes. A comparative study of related languages (e.g. Turkana, Maasai) should give further historical evidence for these changes. It is also possible that there have been some semantic shifts in the semantic content of the derivational affixes and derived forms. A comparative study would perhaps confirm our assumptions so far.

I would like finally, to say that problems have been met in carrying out this study, as is expected. Tentative solutions and observations have been made in some situations but more concrete ways of solving the problems may be sought. For example, use of percentages may not be the best way to account for degrees of productivity, but so far it has worked to help illustrate the productivity relationships. It is also not clear how the redundancy relationship between lexicalised items will be specifically marked in the lexicon. Translation has its own problems since quite often there are no equivalents in other languages. An attempt has been made to give the nearest possible translations.


### APPENDIX I

**Suffix /-Un/**

A. DERIVATIONS WITH PUNCTUAL VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix /-Un/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>a - Iban</strong></td>
<td>a - Iban - Un</td>
</tr>
<tr>
<td>to slap</td>
<td>a) to slap someone/something so that he/it moves towards speaker.</td>
</tr>
<tr>
<td></td>
<td>b) to slap someone/something and extract towards speaker</td>
</tr>
<tr>
<td></td>
<td>c) to slap a little</td>
</tr>
<tr>
<td>2. <strong>ai - pet</strong></td>
<td>a - pet - un</td>
</tr>
<tr>
<td>to kick</td>
<td>a) to kick towards speaker</td>
</tr>
<tr>
<td></td>
<td>b) to come and kick someone/something here.</td>
</tr>
<tr>
<td></td>
<td>c) to kick and extract</td>
</tr>
<tr>
<td></td>
<td>d) to kick a little</td>
</tr>
<tr>
<td>3. <strong>a - IkIe</strong></td>
<td>a - IkIe - Un</td>
</tr>
<tr>
<td>to scrape</td>
<td>a) to scrape towards speaker</td>
</tr>
<tr>
<td></td>
<td>b) to come and scrape here</td>
</tr>
<tr>
<td></td>
<td>c) to scrape something and bring it here</td>
</tr>
<tr>
<td></td>
<td>d) to scrape a little</td>
</tr>
</tbody>
</table>
### Derived Verb

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. a - Iibap - Un</strong></td>
<td><img src="#" alt="Table Content" /></td>
</tr>
</tbody>
</table>

#### a) Aho to okello aibapun ikolhu obalasa
he had wanted - Okello - to slap towards - child - to verandah
"Okello had wanted to slap the child so that he would move towards the verandah."

b) Aloisi eong ngin aibapun kokai.
I am going - I - that woman - to slap and extract - from house
"I am going to slap and extract that woman/girl from the house.

c) Ijo da yenice aibapun ekokolan.
you - also - the other one - to slap a little - thief
"You and everyone else should slap the thief a little".

a) Isbe teni mam to epedori apetun emopiira lailo?
that - surely - no - this guy - he can - to kick towards - ball - this way
"Is it true that this guy cannot kick the ball this way?"
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| b) Orekon abuni eong apetun sacudan ngol. | home your - I will come - I - to kick witch that
"It is at your home that I will come to kick that witch." |
| c) Okeruni eroko eong kebuno apetun ijo katukot. | you run here - before- I - I come to kick and extract -you - from classroom.
"Run here before I come to kick and extract you from the classroom." |
| d) Arai kelot nginituan apetun ekokolan eyarete cut. | If - he goes - every person - to kick a little - thief- they will kill- completely
"If everyone goes to kick the thief a little they will kill him." |
Derived Verb | Examples
---|---

j. a = IkIs - Un

a) Ikoto *ijo aikisun asinge ne?*<br>
you want - you - to scrape here - sand - here<br>
"Do you want to scrape sand in this direction?"

b) Iburi *ijo mo lailo aikisun amujaj?*<br>
you will come - you - tomorrow - this way - to scrape here - sisal<br>
"Will you come here tomorrow to scrape sisal?"

c) Ejai ngolituan aikisun amujaj osabiti ngol.<br>
he/it is - every man - to scrape and bring - sisal - at week - that<br>
"Everyone has to scrape and bring sisal here next week."

d) Yesi kere edolit aikisun amujaj eroko keloto ape:<br>
you (pl) - all - it is fit - to scrape a little - sisal - before - going - to lie<br>
"All of you should scrape a little sisal before going to bed."
### B. DERIVATIONS WITH DURATIVE VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix - Un</th>
</tr>
</thead>
<tbody>
<tr>
<td>a - gwel</td>
<td>a - gwel - Un</td>
</tr>
<tr>
<td>to buy</td>
<td>a) to buy and bring towards speaker</td>
</tr>
<tr>
<td></td>
<td>b) to come and buy something here.</td>
</tr>
<tr>
<td></td>
<td>c) to buy little.</td>
</tr>
<tr>
<td>a - ipo</td>
<td>a - ipo - un</td>
</tr>
<tr>
<td>to cook</td>
<td>a) to cook and bring towards speaker</td>
</tr>
<tr>
<td></td>
<td>b) to come and cook here.</td>
</tr>
<tr>
<td></td>
<td>c) to cook a little.</td>
</tr>
<tr>
<td>a - buk</td>
<td>a - buk - Un</td>
</tr>
<tr>
<td>to beat</td>
<td>a) to pour towards speaker</td>
</tr>
<tr>
<td></td>
<td>b) to come and pour something here.</td>
</tr>
<tr>
<td></td>
<td>c) to pour a little.</td>
</tr>
<tr>
<td>a - ibuña</td>
<td>a - ibuña - Un</td>
</tr>
<tr>
<td>to beat</td>
<td>a) to beat while coming towards speaker</td>
</tr>
<tr>
<td></td>
<td>b) to come and beat someone/something</td>
</tr>
<tr>
<td></td>
<td>c) to beat someone/something a little.</td>
</tr>
</tbody>
</table>
### Derived Verb

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| a - gwEl - Un | a) Ingai elosi agwelun emaido kosokooni? who - will go - to buy and bring - nuts - from market "Who will go to buy and bring nuts from the market?"

b) Abuni eong agwelun emaido ne. I will come - I - to buy here nuts here. "I will come to buy nuts here".

c) Edolit ya agwelun emaido eroko edou kebuno it is fit - that woman - to buy a little - nuts - before - rain comes "It is good for the woman to buy some nuts before rain comes."

2. a - ipo - un  
a) Enyounitos apesur kere aipoun inyamat ne. they intend - girls - all - to cook and bring - food - here. "All the girls are intending to cook and bring here food."
### Derived Verb

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>

#### b) opotu aipoun inyamat oidukuru.

>*Come to cook food here in the hut.*

#### c) Ekoto lolo aberu na aipoun eboo.

>*This woman wants to cook some 'eboo' today.*

#### a) Ikolu yen, inyekik abukun alkipi opejok.

>*You child, do not pour water towards the visitors.*

#### b) Shunit aberu abukun alkipi kamot.

>*The wife has come to pour out water from the pot.*

---

**Other Examples:**

- a) Ikolu yen, inyekik abukun alkipi opejok.
  - *You child, do not pour water towards the visitors.*

- b) Shunit aberu abukun alkipi kamot.
  - *The wife has come to pour out water from the pot.*
c) 

"She has refused you to pour a little water completely."

Example 4.  

4.  

"My husband yesterday tried to beat me while coming this way."
<table>
<thead>
<tr>
<th>Infinitive + V root</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ai - jEn</td>
</tr>
<tr>
<td>to know</td>
</tr>
<tr>
<td>a)</td>
</tr>
<tr>
<td>2. ai - pup</td>
</tr>
<tr>
<td>to hear/listen/understand/feel</td>
</tr>
<tr>
<td>a)</td>
</tr>
<tr>
<td>3. aI - ba</td>
</tr>
<tr>
<td>to be soaked</td>
</tr>
<tr>
<td>a)</td>
</tr>
<tr>
<td>4. aI - la</td>
</tr>
<tr>
<td>to be clean</td>
</tr>
<tr>
<td>a)</td>
</tr>
</tbody>
</table>
C. DERIVATIONS WITH STATIVE VERBS

Infinitive + V root + suffix /-Un/

a - jih - Un

to know get/to begin to - 'to get/begin to know'

a - rup - un

to hear ..... get/begin to - 'to get/begin to hear ...........

a - ba - Un

to be soaked become - 'to become soaked'

a - la - Un

to be clean become - 'to become clean'
### Examples with Stative Verbs

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a - iEn - Un</td>
<td>a) I am not interested in learning that news.</td>
</tr>
<tr>
<td>2. a - pup - un</td>
<td>a) You won't get to hear/listen well.</td>
</tr>
<tr>
<td>3. a - ba - Un</td>
<td>a) The beans have refused to become soaked.</td>
</tr>
<tr>
<td>4. a - la - Un</td>
<td>a) This girl has completely failed to become clean.</td>
</tr>
</tbody>
</table>
### A. DERIVATIONS WITH PUNCTUAL VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a - Ibap</td>
<td>a) to slap</td>
</tr>
<tr>
<td></td>
<td>b)</td>
</tr>
<tr>
<td></td>
<td>c)</td>
</tr>
<tr>
<td>2. ai - pet</td>
<td>a) to kick</td>
</tr>
<tr>
<td></td>
<td>b)</td>
</tr>
<tr>
<td></td>
<td>c)</td>
</tr>
<tr>
<td>3. a - IkIs</td>
<td>a) to scrape</td>
</tr>
<tr>
<td></td>
<td>b)</td>
</tr>
<tr>
<td></td>
<td>c)</td>
</tr>
<tr>
<td></td>
<td>d)</td>
</tr>
</tbody>
</table>
APPENDIX II

SUFFIX /-ar/

Infinitive + V root + Suffix /-ar/

a - Ibap - ar

to slap someone/something so that he/it moves away from speaker
to go and slap someone/something there.
to complete slapping someone/something.

a -  r>et - 0 r

to kick someone/something away from speaker
to go and kick someone/something there.
to complete kicking someone/something

a - IkIs - ar

to scrape away from speaker
to scrape something and take away from speaker
to go and scrape something there
to complete scraping something.
EXAMPLES WITH PUNCTUAL VERBS

<table>
<thead>
<tr>
<th>Derived verb</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>ai - bap - ar</td>
<td>a) Byounit Okello aibapar akeberu okitui. he intends - Okello - to slap so she moves away - his wife - to bush &quot;Okello intends to slap his wife so that she moves towards the bush.</td>
</tr>
<tr>
<td></td>
<td>b) Abu eong kadum etelepat kedau aibapar emaiido kakan kikoku. I did - I - I found - boy - he finished - to slap away - nut - from hand - of a child &quot;I found that the boy had already slapped away the nut from the child's hand&quot;.</td>
</tr>
<tr>
<td></td>
<td>c) Akoto eong ijo alosit osomero aibapar eitabo k'Okello. I want - I - you to go - to school - to slap away book of Okello. &quot;I want you to go to school to slap Okello's book away from him.&quot;</td>
</tr>
<tr>
<td>Derived Verb</td>
<td>Examples</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>2. a - pet - Or</strong></td>
<td>a) I'tamit ijo apetor emopiira ogoolo? you were trying - you - to kick away - ball - to net?&quot; &quot;Were you trying to kick the ball towards the net?&quot; (the speaker is away from net) b) Hoelosi nesi kere abuni eong apetor nes ngipengina. where he goes - him/all - I will - I - kick him there. &quot;I will go and kick him at whatever place he go to.&quot; c) Adaun ikapa yen apetor akakile. it has finished-cat- this - to complete kicking- my milk &quot;This cat has completed kicking my milk.&quot;</td>
</tr>
<tr>
<td><strong>3. a - Ikis - ar</strong></td>
<td>a) Onyarau ngul opotu aikisar alupo nu ngina you call - those children-they come-to scrape away-soil this- there &quot;Call those children to come and scrape this soil there.&quot;</td>
</tr>
<tr>
<td>Derived Verb</td>
<td>Examples</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| b) Ikotosi | Cabo yesi aikisar akamujaj!  
you (pl) want - somehow - you (pl) - to scrape and take - my sisal  
"It looks like you want to scrape and take away my sisal!"
| c) Ololoto | Aikisar amujaj osomero.  
you (pl) go - to scrape - sisal - at school  
"Go and scrape sisal at school."
| d) Ekoto | Bor papa aikisar amujaj ero ko itunga kepona.  
he wants - yet - father - to complete scraping-sisal-before-people- come  
"Father wants to complete scraping sisal before people come."
<table>
<thead>
<tr>
<th>Infinitive + V root</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a - gwEl</td>
</tr>
<tr>
<td>to buy</td>
</tr>
<tr>
<td>2. a - ipo</td>
</tr>
<tr>
<td>to cook</td>
</tr>
<tr>
<td>3. ai - buk</td>
</tr>
<tr>
<td>to pour/empty</td>
</tr>
<tr>
<td>4. a - ibuga</td>
</tr>
<tr>
<td>to beat</td>
</tr>
</tbody>
</table>
WITH DURATIVE VERBS

Infinitive + V root + Suffix / - ar/

a - gwEl - ar

a) to buy and take away from speaker
b) to go and buy something there.
c) to complete buying something.

a - ipo - un

a) to cook and take away from speaker.
b) to go and cook there.
c) to complete cooking.

a - buk - 0 r

a) to pour away from speaker
b) to go and pour there
c) to complete pouring

a - ibuJa - ar

a) to beat while going away from speaker
b) to go and beat there
c) to complete beating.
### Examples with Durative Verbs

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a - gyel - ar</td>
<td><img src="https://example.com" alt="Examples" /></td>
</tr>
</tbody>
</table>

1. **a) Sbala toto eong agwelar imare da.**
   - She says - mother - I - to buy and take- beans also
   - "Mother says I should buy and take some beans as well."

2. **b) Ai ilosi ijo agwelar imare?**
   - where - you are going -you - to buy there beans
   - "Where are you going to buy beans?"

3. **c) Iupar oni kadau eong agwelar amoti.**
   - we shall go together -we -if I finish - I - to buy pots
   - "We shall go together after I complete selling the pots"
2) a - IpO - Or

a) Ingit apesur aipoor inyamat ates.
   you ask - girls - to cook and take - food - to grave
   "Ask the girls to cook and take food to the funeral"

b) Jyounitos apesur aipoor ates.
   they are intending - girls - to go and cook - grave
   "The girls are intending to go and cook at the funeral."

c) Skoto lolo toto aipoor ikemare.
   She wants - today - mother - to finish cooking - her beans
   "Mother wants to cook all her beans today."

3) a - buk - Or

a) Nukangai akipi ikotosi yesi aubukor.
   of whom - water - you (pl) want - you (pl) - to pour away
   "Whose water do you want to pour away?"

b) Alosi eong ngina aubukor akipi aberu kangin.
   I am going - I - there - to pour - water - of woman - that
   "I am going there to pour away that woman's water."
Derive Verb: ai - bu, a - ar

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>c) Yesi omikin eong akipi kwa idauniata yesi abukor you (pl) you will fetch for - I - water - as - you have finished you to pour</td>
</tr>
</tbody>
</table>
| "You must fetch me some water since you have completed pouring mine."
| a) ñkoto lolo etuan lo aibu āar ikokolu orot. he wants - today - man - this - to beat while going - my child - on the road |
| "This man wants to beat my child on the way."
| b) Angodingod alosi eong abu āar ekokolan ngol Angodingod - I am going I - to beat there - thief - that |
| "I am going to beat that thief at 'Angodingod'" 18
| c) Anyoikit ber eong aibu āar ikamare. I intend - yet - I - to complete beating my beans. |
| "I am intending to complete beating my beans." |
### C. DERIVATIONS WITH STATIVE VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix /-ar/</th>
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<tbody>
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<td>1. ai - jën</td>
<td>a - jën - ar</td>
</tr>
<tr>
<td>to know</td>
<td>a) to know go there to - 'to go to know there'</td>
</tr>
<tr>
<td>2. ai - pup</td>
<td>a - pup - 0r</td>
</tr>
<tr>
<td>to hear/listen/understand/feel</td>
<td>a) to hear/listen ...... go there - 'to go to hear........ there.'</td>
</tr>
<tr>
<td>3. ai - ba</td>
<td>a - ba - ar</td>
</tr>
<tr>
<td>to be soaked</td>
<td>a) to be soaked go there - 'to go and be soaked there'</td>
</tr>
<tr>
<td>4. ai - la</td>
<td>a - la - ar</td>
</tr>
<tr>
<td>to be clean</td>
<td>a) to be clean go there - 'to go and be clean there'</td>
</tr>
</tbody>
</table>
## Derived Verbs

<table>
<thead>
<tr>
<th>Derived Verbs</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. a - jen - ar</strong></td>
<td>Alosi eong ajenar ngol oreke. I am going - I - to know - that one - home his &quot;I am going to know that guy right in his home.&quot;</td>
</tr>
<tr>
<td><strong>2. a - pup - Or</strong></td>
<td>Abuni eong apupor iyemato ngul osokooni. I will - I - to hear - news - those - to market &quot;I will hear that news at the market.&quot;</td>
</tr>
<tr>
<td><strong>3. a - bar - ar</strong></td>
<td>Jlosete imare - abaar ore. they will go - beans - to be soaked - home &quot;The beans will be soaked at home.&quot;</td>
</tr>
<tr>
<td><strong>4. a - la - ar</strong></td>
<td>Otaun alosi eong da alaar. to town - I am going - I - also - to be clean &quot;It is in town that I will also be clean.&quot;</td>
</tr>
</tbody>
</table>
# A. Derivations with Punctual Verbs

<table>
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<tr>
<th>Infinitive + V root</th>
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<tr>
<td>to slap</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>2. ai - pet</strong></td>
</tr>
<tr>
<td>to kick</td>
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</tbody>
</table>
APPENDIX III

SUFFIX /- akin/

Infinitive + V root + Suffix / - akin /

a - Ibap - akin

to slap for someone

to slap someone/something at a place

to " " " onto/against someone

a - pet - okin

to kick for someone

to " someone/something at a place

to " someone/something onto/against another
### Infinitive + V root

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix /-akin/</th>
</tr>
</thead>
</table>

3. **a - IkIs**  
**to scrape**

**a - IkIs - akin**

- **a)** to scrape for someone
- **b)** to scrape something at a place
- **c)** "something into/onto/against another.

### Examples with Punctual Verbs

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **aI - baI - akin**  | a) Ipedori ijo aibapakin eong apese ngin?  
"You can you to slap for me- I - girl that"
"Can you slap for me that girl?"

b) Mam edolit aberu aibapakin orekec  
no - it is fit - wife - to slap at - home their.
"It is not proper to hit a wife at her parents home." |
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
|      a - pet - okin      | c) Ekoto ikoku yen aibapakin ipejok akipi.  
he wants - child - this to slap onto/against - visitors - water  
"This child wants to slap water onto the visitors".  
  
2. a - pet - okin  
a) Nam icamuni apetokin etelepat ngol emopiira.  
no . you accept to kick for boy that ball  
"Do not accept to kick the ball for that boy."  
  
b) Ai ilosete yesi apetokin emopiira?  
where you are going you to kick at the ball  
"At what place are you going to kick the ball?"  
  
c) Okello nes abala eong apetokin ikoku emopiira akoik.  
Okello is one who said I kick onto child ball abdomen  
"Okello is the one who told me to kick the ball onto the child's abdomen." |
<table>
<thead>
<tr>
<th>Derived Verbs</th>
<th>Examples</th>
</tr>
</thead>
</table>
| ai - kIs - akIn | a) Lukangni ecamunete aikisakin tata amujaj?  
who (pl) they accept to scrape for grandmother sisal  
"Who will accept to scrape sisal for grandmother?"

b) Ebala toto ebe iso alosit aikisakin agaria ore.  
She says mother that we to go to scrape at fish home  
"Mother says we should go to scrape the fish at home".

c) Agir Akello aikisakin ekia akipi.  
She has refused Akello to scrape onto herb water  
"Akello has refused to scrape the herbs onto the water." |
### B. Derivations with Durative Verbs

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix /-Akin/</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. a - gw3l</strong></td>
<td><strong>a - gw3l - akin</strong></td>
</tr>
<tr>
<td>to buy</td>
<td>a) to buy for someone</td>
</tr>
<tr>
<td></td>
<td>b) to buy at a place</td>
</tr>
<tr>
<td></td>
<td>c) to buy and put into/against something</td>
</tr>
<tr>
<td><strong>2. a - ipo</strong></td>
<td><strong>a - ipo - ikin</strong></td>
</tr>
<tr>
<td>to cook</td>
<td>a) to cook for someone</td>
</tr>
<tr>
<td></td>
<td>b) to cook at a place</td>
</tr>
<tr>
<td></td>
<td>c) to cook and put into something</td>
</tr>
<tr>
<td><strong>3. ai - buk</strong></td>
<td><strong>a - buk - okIn</strong></td>
</tr>
<tr>
<td>to pour/empty</td>
<td>a) to pour for someone</td>
</tr>
<tr>
<td></td>
<td>b) to pour at a place</td>
</tr>
<tr>
<td></td>
<td>c) to pour into/onto/against someone/something</td>
</tr>
<tr>
<td><strong>4. a - ibuŋa</strong></td>
<td><strong>a - ibuŋa - ikIn</strong></td>
</tr>
<tr>
<td>to beat</td>
<td>a) to beat for someone</td>
</tr>
<tr>
<td></td>
<td>b) to beat someone/something at a place</td>
</tr>
<tr>
<td></td>
<td>c) to beat someone/something so that he/it goes into/onto/another</td>
</tr>
<tr>
<td>Derived Verb</td>
<td>Examples</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| a - gwEl - akiN | a) *Inçai ecamuni agwelakin aaronon lo egoε?*  
who accepted to buy for bad man this cloth?  
"Who accepted to buy a cloth for this bad man?"

b) *Edolit agwelakin iγoen orot.*  
it is fit to buy at clothes on way  
"It is better to buy clothes on the way".

c) *Asάduku na agwelakin iγoen box this to buy into clothes*  
"Here is a suitcase to buy clothes and put in". |

| ai - po - ikin | a) *Olot aipoikin idwe inyamat.*  
You go to cook for children food  
"Go to cook food for the children". |

b) *Ebala tata aipoikin inyamat oreke.*  
she says grandmother to cook at food home her  
"Grandmother says food will be cooked at her home." |
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. a - buk - OkIn</strong></td>
<td></td>
</tr>
<tr>
<td>c) Abakuli na aipoikin imare.</td>
<td>&quot;Here is a bowl to put beans after cooking.&quot;</td>
</tr>
<tr>
<td>bowl this to cook and put into beans</td>
<td></td>
</tr>
<tr>
<td>a) Agir npese na abukokin eong amot.</td>
<td>&quot;This girl has refused to empty the pot for me.&quot;</td>
</tr>
<tr>
<td>she has refused girl this to empty for me pot</td>
<td></td>
</tr>
<tr>
<td>b) Ore edolitor ngin abukokin ajon.</td>
<td>&quot;It is at home that that woman should get beer.&quot;</td>
</tr>
<tr>
<td>at home it is fit that one to pour for at beer</td>
<td></td>
</tr>
<tr>
<td>c) Skoto ikoku abukokin ikapa akipi.</td>
<td>&quot;The child wants to pour water onto the cat.&quot;</td>
</tr>
<tr>
<td>she wants child to pour onto cat water</td>
<td></td>
</tr>
<tr>
<td>Derived Verb</td>
<td>Examples</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| **ai-buña - IkIn** | a) Erai ojai ituan ecamuni aibu' aikin eong apese na ti ejok.  
*if - it was there -person- who can accept- to beat for- I-girl-this- it should be good*  
"If there was someone who would accept to beat for me this girl it would be good."  

b) Osomero alosi eong aibu' aikin ngin.  
*at/to school I am going I to beat at that one*  
"It is at school that I will beat that girl."  

c) Itelepai itomon elosete aibu' aikin akituk auj.  
*boys ten are going to beat so that the go- cows to kraal.*  
"Ten boys are going to beat the cows so that they can go into the kraal." |
1. **ai - jEn**
   to know

2. **ai - dup**
   to hear/listen/understand/feel

3. **al - ba**
   to be soaked

4. **al - la**
   to be clean
C. DERIVATIONS WITH STATIVE VERBS

Infinitive + V root + Suffix /-akIn

a - jEn - akIn

a) to know for someone
b) to know at a place

a - dup - OkIn

a) to hear ....... for someone
b) to hear ....... at a place

a - ba - IkIn

a) to be soaked at a place

a - la - IkIn

a) to be clean for someone
b) to be clean at a place
# Examples with Stative Verbs

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| 1. a - pup - OkIn | a. Alosi eong apupokin papa iyemuto okekwa je.  
I am going to listen/hear for father news at side that  
"I am going to listen to the news for father on the other side".  
b. Osomero ilosi iso apupokin ikososinei  
at school we are going we to listen to songs  
"It is at school that we shall listen to the songs." |
| 2. a - jEn - akIn | a. Ingai elosi ajenskin eong skituk nu cja ore ngol?  
who will go to know for I cows which are at home that  
"Who is going to know the cows which are in that home on my behalf?" |
| 3. a - ba - IkIn | Elosete imei lu abaikin oreka  
they are going beans these to be soaked at home my  
"These beans are going to be soaked at my home." |
<table>
<thead>
<tr>
<th>Derived Verb</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>1a</th>
<th>TkIn</th>
</tr>
</thead>
</table>

4. a - 1a - TkIn
Examples

Ham idiotuan epedori aese ngin alaikin.
no any person she can girl that to be clean to
"There is no one who can see that girl as being clean."

O town alosi eong da alaikin.
to town - I am going - I - also- to be clean.
"It is in town that I will also be clean."
### APPENDIX IV

**Suffix \(-\text{akIn} - (\text{+ATR})/\)**

#### A. DERIVATIONS WITH PUNCTUAL VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + suffix (-\text{akIn} - (\text{+ATR})/)</th>
</tr>
</thead>
</table>
| **1. a - \text{Ibap}**
  to slap            | s - \text{Ibap} - \text{akIn}
  a) to slap each other
  b) to slap each other at a place
  c) to slap someone/something for each other
  d) to slap someone/something for each other at a place
  e) to slap someone/something into/onto/against each other at a place |
| **2. ai - \text{pet}**
  to kick            | a - \text{pet} - \text{akIn}
  a) to kick each other
  b) to kick each other at a place
  c) to kick someone/something for each other
  d) to kick someone/something for each other at a place
  e) to kick someone/something into/onto/against each other
  f) to kick someone/something into/onto/against each other at a place |
Infinitive + V root

3. a - IkIs
   to scrape
Infinitive + V root + Suffix /-akIn - [+ATR] /

a - IkIs - akin

a) to scrape each other (vaccination)
b) to scrape each other at a place
c) to scrape someone/something for each other
d) to scrape something into/onto/against each other
e) to scrape something into/onto/against each other
Derived Verb | Examples
--- | ---
1. a - Ibab - akin | a) Ekotoci lu aibapakin.
- they want - these ones - to slap each other
- "These guys want to slap each other."

b) Ilosi iso aibapakin ore.
- we are going - we - to slap each other - at home
- "We are going to slap each other at home."

c) Acamutu angor aibapakin idwe.
- they have agreed - women - to slap for each other - children.
- "The women have agreed to slap the children for each other."

| Examples | Examples |
--- | ---
d) Acamutu angor aibapakin idwe kosomeno
- they have agreed - women - to slap for each other - children - at school
- "The women have agreed to slap the children for each other at school.

e) Ekotoci itelepai aibapakin skipl.
- they want - boys - to slap onto each other - water
- "The boys have agreed to slap water onto each other."
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. <em>a - pet - okin</em></td>
<td></td>
</tr>
</tbody>
</table>
| f. Ekotosi itelepai aibapakin akipi kore.  
they want - boys - to slap onto each other - water- at home.  
"The boys want to slap water onto each other at home." | |
| a. Esil yesi apetokin.  
it is shameful - you (pl) to kick each other  
"It is shameful for you to kick each other." | |
| b. Esil yesi apetokin kotunga.  
it is shameful - you - to kick each other - at people  
"It is shameful for you to kick each other at a place where people are present." | |
| c) Agiroto kwi apetokin emopiira.  
they have refused - they- to kick for each other - ball  
"They have refused to kick the ball for each other." | |
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>d) Agiroto kwi apetokin emopiira kosomero.</td>
<td>They have refused to kick the ball for each other at school. &quot;They have refused to kick the ball for each other at school.&quot;</td>
</tr>
<tr>
<td>e) Esil yesi apetokin apua.</td>
<td>It is shameful for you to kick dust onto each other. &quot;It is shameful for you to kick dust onto each other.&quot;</td>
</tr>
<tr>
<td>f) Esil yesi apetokin apua kotunga.</td>
<td>It is shameful for you to kick dust onto each other at a place where people are present. &quot;It is shameful for you to kick dust onto each other at a place where people are present.&quot;</td>
</tr>
<tr>
<td>a) Icamu iso aikisakin ekato moi.</td>
<td>We have agreed to scrape each other vaccination tomorrow. &quot;We have agreed to vaccinate each other tomorrow.&quot;</td>
</tr>
<tr>
<td>b) Icamu iso aikisakin ekato moi kadekis.</td>
<td>We have agreed to scrape each other vaccination tomorrow in hospital. &quot;We have agreed to vaccinate each other tomorrow in hospital.&quot;</td>
</tr>
</tbody>
</table>
**Derived Verb** | **Examples**
--- | ---
e) Itemokino itelepai aikisakin arujaj osabiti ngol. The boys have planned to scrape sisal for each other next week.

d) Ai eloete kesi aikisakin amujaj? Where are they going to scrape sisal for each other?

e) Ikotosi cabo yesi aikisakin asinge! You want to scrape sand onto each other.

f) Esubit bala eloete kesi aikisakin asinge orot. It looks like they are going to scrape sand onto each other on the way.
<table>
<thead>
<tr>
<th>Infinitive + V root</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a - ˌwɪl to buy</td>
</tr>
<tr>
<td>2. a - ɪpo to cook</td>
</tr>
<tr>
<td>3. ai - ˈbʊk to pour/empty</td>
</tr>
<tr>
<td>4. a - ˈɪbʊŋa to beat</td>
</tr>
</tbody>
</table>
DERIVATIONS WITH DURATIVE VERBS

Infinitive + V root + Suffix /-akIn- [+ATR]/

a - gwil - akin

a) to buy for each other
b) to buy for each other at a place
c) to buy

da - ipo - ikin

a) to cook for each other
b) to cook for each other at a place

da - buk - okin

a) to pour for each other
b) to pour for each other at a place
c) to pour something onto each other
d) to pour something onto each other at a place

da - ibu /a - ikin

a) to beat each other
b) to beat each other at a place
c) to beat someone/something for each other
d) to beat someone/something for each other at place.
### Derived Verb: a - \(\text{gwEl} \) - akin

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| a - \(\text{gwEl} \) - akin | a) *Enyounitos apesur agwelakin igoen.*  
they are intending – girls – to buy for each other – clothes  
"The girls are intending to buy clothes for each other."  
b) *Enyounitos apesur agwelakin igoen kagwelanaret.*  
they are intending – girls – to buy for each other – clothes – at shopping centre  
"The girls are intending to buy clothes for each other at the shopping centre." |

### Derived Verb: a - \(\text{ipo} \) - ikin

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| a - \(\text{ipo} \) - ikin | a) *Ikurokini yesi aipoikin inyamat?*  
you will fail – you(pl) to cook for each other – food  
"Will you fail to cook food for each other?"  
b) *Ikurokini yesi aipoikin inyamat kore?*  
you will fail – you(pl) to cook for each other – food – at home  
"Will you fail to cook food for each other at home?" |
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **3. a - buk - okin** | a) Edolit yesi abukokin amoti eruko akolong epol.  
"You should empty the pots for each other when the sun is still up."

b) Agirito ikiliok abukokin akipi kasuban.  
"The men have refused to pour water for each other at the ceremony."

c) Okerata abukokin akipi.  
"Run to pour water onto each other."

d) Okerata abukokin akipi kocor.  
"Run to pour water onto each other at the well."

| **4. a - ibuŋa - aikin** | a) Lukangai ekotosi aibuŋa aikin?  
"Who are those who want to beat each other?" |
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| b) **Apotu iki kocamtu aibu jai**k**in orot.**  
they did - they - to agree - to beat each other - at road  
"They agreed to beat each other on the way." |
| c) **Enyoikitos itelepai aibu jai**k**in apecur.**  
they are intending - boys - to beat for each other - girls.  
"The boys are intending to beat the girls for each other." |
| d) **Enyoikitos itelepai aibu jai**k**in apecur katemus**  
they are intending - boys - to beat for each other - girls - at dance place  
"The boys are intending to beat girls for each other in the dance place." |
## C. DERIVATIONS WITH STATIVE VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix /-akin- [ATR]/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <em>ai - jèn</em></td>
<td><em>ai - jèn - akin</em></td>
</tr>
<tr>
<td>to know</td>
<td>a) to know each other</td>
</tr>
<tr>
<td></td>
<td>b) to know each other at a place</td>
</tr>
<tr>
<td></td>
<td>c) to know someone/something for each other</td>
</tr>
<tr>
<td></td>
<td>d) to know someone/something for each other at a place</td>
</tr>
<tr>
<td>2. <em>ai - pup</em></td>
<td><em>ai - pup - akin</em></td>
</tr>
<tr>
<td>to hear/listen/understand/feel</td>
<td>a) to hear .... each other</td>
</tr>
<tr>
<td></td>
<td>b) to hear .... each other at a place</td>
</tr>
<tr>
<td></td>
<td>c) to hear .... someone/something for each other</td>
</tr>
<tr>
<td></td>
<td>d) to hear .... someone/something for each other at a place</td>
</tr>
<tr>
<td>3. <em>aî - ba</em></td>
<td><em>aî - ba - ikin</em></td>
</tr>
<tr>
<td>to be soaked</td>
<td><em>a - ba - ikin</em></td>
</tr>
<tr>
<td>4. <em>aî - la</em></td>
<td><em>aî - la - ikin</em></td>
</tr>
<tr>
<td>to be clean</td>
<td><em>a - la - ikin</em></td>
</tr>
</tbody>
</table>
### Examples with Stative Verbs

<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **1. a - jën - akin** | a) Ekoto yesi ajenakin.  
it wants - you (pl) - to know each other  
"You should know each other."  
b) Ilosi iso ajenakin ngina.  
we are going - we - to know each other - there  
"We shall know each other there."  
c) Ipedori oni ajenakin iitabon.  
we can - we - to know for each other - books  
"We can identify the books for each other."  
d) Ipedori oni ajenakin iitabon kosomero.  
we can - we - to know for each other - books - at school.  
"We can identify the books for each other at school." |
| **2. a - pup - okin** | a) Agiroto isisianakinak apupokin.  
they have refused - teachers - to listen to each other.  
"The teachers have refused to listen to each other." |
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Ates ilosete yesi apupokin!</td>
<td></td>
</tr>
<tr>
<td>in grave - you are going - you (pl) - to listen to each other</td>
<td></td>
</tr>
<tr>
<td>&quot;It is only in the grave that you will listen to each other.&quot;</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX V

### SUFFIX /-la/

#### A. DERIVATIONS WITH PUNCTUAL VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix /-la/</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. a - Ibap</strong></td>
<td>a - Ibap - la</td>
</tr>
<tr>
<td><strong>to slap</strong></td>
<td>a) to slap with</td>
</tr>
<tr>
<td></td>
<td>b) to slap because of</td>
</tr>
<tr>
<td><strong>2. ai - pet</strong></td>
<td>a - pes - I0</td>
</tr>
<tr>
<td><strong>to kick</strong></td>
<td>a) to kick with</td>
</tr>
<tr>
<td></td>
<td>b) to kick because of</td>
</tr>
<tr>
<td><strong>3. a - IkIs</strong></td>
<td>a - IkIs - la</td>
</tr>
<tr>
<td><strong>to scrape</strong></td>
<td>a) to scrape with</td>
</tr>
<tr>
<td></td>
<td>b) to scrape because of</td>
</tr>
</tbody>
</table>
### A. DERIVATIONS WITH PUNCTUAL VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a - Ibap</td>
</tr>
<tr>
<td>to slap</td>
</tr>
<tr>
<td>2. ai - pet</td>
</tr>
<tr>
<td>to kick</td>
</tr>
<tr>
<td>3. a - IkIs</td>
</tr>
<tr>
<td>to scrape</td>
</tr>
</tbody>
</table>
APPENDIX V

SUFFIX /-/la/

Infinitive + V root + Suffix /-/la/

\[ \text{a - Ibap - Ia} \]

a) to slap with
b) to slap because of

\[ \text{a - pes - IO} \]

a) to kick with
b) to kick because of

\[ \text{a - IkIs - Ia} \]

a) to scrape with
b) to scrape because of
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| 1. aI - bap - In | a) Emame cong akan na edolitor aibapia aberu. it is not there I hand which it is fit to slap with woman "I do not have a hand with which to slap the woman."  
   b) Inyo ikotor ijo aibapia nes? what you want you to slap because her "Why do you want to slap her?"
| 2. a - pes - IO | a) Mam akeju kon edolitor apesio idiotunganan no leg your it is fit to kick with any person "Your leg is not fit to be used to kick any one."
   b) Kanu kinyo mam akaakeju edolitor apesio idiotunganan? for what reason no my leg it is fit to kick because any person "For what reason is my leg not fit for kicking any person?"
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **aI - kIs - Ia** | a) Oinakinni cong ekileng aikisia a mujaj. you give me I knife sto scrape with sisal "Give me a knife with which to scrape the sisal."

b) Kanu, kinyo ikotor ijo aikisia kes? for what reason you want you to scrape them "For what reason do you want to scrape them?" |
<table>
<thead>
<tr>
<th>Derived Verb</th>
<th>Examples</th>
</tr>
</thead>
</table>
| aI - kIa - Ia | a) Oinakinai cong ekileng aikisia a rujaj.  
you give me I knife sto scrape with sisal  
"Give me a knife with which to scrape the sisal."  
b) Kanu' kinyo ikotor ijo aikisia kes?  
for what reason you want you to scrape them  
"For what reason do you want to scrape them?" |
### B. DERIVATIONS WITH DURATIVE VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix /-Ina/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a - gwE1</td>
<td>a - gwE1 - Ina</td>
</tr>
<tr>
<td>to buy</td>
<td>a) to buy with</td>
</tr>
<tr>
<td></td>
<td>b) to buy because of</td>
</tr>
<tr>
<td>2. a - ipo</td>
<td>a - Ip0 - yo</td>
</tr>
<tr>
<td>to cook</td>
<td>a) to cook with</td>
</tr>
<tr>
<td></td>
<td>b) to cook because of</td>
</tr>
<tr>
<td>3. ai - buk</td>
<td>a - buk - IO</td>
</tr>
<tr>
<td>to pour/empty</td>
<td>a) to pour/empty with</td>
</tr>
<tr>
<td></td>
<td>b) to pour/empty because of</td>
</tr>
<tr>
<td>4. a - ibuja</td>
<td>a - ibuja - a</td>
</tr>
<tr>
<td>to beat</td>
<td>a) to beat with</td>
</tr>
<tr>
<td></td>
<td>b) to beat because of</td>
</tr>
<tr>
<td>Derived Verb</td>
<td>Examples</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| 1. a - gwel - Ia | a) Ikupun lu agwelia imare.  
money - this - to buy with - beans  
"Here is money with which to buy beans."

b) Kam - einer ngol adolitor ijo a gwelina inyamat  
no - talk - that - it was fit - you - to buy because - food  
"That talk should not have made you buy food."

a) Alosi eong ailipun amot aipoyo imare.  
I am going I to borrow pot to cook with beans  
"I am going to borrow a pot with which to cook beans."

b) Emane ibore acumunia eong aipoyo akojo.  
it is not a thing I accept I to cook bones  
"There is nothing that can make me accept to cook bones."

2. aI - p0 - y0 |

3. a - buk - I0 | a) Ado na abukio amot.  
pail this to empty with pot.  
"Here is a pail with which to empty the pot."
4. ai-buŋa-a

<table>
<thead>
<tr>
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</tr>
</thead>
</table>
| b) Kam adolitor yesi acelakus abukio akipi onyasmt. no it was fit you quarrel your to pour because water on food | "You should not have poured water on the food because of your quarrel."
| a) Ebela to aibuŋaa apesur. club this to beat with girls | "Here is a club with which to beat the girls."
| b) Akokolanut ke akotor eong aibu ea nes. his thieving his I wanted I to beat because him | "It is because of his thieving that I wanted to beat him"
## C. DERIVATIONS WITH STATIVE VERBS

<table>
<thead>
<tr>
<th>Infinitive + V root</th>
<th>Infinitive + V root + Suffix /-la/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ai - jin</td>
<td>a - jin - la</td>
</tr>
<tr>
<td>to know</td>
<td>a) to know with</td>
</tr>
<tr>
<td></td>
<td>b) to know because of</td>
</tr>
<tr>
<td>2. ai - pup</td>
<td>a - pup - lo</td>
</tr>
<tr>
<td>to hear/listen/understand/feel</td>
<td>a) to hear ...... with</td>
</tr>
<tr>
<td></td>
<td>b) to hear ...... because of</td>
</tr>
<tr>
<td>3. ai - ba</td>
<td>a - ba - ya</td>
</tr>
<tr>
<td>to be soaked</td>
<td>a) to be soaked with</td>
</tr>
<tr>
<td></td>
<td>b) to be soaked because of</td>
</tr>
<tr>
<td>4. ai - la</td>
<td>a - la - ya</td>
</tr>
<tr>
<td>to be clean</td>
<td>a) to be clean with</td>
</tr>
<tr>
<td></td>
<td>b) to be clean because of</td>
</tr>
</tbody>
</table>
### Derived Verb

**Examples**

<table>
<thead>
<tr>
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<th>Examples</th>
</tr>
</thead>
</table>
| 1. a - jën - Ia | a) Akoto eong asuwat na ajenia ikoku.  
I want I bungle this to know with child  
"I want this bungle to know the child with."  

b) Kanu kinyo ikotor ijo ajenia nes?  
for what reason you want you to know because her  
"For what reason do you want to know her?"

| 2. a - pup - IO | a) Ayangari eong da eredio apupio iyemuto.  
I am taking I also radio to listen with news.  
"I am also taking the radio with which to listen to the news."

b) Kanu kinyo ikotor ijo apupio iyemuto?  
for what reason you want you to listen because news  
"For what reason do you want to listen to the news."

| 3. a - ba - ya | a) Ekotosi imare lu acekipi abaya.  
they want beans these more water to be soaked with.  
"These beans need more water with which to be soaked." |
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>b) Inyo ikotor ijo kes abaya?</td>
<td></td>
</tr>
<tr>
<td>why you want you them to be soaked.</td>
<td></td>
</tr>
<tr>
<td>&quot;Why do you want them to be soaked?&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Footnotes

13. Examples are all orthographic rather than phonetic.
14. The speaker is in the verandah.
15. 'Bboo' is a kind of vegetable.
16. The speaker is with the visitors.
17. The notion of completing to buy seems to be interpreted as completing to sell.
18. 'Angodingod' is a name of a village.