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A SEMANTIC DESCRIPTION OF TEMPORAL REFERENCE IN THE KIKUYU VERB*

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University of Western Ontario

The paper provides a detailed descriptive account of the principal morphemes in the temporal reference system of the Kikuyu verb. It is proposed that the basic organization of the verbal paradigm reflects an underlying distinction between "manifest" and "imminent" episodes. Those forms which have a tense prefix and a distinct aspect infix describe episodes which are "manifest", in the sense of being fully realized at the moment of speaking. The complementary class of episodes—those with potential for further development—are described by the "imminent action" forms, which are characterized by a single prefix positioned before the verb stem. The manifest/imminent distinction accounts for the presence of a "short-perfect/long-perfect" and a "short-imperfect/long-imperfect" contrast, found only in the present tense but not within any other tense. The latter part of the paper describes the special aspectual properties of inchoative state verbs in Kikuyu. It is argued that these verb stems are systematically ambiguous between a state and an event meaning, and that this ambiguity is not simply a consequence of what aspect inflection the stem co-occurs with. In addition, evidence is presented to suggest that the Kikuyu perfect marker is ambiguous between the meanings "perfect-aspect" and "persistent-state".

*This paper is an extensively revised version of the material originally presented in my dissertation [Johnson 1977]. I am grateful to David Dowty and Arnold Zwicky, the co-directors of my dissertation, for the many hours of advice and support which they gave to this research. The final version of this paper benefited greatly from the detailed comments on an earlier draft by Talmy Givón and Russell Schuh. Remaining errors are my own responsibility. I would also like to express my gratitude to the Canada Council for a travel grant to do field work in Kenya, to the Government of Kenya for permission to do research there, and to the members of the Department of Linguistics and African Languages at the University of Nairobi, especially Kevin Ford and Mohammed Abdullaziz, for their warm hospitality during my visit to Nairobi. Most of all, I am grateful to the Kikuyu people for their friendly acceptance of me and my work. This description of Kikuyu came into being primarily through the patient assistance of Macaria, Gĩtaũ, Nyĩka, and Tony, the consultants who worked with me on the project.
1. Introduction

The purpose of this paper is to provide a detailed semantic description of the principal morphemes in the temporal reference system of the Kikuyu verb. The account presented here is part of a long-range investigation into the nature of tense and aspect marking whose ultimate goal is to provide a formal syntax and semantics for these categories within the theoretical tradition now known as "Montague Grammar". In Johnson [to appear], I have dealt with the Kikuyu system in some detail, having proposed a set of abstract temporal meanings for each of the principal tense/aspect categories of this language. In the present paper, I deal with the same categories but from a more descriptive, less theoretical perspective. My aim here is to provide as detailed and comprehensive a presentation as possible of the semantic facts that I have gathered concerning temporal reference in the Kikuyu verb. Although my own theoretical orientation inevitably shapes the description to some extent, it is hoped that the data presented here will be of use to linguists of all theoretical persuasions who have an interest in the Bantu verb system.

There has been at least one previous study on the semantics of a Bantu verb system, Givón [1972:Chapter 4], which deals with ChiBemba. The scope of Givón's study is broader than my own, since it includes modality marking as well as tense/aspect, and it discusses markedness relations among semantic features based upon many extra-sentential relationships not yet considered in my work on Kikuyu. In consequence, Givón provides relatively less descriptive detail on the core features of the ChiBemba system, and this fact, coupled with some fundamental differences between the ChiBemba and the Kikuyu systems, makes it difficult to compare the two analyses at the outset. Since my goal here is principally descriptive, I will not attempt such a comparison in this paper. Nevertheless, I am sure that Bantuists would agree that a broadly based comparison of different Bantu verb systems and different theoretical approaches is a primary research goal for Bantu linguistics, and I hope that many individuals will ultimately contribute to the realization of that goal.

Most of the data presented here derives from a field trip in 1976 to
Nairobi, Kenya,¹ where I worked with two Kikuyu students from the University of Nairobi. I also worked for a time on this project with a Kikuyu student at Ohio State University and another at the University of Western Ontario. Although these four consultants represented a variety of dialectal subgroups, there were no dialect differences among them that affected the work I was doing.

The data from my own field notes has been supplemented by the very excellent grammar of Barlow [1960]. At numerous places in the text I have indicated where information and/or examples have been taken from Barlow's grammar, and my general indebtedness to his outstanding pioneering work is evident throughout.

¹All Kikuyu forms cited in this paper are written in the standard orthography. The one peculiarity of this system is the use of the tilda (~), which distinguishes the mid vowels i (~[e]) and û (~[o]) from the low vowels e (~[e]) and o (~[o]), respectively. Otherwise, the symbols have their standard values. The Kikuyu orthography does not represent phonemic tone or vowel length; consequently, these are not marked in the forms cited. The spelling used is that used by my Kikuyu consultants, except for the occasional form in which an underlying long vowel is spelled with a double vowel (even though the consultant spelled it with a single vowel). This normalization of the spelling facilitates the morpheme-by-morpheme breakdown in the interlinear glosses; vowels are recovered in this way only when convenient, and not on a consistent basis. A dash (—) indicates an ordinary morpheme boundary, and a slash (/) indicates the boundary of an infixed element. The following abbreviations will be used in the interlinear glosses:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Category Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imp</td>
<td>Imperfect</td>
</tr>
<tr>
<td>Comp</td>
<td>Completive</td>
</tr>
<tr>
<td>Perf</td>
<td>Perfect</td>
</tr>
<tr>
<td>SImp</td>
<td>Short-imperfect</td>
</tr>
<tr>
<td>SPerf</td>
<td>Short-perfect</td>
</tr>
<tr>
<td>LPerf</td>
<td>Long-perfect</td>
</tr>
<tr>
<td>RP</td>
<td>Remote past</td>
</tr>
<tr>
<td>NP</td>
<td>Near Past</td>
</tr>
<tr>
<td>CP</td>
<td>Current past</td>
</tr>
<tr>
<td>CF</td>
<td>Current future</td>
</tr>
<tr>
<td>NF</td>
<td>Indefinite (near) future</td>
</tr>
<tr>
<td>RF</td>
<td>Remote future</td>
</tr>
</tbody>
</table>
1.1. Morphological aspect classes of Kikuyu. It is a well-known fact about
the Bantu languages that their verbal morphology is exceedingly complex.
The categories of verbal inflection include tense, aspect, modality, and ne­
gation; in addition, there is a large number of possible derivational suf­
fixes (or "verbal extensions", as these are usually known among Bantuists)
and a very large set of concord markers for indicating agreement with sub­
ject and object noun phrases. The resulting possible complexity of a verb
form may be illustrated with the following example:

(1) nī a-a-tū-ku-TrīT ire²
    he-RP-us-die-reduplicated benefactive/Comp

'he died for us'

In this paper, I will be concerned only with verb forms which are in­
flected for tense and aspect and which function as independent main verbs in
a sentence. (Thus, I will not be treating the so-called "dependent tenses"
or the negated forms.) To avoid irrelevant morphological complexities, I
will also restrict the examples to sentences which evidence subject concord
(which is obligatory) but not object concord (which is not required in every
sentence and which, unlike subject concord, can be semantically significant).
The verb forms thus included are illustrated in Tables 1 and 2 below, for the
verb hanyūka 'run'.

²Something must be said about the particle nī, which occurs in most
of the Kikuyu sentences cited in this paper. The presence of nī is some­
times necessary in order to render a sentence a well-formed assertion, al­
though in other cases its presence is optional. The function of nī appears
to be to indicate whether the verb is part of what is asserted in a sentence
or part of what is presupposed, i.e. nī indicates that the verb is part of
the new assertion made by the sentence. The main evidence for this inter­
pretation of nī is the fact that sentence (a) below is an assertion if
nī is included but can only be used as a question if nī is omitted:

(2) mwana nī a-ra-hanyūka
    child he-SImp-run

'the child is running (right now)'

However, if (a) is expanded so that, for example, an adverb follows the verb,
or if the verb is changed to a transitive one so that an object noun phrase
follows, then the sentence can be used to make an assertion without nī; in
this case, the focus of the assertion is on whatever follows the verb rather
than the verb itself. On the basis of such facts, Myers [1971] has suggest­
ed that nī is used when its whole clause is asserted and omitted when some
part is presupposed.
Table 1: **Manifest Action Forms**

<table>
<thead>
<tr>
<th>Tense</th>
<th>Completive Action</th>
<th>Imperfect Action</th>
<th>Perfect Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;zero&quot; tense</td>
<td>a-hanyęk/ire</td>
<td>a-hanyęk/aga</td>
<td>a-hanyęk/ite</td>
</tr>
<tr>
<td>Current past</td>
<td>---</td>
<td>e-kū-hanyęk/aga</td>
<td>e-kū-hanyęk/ite</td>
</tr>
<tr>
<td>Kü-**</td>
<td>'he ran (earlier today)'</td>
<td>'he was running (earlier today)'</td>
<td>'he had run (earlier today)'</td>
</tr>
<tr>
<td>Near past</td>
<td>a-ra-hanyęk/ire</td>
<td>a-ra-hanyęk/aga</td>
<td>a-ra-hanyęk/ite</td>
</tr>
<tr>
<td>Ra-</td>
<td>'he ran (yesterday)'</td>
<td>'he was running (yesterday)'</td>
<td>'he had run (yesterday)'</td>
</tr>
<tr>
<td>Remote Past</td>
<td>a-a-hanyęk/ire</td>
<td>a-a-hanyęk/aga</td>
<td>a-a-hanyęk/ite</td>
</tr>
<tr>
<td>A-</td>
<td>'he ran (before yesterday)'</td>
<td>'he was running (before yesterday)'</td>
<td>'he had run (before yesterday)'</td>
</tr>
</tbody>
</table>

Glosses indicate typical time interpretations for the tenses.

*changes stem final a to e  **changes a preceding a to e
Table 2: Imminent Action Forms

<table>
<thead>
<tr>
<th>Category</th>
<th>Form</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-perfect</td>
<td>a-a-hanyūka</td>
<td>'he has just run'</td>
</tr>
<tr>
<td>Short-imperfect</td>
<td>a-ra-hanyūka</td>
<td>'he is running right now (but he hasn't been running for long)'</td>
</tr>
<tr>
<td>Current future</td>
<td>e-kū-hanyūka</td>
<td>'he will run (some time later today, within a few hours)'</td>
</tr>
<tr>
<td>Near future</td>
<td>a-rT-hanyūka</td>
<td>'he will run (soon, but the speaker has no definite time in mind)'</td>
</tr>
<tr>
<td>Remote future</td>
<td>a-ka-hanyūka</td>
<td>'he will run (tomorrow or later)'</td>
</tr>
</tbody>
</table>

Glosses indicate typical time interpretations for each category.

* changes a preceding a to e

The forms illustrated in Tables 1 and 2 have been sub-grouped according to the number and position of elements in the verbal string. Those in Table 1, which for reasons given below will be designated the "manifest action" forms, are characterized morphologically by the presence of an aspect marker (either /ir, /ag, or /It) within the verb stem and a tense prefix (possibly "zero") immediately preceding the verb stem. Thus, the schematic

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3Where an object concord marker also occurs, it is positioned between...
The position of the aspect marker in a verbal string has been indicated with a slash ( ) rather than an ordinary morpheme boundary because these markers are typically infixed into the verb stem rather than suffixed to it. (If the verb stem happens to end in the vowel a, as the great majority do, then either /ir or /i will trigger a change in this vowel to e. The alternation applies whether or not e immediately follows the aspect marker.)

The morphological status of these markers as infixes is actually problematic. In some cases, they are undeniably infixed into the verb root: for example, the verb bucia 'blink' has the aspectualized forms bucirie, bucagia, and bucitie, in which the aspect markers are interposed between the c and the i of the stem, a point at which there can be no morpheme boundary. In other cases, however, the morphological status of the aspect markers is not so clear-cut, and it appears that they may be analyzed as suffixes rather than infixes. For example, some Bantuists may consider the final a of many verb stems to be itself a suffix (cf. Barlow [1960:128]), which would mean that /ir, /ag, and /i typically occur at the boundary between a verb root and the "suffix" a. I am skeptical that the "morpheme" -a can be assigned any meaning which is independent of the basic meaning of the verb root in the absence of any aspectual inflection. Thus, I think that the aspect markers should be considered as infixes in these cases as well.

There are, nevertheless, still other cases where the aspect markers do occur at the boundary between a verb root and some following suffix. For example, the aspect markers are inserted before the various verbal extensions; these include the causative marker -i, as in cokia 'return (transitive)' (causative of coka 'return (intransitive)'), whose aspectualized forms are cokirie, cokagia, cokitie, and the passive suffix -wo, as in korwo 'be found' (passive of kora 'find'), whose aspectualized forms are korirwo, koragwo, koritwo. Thus, it appears that the rule governing the position of an aspect marker in a verb stem is not particularly sensitive

the prefix and the verb stem, e.g. a-a-mū-hūr/aga (he-RP-him-beat/Imp) 'he was beating him (in the remote past)', a-ra-mū-hūra (he-SImp-him-beat) 'he is beating him (right now)'.

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to the presence or absence of a morpheme boundary per se but depends instead on a variety of unrelated factors.

Karega Mütahi has informed me that in some dialects the imperfect marker /ag occurs before a stem final sequence ua, e.g. igua 'hear, perceive' has the imperfect form igagua (vs. iguaga in other dialects). This suggests that a subpart of the rule has generalized in this dialect, from "Insert /ag before a final sequence ia" to "Insert /ag before any final sequence of a high vowel plus a". This change further suggests that the various subparts of this morphological rule are essentially independent of each other.

There are in addition some minor formation rules for the perfect marker /Tt involving the allomorphs /iT, /in(e), and /ir(e) (cf. Barlow [1960:137-40]). The possible significance of these allomorphs is discussed in section 4 of the paper. In general, my consultants used only the marker /Tt and tended to identify these other allomorphs as characteristic of other dialects.

Turning now to the forms given in Table 2, which I will designate the "imminent action" forms, these have a simpler morphological structure than the forms of Table 1, being characterized by a single prefix positioned directly before the verb stem. Thus, the schematic structure of forms in this group is:

Subject - Prefix - Stem

The category names which appear in Tables 1 and 2 have been based in part on current terminological conventions in studies of verb aspect, especially Comrie [1976], on terminology used in Barlow [1960], and in part have been coined by me. The terms "perfect" and "imperfect" correspond to Comrie's usage, while "completive" corresponds to his use of the term "perfective". (A perfect/completive contrast is less confusing than a perfect/perfective contrast.) The terms "long-perfect" and "long-imperfect" which appear in Table 1 have been coined by me, as have the terms "short-perfect" and "short-imperfect" in Table 2. (These categories will be explained more fully in due course.) The names of the past and future categories have been taken for the most part from Barlow's grammar, although I have used simply "remote past" and "remote future" where Barlow uses "remoter". However, the term "indefin-
ite (near) future" is again my own choice; Barlow refers to this category simply as "near future", but my own research suggests that the semantic feature "indefinite future time reference" should be given greater prominence in the name of this category. Another pair of terms which have been coined by me are "current past" and "current future", which I am using to denote the categories which Barlow calls "immediate past" and "immediate future". I have introduced new terms here because I think that Barlow's terminology is somewhat misleading for reasons to be explained later.

The most important over-all finding of this investigation is that the two formal groupings of verb forms represented by Tables 1 and 2 correspond to two natural classes of episodes. The "manifest action" forms of Table 1 all describe episodes which are fully developed prior to the time of speaking. This characterization covers episodes of two types: (a) those which lie entirely within the past and are separated from the moment of speaking by a lapse of time which is at least a few hours long; and (b) those which continue up to the moment of speaking but have reached a point of stable development before that time, i.e. there is no further dynamic development, only repetition within an established pattern. Most of the forms within the manifest action group describe episodes of type (a), that is, ones which are completed some time prior to the time of speaking. There are, however, two exceptional cases. First, the "long-imperfect" form (with "zero" tense and the aspect marker /ag/) describes a habitual action that is true at the moment of speaking. Thus, the episode described is one which continues up to (and beyond) the moment of speaking, but because it involves an established habit, it presents no new (or undetermined) pattern of development. Hence, the episode may be characterized as one that is "manifest". Similarly, the "long-perfect" form in Table 1 (with "zero" tense and aspect marker /ît/) is a present tense form, which can describe an event whose results continue up to (and beyond) the moment of speaking. For example, sentence (2) below:

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"The manifest/imminent distinction in Kikuyu which is described in what follows was originally suggested to me by the manifest/manifesting distinction which Whorf [1956:59-60] described for Hopi. I believe that these semantic contrasts in Hopi and Kikuyu are similar but probably not precisely the same category distinction."
(2) nī a-ak/tē nyūmba 'he has built a house (some time ago)'
   he-build/Perf house
can be used to convey the message that the house is now built. The sentence
implies, however, that the building took place some time ago, so that the
present existence of the house is an established state, not a new develop-
ment.

Turning to the "imminent action" forms of Table 2, it is evident that
these forms describe the complementary class of episodes, namely, those which
still have the potential for dynamic development in some phase of their reali-
zation. This category includes episodes which have taken place just prior
to the time of speaking as well as those concurrent with it and those which
lie in the future. It is perhaps surprising that this category should in-
clude some episodes which have already taken place, but the reason for this
is not difficult to perceive: a very recent episode may have unforeseen re-
sults, hence the final, result phase of the episode is as yet largely unde-
termined and subject to significant change. Since we have defined manifest
actions as those which are fully realized in every phase of their development
by the moment of speaking, it is clear that events which have just taken
place must be excluded from the manifest group and included in the imminent
(= non-manifest) group.

The bulk of this paper will be concerned with describing in detail the
specific categories which belong to these "manifest" and "imminent" sub-
paradigms. This discussion is followed by a description of the special as-
pectual properties of "inchoative state" verbs. To conclude the introductory
discussion, however, we will consider the lexical aspect classes of verbs in
Kikuyu.5

1.2. Lexical aspect classes of Kikuyu. Considerable attention has been paid
in recent years to the question of the inherent (or lexical) aspect classes
of verbs.6 A number of studies, e.g. von Wright [1963], Bennett and Partee

5I use the term "aspect class" to refer to what Comrie [1976:41] dis-
cusses under the name "inherent meaning" and Lyons [1977:706] under the name
"aspect character (or Aktionsart)".

6Strictly speaking, aspect classification depends not merely on verbs,
[1972], Nordenfelt [1977], Taylor [1977], Mourelatos [1978], agree in recognizing three fundamental categories of episodes as described by verbs. I will refer to these three categories as "events", "states", and "processes". In most treatments of the subject, states are contrasted with events and processes in that states lack dynamic development, whereas events and processes both involve some form of development or change. On the other hand, events are contrasted with states and processes in that events have an inherent endpoint, i.e. to be an event, an episode must progress toward some intrinsic climax which terminates the event, whereas states and processes have no such natural end-point. Thus, any process or stative episode can typically be divided into shorter episodes which are instances of the same process or state; in contrast, events occur only at discrete intervals of time because the event is defined by its intrinsic climax. Before this climax is reached, the event has not yet occurred, and after the climax is reached, the event cannot be continued. (In many discussions of this topic, such as Comrie [1976:44], this semantic contrast is designated "telic vs. atelic" episodes.) Some examples of English stative verbs are know, love, and believe; of process verbs are run, burn, and revolve; and of event verbs are die, burn up, and build (something).

In an influential article on verb classification, Zeno Vendler [1967] added to the three-way classification described above a further distinction within the category of events, namely, a distinction between "achievements" and "accomplishments". Vendler's typology was developed in Dowty [1972] into a set of syntactic tests for membership in the four categories, and analogous tests can be established for other languages. In Kikuyu, the following syntactic tests illustrate the grammatical significance of the aspect classes. Event verbs (whether achievements or accomplishments) naturally occur with but on verb phrases or even on whole sentences. For example, a change in quantification of the subject NP in (a) below entails a change from a process predication in (a) to an event predication in (b):

a) Water dripped through the roof.

b) A gallon of water dripped through the roof.

Nevertheless, verbs obviously play an important role in helping to determine the aspectual classification of a sentence, and since I do not intend to treat the topic here in any depth, it will be convenient to refer only to the aspect classes of verbs.

Durational adverbs preceded by the particle *na* (roughly equivalent to English "in x amount of time" phrases), whereas process verbs occur with durational adverbs without *na* (comparable to English "for x amount of time" phrases). For example:

(3) ni a-a-ak/ire nyūmba na kiumia kīmwe  
    he-RP-build/Comp house in week one  
    'he built a/the house in one week'

(4) ni a-ra-kiny/ire na ndagīka ithatū  
    he-NP-arrive/Comp in minutes three  
    'he arrived in three minutes'

(5) ni a-hanyūk/ire ithaa rīmwe  
    he-run/Comp hour one  
    'he ran for an hour'

A further syntactic frame which can be used to distinguish events from processes involves the complementizer verb *rīkia* 'to do completely, to finish'. *rīkia* means to reach the natural climax of an episode; hence, it allows in its complement only those verbs which can be understood as describing events. For example:

(6) nī a-ka-rīkia gw-aka nyūmba Jumataṭū  
    he-RF-finish to-build house Monday  
    'he will finish building the house on Monday'

(7) nī a-a-rīkia gū-koma  
    he-SPerf-finish to-fall asleep  
    'he has just fallen deeply asleep'

(8) ??nī a-a-rīkia kū-hanyūka  
    he-SPerf-finish to-run  
    ??'he has just finished running'

In presenting sentences like (8) to my Kikuyu consultants, I found that they were seldom rejected outright, but the consultant(s) typically supplied some additional information to explain how the sentence might be used appropriately. For example, it was suggested that (8) above might be used to describe the completion of a race. This shows that in interpreting (8), a Kikuyu speaker must supply an event-like interpretation for the predicate *hanyūka* before judging the sentence as acceptable.
In contrast to ṛıkia, there is another complementizer verb tiga (an agentive verb) which means 'to leave off doing something', i.e. 'to stop'. This verb embeds both process and event verbs but with somewhat different semantic consequences in the two cases. The verb tiga means to bring an episode to an end without the episode having reached any inherent climax. With processes, there is no natural climax, so that sentence (9) below, for example, means simply that there was an episode of running which came to an end. Note that (9) is consistent with the claim that there was an actual instance of running, i.e. that he did run.

(9) nī a-a-tig/ire kū-hanyūka
       he-RP-stop/Comp to-run
   'he stopped running'

Sentence (10) below, on the other hand, implies that the building activity ended before its natural climax; hence, there was no actual (complete) event of building the house. Sentence (10) is thus not consistent with the claim that he (completely) built the house.

(10) nī a-a-tig/ire gw-aka nyūmba
       he-RP-stop/Comp to-build house
   'he left off building the house (without completing it)'

The semantic properties of tiga are discussed again in section 2 in reference to the discussion of imperfect aspect.

Other criteria for distinguishing the aspect classes of verbs in Kikuyu involve the semantic properties of the various aspect inflections. For example, the inflectional category "imperfect aspect" has contrasting interpretations for event and process verbs. For event verbs, the most salient interpretation of an imperfect form is that the event is "imcomplete", in the sense that it is undergoing development but has not reached its climax. Without this climax, of course, the event itself does not yet exist. Thus, the assertion "he is V'ing" for an event verb V is not consistent with the assertion "he has V'ed". On the other hand, once the climax of an event is reached, the event cannot continue. Thus, the assertion of a present perfect form of an event verb precludes the assertion of a corresponding present imperfect form. My consultants consistently judged sentences like (11) and
(12) below to be unacceptable:

(11) *a-hing/îte mûrango na no a-ra-hinga (Event)
    he-close/Perf door and still he-SImp-close
    *'he has closed the door, and he is still closing (it)'

(12) *nî a-tony/îte nyûmba na no a-ra-tonya (Event)
    he-enter/Perf house and still he-SImp-enter
    *'he has entered the house, and he is still entering'

With a process verb, however, the syntactic frame illustrated in (11) and (12) yields an acceptable sentence, as illustrated by (13):

(13) ihuti nî rî-erer/îte na no rî-r-erera
    leaf it-float/Perf and still it-SImp-float
    'the leaf has (already) floated, and it is still floating'

Sentence (13) is acceptable because floating has no necessary end-point; consequently, the assertion that an episode of the leaf's floating precedes the time of speaking is consistent with the claim that the same episode continues concurrently with the time of speaking.

Another feature of the aspect inflections which can be used to discriminate different lexical classes of verbs is the so-called "stative" meaning of a perfect form, which is possible for some verbs but not others. With ordinary verbs, a perfect form describes action completed prior to some temporal point of reference. This is illustrated by (14) and (15) below.

(14) nî a-hanyûk/îte
    he-run/Perf
    'he has run'

(15) nî a-ra-tony/îte nyûmba
    he-NP-enter/Perf house
    'he had entered the house' (consistent with his being still in the house, or no longer there)

With a large class of verbs, however, the perfect form is used to describe the continued existence (at the point of reference) of some specific result

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7Note application of the vowel harmony rule: î → e following a low front or back vowel in the preceding syllable.
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state. For example:

(16) nī a-ra-ku/īte  he-NP-die/Perf
     'he was dead'

(17) nī a-rūgam/īte  he-stand/Perf
     'he is standing'

The semantic properties of this class of verbs (which I will designate "inchoative state verbs") are discussed in detail in section 4.

As a final point, it should be noted that these syntactic "tests" do not necessarily yield a unique aspect classification for every lexical verb of Kikuyu, since many verbs will be found to function in more than one class, according to various semantic senses of the verb. This is, of course, not a peculiarity of Kikuyu but a general feature of lexical structure in all languages, and it has been previously pointed out by most other writers on this topic.

2. The Manifest Action Sub-Paradigm

In the manifest action sub-paradigm of the Kikuyu verb, there are three morphemes which mark three different aspect categories. I will describe each of these markers in turn, and show how each one interacts with the four tense categories of the manifest action group.

2.1. Completive aspect and past tense. Verb forms marked with the morpheme /ir are used to describe actions completed in the past (but not immediately prior to the moment of speaking). For example (the following forms have "zero" tense):

(18) nyūmba nī t-hī/ire
     house  it-burn/Comp
     'the house burned down'

(19) nī a-men/i/ire mūrata wake
     he-recognize/Comp friend his
     'he recognized his friend'

(20) a-hīng/i/ire mūrango rūcīnī
     he-close/Comp door morning
     'he closed the door this morning'

(21) nī a-kom/i/ire
     he-fall asleep/Comp
     'he fell asleep' (consistent with his being still asleep or having woken up again)

The time reference of sentences (18) through (21) is typically understood as
equivalent to the time reference of a "current past" tense form, i.e. a form marked with the prefix kū-. The meaning of kū- is "reference to a time within the current time unit but somewhat earlier than the moment of speaking" (see 2.2 below for further discussion and illustration of this meaning). The time unit relevant to interpreting the current past (and other past tenses) depends upon the context and may involve days, months, years, etc. If the context of utterance determines that the relevant time units are days, then kū- means "several hours earlier today", and this is exactly how the tense reference of sentences (18) through (21) is typically understood.

One of the peculiarities of the Kikuyu verb paradigm (for which there is no obvious explanation) is the fact that the tense prefix kū- does not combine with the completive marker /ir. When presented with hypothetical forms constructed in this manner, such as *ekūhanyükire (which, on analogy with near past forms, we expect to mean "he ran somewhat earlier today"), consultants reject the form as a non-word and do not volunteer any translation. As illustrated above, the expected meaning of the non-occurring form is attached instead to the "zero" or unmarked tense form of the completive aspect set. This unmarked tense form combines with the time adverbials appropriate to a current past tense form, such as ümūthi 'today' and rūcinī 'this morning' (the latter is used with a current past form when speaking in the afternoon or evening). Moreover, this ("zero") form rejects other time adverbs such as ira 'yesterday' and iyo 'two days ago', which require near and remote past tense marking respectively. This is illustrated by the three completive aspect sentences given below:

(22) nī a-kom/ire rūcinī
    he-fall asleep/Comp morning
    'he fell asleep this morning' (speaking in the afternoon or evening)

(23) nī a-ra-kom/ire ira
    he-NP-fall asleep/Comp yesterday
    'he fell asleep yesterday'

(24) nī a-a-kom/ire iyo
    he-RP-fall asleep/Comp two days ago
    'he fell asleep two days ago'

Note that (23) and (24) demonstrate that the meaning of the marker /ir is compatible with both near past and remote past tense. Thus, it would be
inappropriate to claim that /ir has the meaning "current past tense", even though the verb form in (22) functions as a current past tense form, since then it would be impossible to explain (except in a strictly ad hoc manner) how /ir combines with ra- in (23) to give a near past tense meaning and with a- in (24) to give a remote past tense meaning. Rather, the correct semantic interpretation of a form with the morpheme /ir is "action completed earlier than the time of speaking, at least several hours before". This interpretation gives to a form with /ir a more general meaning than any of the corresponding forms with tense prefixes, and at the same time, a meaning which is compatible with any of the more specific tense categories. Thus, for example, /ir can combine with the near past prefix ra-, whose normal interpretation is "in the immediately preceding time unit, i.e. yesterday", to yield the expected meaning, "action completed in the near past (or, yesterday)", since placing the action in the near past automatically involves saying that it is significantly earlier than the moment of speaking. Similarly, a correct interpretation of the meaning of a form marked with /ir and the remote past prefix a- is predicted by this analysis.

I have shown that a completive form with "zero" tense must be assigned a more general temporal meaning than a near or remote past tense form and that therefore, unlike forms marked by the current past prefix ku-, this form is not semantically restricted to current past time reference. How, then, do we explain the fact that this form has the same co-occurrence restrictions with time adverbs as a (perfect or imperfect) form marked with ku- ? I think that this fact is best explained on the grounds that the presence of an explicit time adverb requires the co-occurrence of the tense form which is closest in meaning to the adverb. Thus, for example, ira 'yesterday' requires the use of a near past form because the more specific meaning of "near past tense" more closely matches the content of the adverb ira and similarly for the co-occurrence of remote past forms with other time adverbs.

The analysis I have proposed for the "zero" tense completive form received unexpected confirmation in the course of my field work when one of my consultants commented that a sentence such as (25)
(25) nTi tū-guc/irie mūkanda 'we pulled the rope'
we-pull/Comp rope

places the emphasis on "establishing that the act is done" but does not place particular emphasis on the actual time reference. This is what we would expect if the implication of current past tense in such sentences arises only through systematic contrast of the unmarked tense form with the available options in the paradigm which have a more narrowly specified time reference.

Turning now to the meaning of the tense prefixes ra- and a-, example sentences (23) and (24) above suggest that near past tense (ra-) means simply "yesterday" while remote past (a-) means "at a time earlier than yesterday". However, examples such as these are somewhat misleading if taken in isolation, since other adverbials demonstrate that the near and remote past intervals can overlap; what is critical in choosing one or the other tense form is the relative distance of the time referred to from the time of speaking. For instance, the near past tense can be used in reference to the past two days, i.e. yesterday and the day before, although reference just to the day before yesterday requires remote past tense:

(26) ihuti nTi rTi-ra-kor/agwo rTi-kTi-erera thiku igIrIrir thiru
leaf it-NP-be found/Imp it-imp-float days two gone
'the leaf was repeatedly floating the past two days' (lit. 'the leaf was being found floating the past two days')

Moreover, near and remote past tense can in some instances co-occur with the same time adverb but only when the context of utterance differs in the manner illustrated by the following example:

(27) ihuti nTi rTi-ra-kor/agwo rTi-kTi-erera kiumia kIu kI-ra-thir/ire
leaf it-NP-be found/Imp it-imp-float week that it-NP-go by/Comp

OR

rTi-a-kor/agwo
it-RP-be found/Imp

'the leaf was repeatedly (found) floating last week'

Since the Kikuyu week is calculated from Monday to Monday, my consultants judged that (27) would be appropriate with near past tense when speaking on a Monday or Tuesday, whereas remote past tense in (27) would be appropriate
when speaking on later days in the week. This example thus demonstrates that what matters is the relative distance of the time period referred to from the time of speaking.

Note that in sentence (27), the expression for "last week" is constructed with the use of a near past tense form in a relative clause (regardless of what tense is used in the main clause). Expressions for "last month" and "last year" are constructed analogously, i.e.

(28) a. mwerI úyü ú-ra-thir/ire 'last month' (lit. 'that month which went by in the near past')
    b. mwaka úcio ú-ra-thir/ire 'last year'

Reference to a year previous to "last year" involves the use of remote past tense in a relative clause, e.g.

(29) mwaka úcio úngI w-a-thir/ire 'the year before last' (lit. 'that other year which went by in the remote past')

All of the facts outlined above suggest that the correct semantic interpretation for the near and remote past tenses is as follows:

- **Near past** reference to a time period which ends within the time unit (day/month/year/etc.) which immediately precedes the current time unit

- **Remote past** reference to a time period which ends prior to the time unit which immediately precedes the current time unit

Whether the relative positions of the near and remote past are to be calculated in terms of days, months, years or some other time unit depends upon the context of utterance in as yet undetermined ways. However, it is clear that when not otherwise indicated by context, the appropriate time unit is taken to be days, so that the near past refers to time periods ending yesterday while the remote past refers to time periods ending prior to yesterday.

Thus far, I have provided a semantic description of the tense prefixes ra- and a- and of the aspect marker /ír/. The meaning given above for
/ir has a tense-like component in that it restricts the reference of a form to actions completed in the past. For detailed justification of the claim that this is indeed a marker of an aspect category rather than a tense category, see Johnson [to appear].

2.2. Perfect aspect and "current past" tense. A Kikuyu perfect form is semantically comparable to an English perfect form (have + past participle); that is, it describes an episode which occurs prior to some specified temporal point of reference. However, the Kikuyu marker /ī/ differs from the English perfect form in that it must co-occur with some member of a more explicit set of past tense markers than is available in English. This rich system of tense marking is illustrated again below:

(30) a. nī a-hanyūk/Tte
   he-run/Perf
   'he has run' (the running took place some time ago)

b. nī e-kū-hanyūk/Tte
   he-CP-run/Perf
   '(somewhat earlier in the current time unit) he had run'

c. nī a-ra-hanyūk/Tte
   he-NP-run/Perf
   '(in the near past) he had run'

d. nī a-a-hanyūk/Tte
   he-RP-run/Perf
   '(in the remote past) he had run'

Another peculiarity of the manifest perfect forms in Kikuyu is that in the present tense (with "zero" tense marking), there is a systematic contrast between the manifest long-perfect form and the short -perfect form of the imminent action group:

(31) a. nī a-a-hanyūka
   he-SPerf-run
   'he has just run' (typically, within the last few hours)

b. nī a-hanyūk/Tte
   he-run/Perf
   'he has (already) run' (more than a few hours ago)

In contrast to (31a), (31b) describes an episode of running which precedes the specified point of reference (namely, the time of speaking) by at least a few hours. There is no comparable contrast in the past tenses: thus, for example (30c) above can describe an episode of running which immediately precedes the specified point of reference (in the near past), or which precedes it by some (indeinitely large) lapse of time. In Johnson [to appear]
I have argued that the specialized meaning of a manifest perfect form with "zero" tense is a consequence of the interaction of present tense and perfect aspect with the category manifest action. To be manifest, an action must be fully realized prior to the time of speaking; this semantic condition is compatible with a present perfect meaning such as "he has run" only if the action of running is construed as taking place significantly prior to the time of speaking.

In section 2.1 above, I gave a semantic characterization of ra (near) and a (remote past tense), but I have not as yet described the prefix ku- , for which I have coined the term "current past tense". This prefix is unusual for a number of reasons. For one thing, most other Bantu languages seem to have only a near past/remote past contrast, which suggests that the three-way contrast in Kikuyu is a relatively recent innovation in the system, rather than a feature inherited from proto-Bantu. Another oddity of ku- is the fact (noted above) that it fails to combine with the completive marker /ir . The missing form seems to be "pre-empted" by the "zero" tense form, which for paradigmatic reasons is used to express the semantic category "current past tense". The significance of this type of pre-emption is at present obscure, but it does seem likely that it would not be a historically stable feature of the system, so that the lack of a form combining ku- with /ir would count as further evidence of the innovativeness of this tense category.

Another peculiarity of the prefix ku- is that it is formally identical with the prefix ku- of the imminent action group, the "current future" marker. The obvious semantic symmetry of these two markers is illustrated in (32a/b) below:

(32) a. nǐ e-kū-igu/īte ngengere 'he had heard the bell (earlier today, a few hours past)'
   he-CF-hear/Perf bell

b. nǐ e-kū-igu a ngengere 'he will hear the bell (later today, a few hours hence)'
   he-CF-hear bell

(Note the alternation a → e in the subject marker a- , which is triggered by both the past and the future markers.) This semantic symmetry suggests that at some level of analysis, ku- should be considered an "extended
present tense" marker with the meaning "reference to a time within the current time unit but somewhat removed from the actual moment of speaking". Past or future time reference is thus not intrinsic to the meaning of kū- but arises as a consequence of the prefix's paradigmatic role, i.e. whether its slot on the verb brings it into systematic contrast with past or future markers.

Both the current past and the current future markers are probably derived historically from the locative noun prefix kū- (Class 15), which is used in forming place nouns, e.g. kūndū 'area, stretch of space', and locative adverbs, e.g. kūria 'there'. As Anderson [1973] has shown, it is commonplace for morphemes to be borrowed from spatial reference systems into temporal systems among all the languages of the world. Moreover, the meaning of kū- as a noun prefix supports the basic semantic analysis given to temporal kū-. Barlow [1960:26] glosses kūndū as 'a place (in the wider sense: a locality, district)', as opposed to handū 'a place (a certain spot; a limited area)'. Thus, spatial kū- contrasts semantically with ha- in terms of a contrast between extended and limited stretches of space, in a manner analogous to the contrast between what I have called "extended present" (referring to times within the present time unit) and a conventional present tense (referring to the actual moment of speaking).

There is one other significant point which sets kū- apart from the other two past tenses.9 What the "current past" category seems to mean is reference to a time wholly contained within the current time unit (and preceding the actual moment of speaking by a certain lapse of time). This

8This interpretation of the semantic difference between ha- and kū- is also supported in Denny [1978].

9In what follows, I provide evidence that the treatment of current past tense in Johnson [to appear], in which I used Barlow's term "immediate past" for the category, was inappropriate. There, I assimilated the interpretation of this category to the interpretations of the other past tenses. In reconsidering my data, however, I have reached the conclusion that kū- has rather specialized semantic properties and that the apparent parallelism with the other tenses (suggested in the original name) is misleading. The semantic description given here, I now believe, is a truer representation of the facts.
differs from the interpretation of the other past tenses in that the time reference is defined by the position of the whole interval referred to, rather than just the end of the interval. My main reason for thinking that this interpretation of \( \text{kū-} \) is correct is that \( \text{kū-} \) in combination with the imperfect marker /\( \text{ag} \) does not express an habitual action meaning. Compare (33a) with (33b) below:

(33) a. \( ñ \) a-ra-hanyük/aga
    he-NP-run/Imp
    'he was running (yesterday)' OR
    'he was about to run (yesterday)' OR
    'he used to run (up until about yesterday)'

b. \( ñ \) e-kū-hanyük/aga
    he-CP-run/Imp
    'he was running (earlier today)' OR
    'he was about to run (earlier today)' OR
    ??'he used to run (up until about a few hours ago)'

In my notes, I do not have any cases of \( \text{kū-}/\text{ag} \) forms such as (33b), which were interpreted as habitual action forms. The reason may be that habits do not characteristically end so abruptly that a speaker can pinpoint the end within the last few hours. However, I am inclined to think that the real reason is that \( \text{kū-} \) is restricted to actions encompassed within the present time unit, and when the time unit is taken as "today" (which is the case in a neutral elicitation context), then the length of time involved for the whole action is too brief to admit a habitual action interpretation. If this interpretation of the facts is correct, then the category "extended present" marked by \( \text{kū-} \) plays a unique role in the Kikuyu tense system.

2.3. Imperfect aspect. The morpheme /\( \text{ag} \) marks imperfect aspect within the manifest action sub-paradigm, and it co-occurs with each of the three tense prefixes ( \( \text{kū-} \), \( \text{ra-} \), \( \text{a-} \) ) or with none of them, i.e. with "zero" tense. In the past tenses, an imperfect form can have a variety of senses or interpretations which depend in part on the semantic properties of the verb. For example, as indicated in section 1, the imperfect form of an event verb has the meaning of "incomplete action", illustrated again below:

(34) \( ñ \) a-a-ku/aga
    he-RP-die/Imp
    'he was dying' (i.e. he had not yet died)

(35) \( ñ \) a-a-tony/aga nyūmba
    he-RP-enter/Imp house
    'he was entering the house' (i.e. he was not yet in the house)
Sentences such as (34) and (35) (like their English counterparts) do not strictly entail that the "he" referred to ever did die or that he ever completed the act of entering the house. The failure of this inference as a strict semantic entailment of the category imperfect is illustrated by sentences such as (36) below (the point is illustrated with the short -imperfect prefix ra- of the imminent action series but is valid for all imperfect forms of the language):

\[(36) \text{nī a-ra-aka nyūmba no nd-a-r-enda kū-mī-rīkia} \]

\[\text{he-Simp-build house only not-he-SImp-want to-it-finish} \]

'he is building a house, but he doesn't intend to finish it'

Normally, when asserting the first clause of (36), I believe that a speaker would imply that he expects the whole house to be built (otherwise, his statement would be misleading). However, the fact that this assertion can be elaborated as in (36) without producing a simple self-contradiction shows that the meaning of the imperfect includes only an expectation of ultimate completion, not a factual claim that the event indicated must be completed at some later time.

For a process verb, the "incomplete action" meaning of the imperfect does not involve an entailment that there is as yet no instance of the process named because a process has no inherent end-point; thus, for example, a process verb in imperfect aspect can be given the interpretation illustrated in (37):

\[(37) \text{nī a-a-hanyūk/agā} \]

\[\text{he-RP-run/Imp} \]

'he was in the midst of running' (i.e. he had already done some running, and he intended to continue)

It is because process verbs in imperfect aspect can be interpreted in this way that (as described in section 1) a perfect form of a process verb can be conjoined with an imperfect. This is illustrated again in (38):

\[(38) \text{nī a-a-hanyūk/Tte, na no a-a-hanyūk/agā} \]

\[\text{he-RP-run/Perf and yet he-RP-run/Imp} \]

'he had (already) run, and yet he was (still) running'

However, in spite of these differences between the "imcomplete action" mean-
ings of process and event verbs in imperfect aspect, I believe that there is a single "imperfective" meaning common to both cases, namely the idea of an episode which is in some sense already "underway" and which is expected to continue beyond the point in time referred to by the speaker. In other words, the action described is one which is in part unrealized at the time point referred to by the speaker because the time span of the action projects beyond that reference point, but it is nevertheless one which, from the perspective of the reference point, can be reasonably expected to take place in full. With event verbs, it is the expectation of continuation beyond the point of reference which gives rise to the entailment that the climax of the event has not been reached because (by definition) an event cannot continue beyond its climax. In contrast, a process has no inherent climax, so that the question whether or not this climax has been reached simply fails to arise.

The most problematic part of the proposed definition of imperfect aspect is the claim that the episode described must be "in some sense underway" and that ultimate realization of additional parts of the episode must be a reasonable expectation at the time referred to. This is problematic because the use of a Kikuyu imperfect form does not strictly require that the episode has already begun at the time referred to. Like the imperfects of many languages (including the English progressive form), the Kikuyu imperfect allows a strictly "futurate" interpretation, as illustrated below:

(39) nī a-a-tony/aga nyūmba
he-RP-enter/Imp house

'(he was just about to enter the house' (i.e. he was intending to enter the house, but he has not actually undertaken the action as yet)

(40) nī tü-ra-ku/aga mūrigo
we-NP-carry/Imp load

'we were to carry the load' (committed to the action, although not carrying it out as yet)

In discussing this futurate interpretation, one consultant commented that (40) "expresses an attitude of cooperation", i.e. the imperfect here is used to provide information about an agent's intentions to carry out certain actions rather than about the actions themselves.

Although the futurate interpretation of the imperfect is quite salient
for Kikuyu speakers, it is not equally viable for all verbs. In general, this interpretation strongly favours agentive verbs over non-agentive verbs. (The facts here are strikingly similar to comparable facts about English.) I believe that this apparent restriction to agentive verbs does not indicate that the futurate meaning of the imperfect directly expresses agency but rather that this interpretation requires that the episode so described be one which can be predicted with a high degree of accuracy. When an agent intends to carry out a certain action, then this provides strong grounds for claiming that the action really will take place even if it has not yet begun. Under normal circumstances, there are no comparably strong grounds for claiming that a non-agentive episode (such as blinking or floating) will take place. Thus, the futurate sense of the imperfect can be viewed simply as a special case of its basic meaning which arises when the "latter, unrealized but expected portion" of the episode, turns out to be the whole episode itself. In every use of the imperfect, there is some latter portion of the episode which is as yet unrealized but which is expected to occur on the basis of prior intentions or other pre-determining circumstances. If the whole episode is of a type that is predictable from prior circumstances, a strictly "futurate" interpretation for the imperfect thus becomes possible.

It is worth noting that futurate interpretations of the imperfect also appear to favour first person forms over third person forms. For example, my consultants offered (41) below as a paradigm example of this use of the imperfect:

(41) rucinți nǐ n-gü-uk/aga\(^10\) no n-di-r-oka
    morning  I-CP-come/Imp only I-not-SImp-come

    'this morning I was coming (i.e. intending to come), but (now)
     I'm not coming'

In (41), the speaker is discussing his own intentions and therefore has good grounds for asserting that the episode described was a reasonable expectation earlier that day even though he knows that it subsequently never materialized (and never will). This example thus supports the contention that

\(^10\)Note that application of Dahl's Law: k → g before a following voiceless consonant or th (\(>^*c\)).
what is at issue here is not simply whether the episode described is agentive or not but whether it is (was) a reasonable expectation at the time referred to.

Another consideration in support of my analysis is the meaning of the complementizer verb tiga 'to leave something behind, to stop doing something'. The semantics of tiga is strikingly similar to the semantics of the imperfect, as illustrated in (42):

(42) nī a-ra-tig/ire kū-hanyūka
    he-NP-stop/Comp to-run
'he stopped running' (i.e. (a) he was in the midst of running and stopped, OR (b) he was intending to run but decided not to)

Interpretation (a) of (42) is parallel to the "incomplete action" meaning of the imperfect while interpretation (b) is like the "futurate" meaning. It would be odd for imperfect aspect and the verb tiga to be ambiguous in precisely analogous ways, without there being some intrinsic connection between the two putative "meanings".

There is yet another possible interpretation for the Kikuyu imperfect form: this is the iterative/habitual meaning, which is attached to the category imperfect in many other languages as well. This interpretation is applicable to both process and event verbs:

(43) ihuti nī rī-r-erer/aga
    leaf it-NP-float/Imp
'he used to float (in the near past)'

(44) nī a-a-igu/aga ngengere
    he-RP-hear/Imp bell
'he used to hear a bell' (may or may not have been the same bell each time)

(45) nī a-a-kiny/aga nairobi
    he-RP-reach/Imp
'he used to reach Nairobi'

(46) nī a-a-rīk/agia nyūmba
    he-RP-finish/Imp house
'he used to finish a house' (obviously in this case, a different house each time)

Again, this is an ambiguity shared by tiga: sentence (42) above can mean 'he used to run, but he stopped'. I believe that what is involved here is not an ambiguity in the category imperfect aspect per se (nor in the verb tiga) but rather an ambiguity in what a verbal predicate can describe. For
example, a verb such as hanyuka 'run' is ambiguous as to whether it describes a particular episode at a particular time or the habits and disposition of an individual over a protracted period of time. Similarly, the iterative/habitual meaning of the imperfect, as in

\[(47) \ n\T \ a-\text{ra-buc}/\text{agia} \quad \text{he-NP-blink/Imp} \quad \text{'he repeatedly/habitually blinked (in the near past)'}\]

depends upon the potential for the verb bucia to refer either to a single incident of blinking, or to an iterated series of such incidents. If this understanding of the facts is correct, then the characterization of imperfect aspect which I have proposed above is adequate to account for all of the interpretations of the category represented in examples (43) through (47) above.

There is an important restriction on the possible interpretations of /ag when it occurs with "zero" tense. In such forms, the tense is understood as the present, and the meaning is restricted to habitual action. For example:

\[(48) \ n\T \ a-\text{hanyuk}/\text{aga} \quad \text{he-run/Imp} \quad \text{'he usually/habitually runs'}\]

vs.

\[(49) \ n\T \ a-a-\text{hanyuk}/\text{aga} \quad \text{he-RP-run/Imp} \quad \text{'(in the remote past) he was in the midst of running' OR 'he was about to run' OR 'he used to run'}\]

The failure of forms such as (48) to express any sub-category of the imperfect other than habituality can be explained on the grounds that the categorization "present imperfect" is consistent with the categorization "manifest action" only if the action described is understood as a (protracted) habit rather than a single, relatively punctile occurrence. For details of this explanation, see Johnson [to appear].

This completes the discussion of the semantics of the aspect infix /ag. However, for the interest of those with a specialized knowledge of Kikuyu structure, something must be added here about the relationship between this morpheme and the infixed /ag which co-occurs with the indefinite (near) and remote future forms of the imminent action sub-paradigm. The existence
of forms such as akahanyükaga (he-RF-run/ag) and arThanyükaga (he-NF-run/ag) is noted in Barlow [1960:143-144]. There is very good evidence that this second /ag, which I will henceforth designate /ag₂, is semantically and syntactically distinct from the /ag which functions as an imperfect marker in the manifest action sub-paradigm. (This is not to deny an etymological relationship between the two morphemes.) The facts which support this distinction between (inflectional) /ag and (adverbial) /ag₂ are as follows. First of all, the /ag₂ which co-occurs with a future marker does not have the full range of interpretations of an imperfect marker: its meaning is simply "repetition":

(50) ni a-ka-hanyük/aga 'he will repeatedly/habitually run'
    he-RF-run/ag₂

Secondly, and equally important, /ag₂ always has wide scope over its entire sentence whereas the inflectional marker /ag need not. This fact became evident from sentences (51) and (52) below: (52) is acceptable because the time adverb has wide scope over the imperfect marker /ag, but (51) is unacceptable because /ag₂ must have wide scope. The meaning of (51) is "repeatedly he will run tomorrow at 10 o'clock", and this meaning is anomalous because ten o'clock does not recur within tomorrow.

(51) *ni a-ka-hanyük/aga ruciū thaa ikumi
    he-RF-run/ag₂ tomorrow hour ten
(52) ni a-ra-hanyük/aga ira thaa ikumi
    he-NP-run/Imp yesterday hour ten
    'he was running yesterday at ten o'clock'

A third point illustrating the difference between /ag and /ag₂ is that /ag₂ can co-occur with the prefix ki- in instances where ki- is itself a marker of imperfect aspect (ki- marks imperfect aspect on syntactically dependent verbs). Barlow [1960:145] gives the following example of /ag₂ in this context: sentence (53) shows the imperfect use of ki- (in the absence of /ag₂) while (54) shows the same construction with /ag₂:
According to Barlow, the form of the second verb in (54) "has a similar use to the above [i.e. the second verb in (53)], but the continuance of the action is more particularly expressed" (p. 145). It seems clear that this use of /ag₂ is analogous to the one shown in (50) above and that it does not involve inflection of a verb for the category of imperfect aspect.

Finally, it is worth noting that the use of /ag₂ as a sentence adverb meaning "continuously" or "repeatedly" is found only in grammatical contexts where it could not be confused with the inflectional marker /ag and that in these instances there is a good alternative account of the syntax of /ag₂. That is, there appears to be a class of sentence modifiers in Kikuyu which occur as infixes on complex verb forms. Another member of this class is kTI- (again, a morpheme homophonous with an imperfect marker but contrasting in meaning). Barlow [1960:264] describes this use of kTI- as follows:

"KTI is a particle which affects neither mood nor tense, but which may be infixed into any verb of whatever mood or tense. Its function appears to be that of a connective, with the force of "so", "then", etc. Its position in the verb is always directly before the stem in verbs which have no objective infix and directly before the objective infix when that is present."

An example of the use of kTI- as a sentence connective is sentence (55):

(55) nI tw-a-gIT-kiny/ire
     we-RP-kTI-reach/Comp

'I in due course, we arrived'

I would conclude from the foregoing points that ag₂ is not an inflectional marker and need not be equated with the ag of the manifest action sub-paradigm.

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11 Barlow discusses this morpheme under the heading "RT Near Future Tense" but describes it as "an indefinite near future and may be applied either to the day of speaking or beyond it" (Barlow [1960:131], emphasis mine).
3. The Imminent Action Sub-Paradigm

The prefixes of the imminent action sub-paradigm of Kikuyu, which were illustrated in Table 2, provide an exhaustive set of possible descriptions of episodes that are partially realized in regard to the moment of speaking. These descriptions include the range of episodes from those occurring just prior to the moment of speaking (typically, within the last few hours) to those expected to occur at times indefinitely far ahead in the future.

3.1. Short-perfect and short-imperfect. The meaning of the Kikuyu short-perfect form, marked by the prefix a-, is "action completed just prior to the moment of speaking". In this part of the Kikuyu temporal paradigm, there is no contrast between a present perfect and a past completive; thus, for example, the form aakwa (he-SPerf-die) covers the meaning of English 'he just died' as well as English 'he has just died' (cf. Barlow [1960:54, 134]).

Like an English present perfect, the Kikuyu short-perfect can be used to imply (conversationally) the continuing existence of some result state (at the moment of speaking):

(56) nĩ a-a-hinga mūrango 'he has just closed the door'
    he-SPerf-close door

This sentence can be used with the implication that the door is still closed. This is not part of the semantics of the sentence, however, since (56) is consistent with a situation in which the door has been opened again.

The Kikuyu short-imperfect form has the meaning of an ordinary imperfect form (as described in the preceding section), with the additional semantic feature that the action described (if it has begun at all) has been going on for a relatively short period of time. The short-imperfect thus contrasts with the present tense, (long-) imperfect of the manifest action sub-paradigm, as illustrated again in (57) and (58):

(57) a-ra-hanyuka 'he is running right now' OR 'he is just about to run'
    he-SImp-run

vs.

(58) a-hanyük/aga 'he habitually runs'
    he-run/Imp
As explained in section 2 (57) describes an extended episode of running that projects beyond the moment of speaking; hence, it is natural to interpret this form as describing an habitual action. In contrast, (58) describes a relatively short episode of running or one which has not yet begun (although it is "just about" to take place). This restriction to periods of time which begin no earlier than times somewhat before the moment of speaking tends to make an "incomplete action" meaning the most natural interpretation of a Kikuyu short-imperfect form. A futurate interpretation is also always possible, subject to the pragmatic constraints outlined in section 2. A habitual action interpretation is less frequently perceived but nevertheless possible in principle (thus showing that ra- is a true imperfect marker). A sentence for which an habitual action interpretation was spontaneously offered is (59):

(59) nī a-ra-rīkla  nyūmba  '(these days) he finishes a house' (implying that a short time ago, he didn't bother to do so)

Another pair of sentences illustrating well the semantic contrast between the short-imperfect of the imminent action group and the (long-)imperfect of the manifest action group is (60a/b):

(60) a. nī ma-kor/agwo  ma-kī-rūa  rūcinī
    they-be found/Imp  they-imp-fight morning
    'they are (usually) fighting in the morning' (lit.: 'they are being found fighting in the morning')

b. nī ma-ra-korwo  ma-kī-rūa  rūcinī
    they-SImp-be found  they-imp-fight morning
    (meaning as above, except that the fighting began more recently)

Sentence (60b) describes an emerging pattern of behaviour, (60a) describes a habit of long-standing. Sentences (60a/b) differ morphologically only by whether the auxiliary verb korwo is marked by the (long-)imperfect marker /ag of the manifest action series or the short-imperfect marker ra- of the imminent action series. This example thus shows that the crucial semantic feature that distinguishes these two forms is whether or not the initiation of the action preceded the moment of speaking by a relatively long per-
3.2. Future time. The essential meanings of the three Kikuyu future markers are as follows:

   A. Current future (kū-): reference to a time somewhat later than the time of speaking but within the time unit already entered upon, i.e. "later today/this month/etc".

   B. Indefinite (near) future (rT-): (i) reference to an indefinite future time and/or (ii) reference to a time that is relatively nearer (than times in the remote future) and/or (iii) reference to an action in the future that is relatively less certain to occur.

   C. Remote future (ka-): reference to a time that is in a unit of time not yet entered upon, i.e. "later than today/this week/etc."

The meaning of the current future category is analogous to that of the current past: the former means "reference to a time somewhat later within the current time unit" while the latter means "reference to a time somewhat earlier in the current time unit". As I argued in section 2.2 above, these meanings can be seen as arising from a more general notion of "extended present", which interacts with the meanings of the "manifest" and "imminent action" paradigms to give the more specific meanings current past and current future. In the latter case, the meaning current future arises from the fact that forms in the imminent action sub-paradigm can only refer to times which are either just before or later than the moment of speaking. Because of this restriction, a time that is somewhat removed from the moment of speaking yet within the current time unit must be later than the moment of speaking.

My consultants volunteered the information that when speaking very early in the day (month, etc.), it is preferable to use an indefinite (near) future form to refer to times that are very late in the day rather than using a current future form. This observation is undoubtedly of major significance in understanding how the Kikuyu tense system works, although it is impossible to evaluate its full significance without knowing whether similar vascillation occurs in the choice of other past or future categories. One possible explanation for this type of vascillation is that it arises from the essential ambivalence of a category boundary in the traditional system of tempor-
al units in Kikuyu. This aspect of the tense system tends to be obscured in the example sentences given here by the use of calendrical terms which have (in principle) a precise definition. However, in ordinary conversation, even the units of European clock-time are not necessarily used with precision. It is therefore reasonable to suppose that a speaker located on the boundary of a new time unit, i.e. "very early in the day", may experience some uncertainty as to whether a time which is late in the day is in "this unit" or "the next unit". One possible solution to such a dilemma is to select the indefinite (near) future category which (as I suggest below) seems to be more general in meaning than either of the other two future categories. (The problem I have just described is analogous to the difficulty experienced by English speakers in deciding what time unit "today" refers to when speaking, for example, at 1 a.m.)

The current future marker ku- contrasts with the futurate meaning of the short-imperfect marker ra- in terms of the relative immediacy of the action. This is illustrated in (61):

(61) a. nī a-ra-koma he-SImp-fall asleep
   'he is just about to fall asleep'

   b. nī e-gū-koma he-CP-fall asleep
   'he will fall asleep soon' (but later than the time indicated by (a))

At present, I am undecided as to whether this contrast is strictly tied to the relative distance of the action from the moment of speaking or whether it involves the related notion of the imminence of the action in terms of its likelihood of occurrence.

The contrast between remote past and remote future is less symmetrical in Kikuyu than the current past/current future contrast. The remote future means "later than the current time unit". However, the corresponding past time interval, namely "earlier than the current time unit", does not correspond to any one past tense; rather, reference to this time interval is divided between the near past and the remote past. Among the past tenses, special status is assigned to the immediately preceding time unit, but in making reference to future times, the immediately following time unit is not highlighted in a comparable manner.
The most complex morpheme of the imminent action group is the prefix rÎ- , which I have called the indefinite (near) future (cf. fn. 11). As I indicated in the definition given above, this morpheme appears to have several semantic components. However, the most salient meaning is reference to an indefinite future time. My consultants told me repeatedly that this future marker is used when the speaker has no specific time in mind; they even affirmed on a number of occasions that this form should not be used with an explicit time adverb. We can refer to this as the indefinite future use of rÎ-. Contrary to their claims about the use of adverbs with rÎ- , however, my consultants accepted sentence (62):

(62) nÎ tû-rÎ-hinga mûrango hwaÎ-inÎ 'we will close the door this evening'

I was told that (62) is acceptable (in place of a sentence with the current future marker kû- ) if speaking very early in the day. We will call this the near future use of rÎ- because in this case the action described is relatively close to the time of speaking, i.e. implicitly the speaker rejects remote future marking as implying too great a distance to the predicted episode. I suggested above that the use of rÎ- (rather than kû- ) is acceptable in sentences like (62) because the context described creates uncertainty as to whether the time referred to is in "this time unit" or "the next time unit". If we assume that rÎ- is a generalized future category, meaning "reference to a time later than now" (without regard to relative nearness), then we can explain the two apparently diverse uses of rÎ- as follows: rÎ- is used as an indefinite future marker when the speaker, through uncertainty as to the specific time of occurrence of a predicted episode, lacks sufficient information to choose between (the alternative categories) current future and remote future. On the other hand, rÎ- is used as a near future marker when the speaker is located on the (vague) boundary between two temporal units. Again, the speaker lacks sufficient information to choose between the alternatives, current and remote future, but the reason for this is different: in this case, the speaker is uncertain as to whether he has crossed the boundary between one time unit and the next; hence, he is uncertain which unit counts as the "current one". To avoid this
dilemma, he selects the generalized future, which does not specify which time unit the episode described is in. Since the problem here arises because the speaker is located on the boundary of two time units, and the episode described is close to the immediately following boundary, there is an implication of relative nearness in this use of \( rT^- \).

The third function of the prefix \( rT^- \) is to express relative uncertainty: the other future markers make stronger predictions than does the indefinite (near) future. For example, one consultant commented that sentence (63):

(63) \( nI \ a-rT-kuua \) mürügo  'he will carry away the load' (soon, but no definite time)

makes a weak claim, which might be rendered as, "The occasion will arise for him to carry away the load." The corresponding sentence with a remote future form, however, would make the stronger claim that the person referred to definitely would carry away the load. I do not have any specific proposal to make about how this aspect of meaning came to be associated with the indefinite future marker. Nevertheless, it seems reasonable to suppose that a detailed theory of the pragmatic organization of future time reference would reveal a systematic relation between this and other meanings expressed by \( rT^- \). There is a fairly obvious intuitive connection between the ideas of "indefiniteness" and "uncertainty", so that again, I do not think that it is necessary to assume that \( rT^- \) is lexically ambiguous.

This completes my semantic description of the aspect inflectional system for non-inchoative verbs in Kikuyu. An important dimension of the system which has not been touched upon here is the discourse/pragmatic functions of the aspect categories. Talmy Givón has suggested that my completive marker most likely fills the role of the "in-sequence, backbone-of-narrative" category in discourse, while the imperfect expresses the "non-punctual, background information" category and the perfect fulfills the "anterior, out-of-sequence" role. For further discussion of the discourse functions of an aspect system (as well as further discussion of ChiBemba in relation to other languages), see Givón [n.d.].
4. Inchoative State Verbs and the Morpheme /Tt

Thus far, I have said nothing about the special aspectual properties of the inchoative state verbs of Kikuyu. These verbs are well-known not only to Bantuists but also to general theorists on verb aspect (cf. Comrie [1976:56-58]; Lyons [1977:714-715]) because of the fact that their completive forms are used to express a change of state while their perfect forms are used to describe the corresponding states. For example:

(64) Completive form (RP) Perfect form (RP)
    a-a-nog/ire 'he became tired' a-a-nog/ete 'he was tired'
    a-a-rūar/ire 'he fell sick' a-a-rūar/Tte 'he was sick'
    w-a-hor/ire 'it [a fire] went out' w-a-hor/ete 'it was out'

Verbs such as noga, rūara, and hora have been called (within the Bantuist tradition of Clement Doke) stative verbs because they are characteristically used to denote states in the manner shown above. However, Fortune [1949] has argued that they should be called inchoative verbs because in his view the idea of inchoation is both essential and primary to their meaning. I have settled upon the term inchoative state verbs for the simple reason that both inchoation and stativity seem to be essential components of the meaning of these verbs.

The phenomenon described above is not restricted to intransitive verbs, being found also among transitive verbs:

(65) Completive form (RP) Perfect form (RP)
    a-a-nyit/ire mwana a-a-nyit/Tte mwana
    'she took hold of the child' 'she was holding the child'
    a-a-hing/ire mūrango a-a-hing/Tte mūrango
    'he closed the door' 'he had the door closed'

Other verbs which participate in this semantic pattern are kua 'die', hona 'heal' (transitive and intransitive), rīkia 'finish', ṭīkia '(come to)believe in', ritūha 'become heavy', nyoroka 'become smooth', ūraga 'kill', ciarwo 'be born', kīra 'wake', menya 'come to know', haana 'ressemble', enda 'love', una 'break' (transitive), ikara thī 'sit',
imba 'swell', and many more. This phenomenon is a pervasive feature of the lexical structure of all Bantu languages, and raises important semantic questions concerning both lexical and inflectional meaning. In what follows, I will attempt to clarify what these issues are and what form the answers are likely to take.

4.1. Aspectual inflection of an inchoative state verb. An inchoative state verb is one which is used (in its various inflected forms) to describe both states and their associated events, i.e. the coming-about of the states. As I have just illustrated, it is typically the perfect form of an inchoative state verb in Kikuyu which describes a state and the corresponding completive form which describes the associated event. These meanings for the perfect and completive forms of inchoative state verbs are the most salient interpretations (the ones most readily offered as translational equivalents) but they are by no means the only possible meanings for such forms. To see just how the temporal paradigm of an inchoative state verb differs from the semantic pattern of other verbs, let us consider the set of aspectual inflections for the verb rūara 'fall sick'.

In its completive forms, rūara typically describes an event of becoming sick. However, when a durational adverb is included (such as kiumia kīmwe 'for one week'), the resulting combination describes a state of being sick for the specified length of time. Compare, for example, (66) and (67):

(66) nī a-ra-rūar/ire
    he-NP-fall sick/Comp
    'he fell sick (in the near past)'

(67) nī a-ra-rūar/ire kiumia kīmwe
    he-NP-be sick/Comp week one
    'he was sick for one week'

My interpretation of these facts is that the verb rūara can refer either to a change of state or to the state itself; that is, it is systematically ambiguous in the way that English sit is systematically ambiguous between the meaning 'come to be seated' and 'remain seated'. The change of state meaning is more salient than the simple state meaning: (66) by itself would not typically be used to express the idea 'he was sick', since there are preferred alternative means of conveying this message. However, since events lack duration, the presence of a durational adverb in (67) forces a stative
interpretation of the verb. This shows that reference to an event or a state is inherent in the lexical meaning of an inchoative state verb and is not (as many Bantuists have tended to assume) a simple function of which aspect inflection the verb combines with.

A perfect form of an inchoative state verb has three possible interpretations, as illustrated below:

(68) nT a-ra-rūar/Tte
    he-NP-{fall} sick/Perf

  a. 'he had fallen sick'
  b. 'he had been sick'
  c. 'he was sick'

The first two interpretations shown above correspond to the expected meanings that arise from "perfect aspect" in combination with the two lexical meanings of the stem. It must be stressed, of course, that gloss (a) is much more salient for speakers than gloss (b), the latter never being offered spontaneously by my consultants. However, having realized that this interpretation should be possible in principle, I asked one of my consultants about it. After considerable preliminary discussion, it suddenly struck him that (69) could be used with the meaning (b) provided that the context had already established that the person was well at the time referred to. This discovery thus confirmed that rūara is lexically ambiguous and that the ordinary perfect meaning of /Tt is applicable to either meaning of the verb.

Gloss (c) of example (68), the so-called "stative" meaning, is of course even more salient for speakers than either (a) or (b), as illustrated in (69)

(69) nT a-ku/Tte
    he-die/Perf

'he is dead'

The translation most readily offered for an inchoative state verb in perfect aspect (typically the only translation offered) is a simple state interpretation. The difficult question that this fact raises is whether this stative meaning is independent of the other glosses or whether it is derived from the ordinary perfect meaning, perhaps by a conversational implicature of the type described by Grice [1974]. It is true that in a great many languages a perfect form can be used to conversationally imply the continuing existence of some result state, as (for example) English 'he has fallen sick' can convey 'he is now sick'. However, in English it is clear that this fact is a reflection of the pragmatic structure of conversation rather than a part of the
explicit semantics of perfect aspect. In Kikuyu, some event verbs behave in essentially the same way as corresponding English verbs. For example, tonya 'enter' is an event verb which describes an action of 'going inside' but is not characteristically used to denote the corresponding state of "being inside". Consequently, sentence (70):

(70) nī a-a-tony/ete nyūmba 'he had entered the house'
    he-RP-enter/Perf house

can imply (conversationally) 'he was still in the house', but the sentence is understood to be consistent with a situation in which he had left again. Speakers do not perceive the implication of a continuing state as the primary semantic content of the sentence. This fact suggests that in examples such as (68) and (69), where the stative meaning is perceived as primary, something more than conversational implicature is involved. In section 4.2 below I will present evidence that these examples involve a secondary meaning for the morpheme /It/, which I will designate the "persistent-state" meaning.

Before turning to that problem, we will complete the description of the aspect inflections of inchoative state verbs by considering imperfect aspect. Most inchoative state verbs evidence only an event meaning when used in imperfect aspect, e.g.

(71) nī a-ra-ruar/aga
    he-NP-fall sick/Imp
'h he was falling sick' (final state of sickness not yet achieved) OR 'he repeatedly/habitually fell sick' (not understood as: *'he was being sick')

The fact that ruara does not take the meaning 'be sick' in imperfect aspect is of course analogous to the restriction in English that stative verbs lack a progressive form (cf. *'he is knowing it'). There are, however, some inchoative state verbs of Kikuyu which do allow a stative-imperfect meaning. These verbs include rugama 'stand', ikara thī 'sit', akana 'alight (of a fire or an electric light)', nyīta 'hold', enda '(fall in) love', menya '(come to) know', haana '(come to) resemble'. (Note that many, but not all, of the corresponding English verbs allow progressive aspect, although it can be argued that these English verbs are stative.)
Sentence (75) is similar in meaning to the corresponding perfect sentence (76):

(75) mbica icio nī i-ra-han-an/aga
pictures those they-NP-ressemble-reciprocal/Imp
'those pictures resembled (lit.: were ressembling) each other'

(76) mbica icio nī i-ra-han-an/ītē
pictures those they-NP-ressemble-reciprocal/Perf
'those pictures resembled each other'

But as my consultants explained, (75) expresses "less confidence in the situation" on the part of the speaker. In other words, what all of the imperfect sentences (72) though (75) seem to share is an implication of instability in the state described and/or an active involvement (by someone, not necessarily mentioned in the sentence) in attempts to maintain the state. Consider in this light sentence (77):

(77) nī a-a-mw-end/aga mītaka ìtatū
he-RP-her-love/Imp years three
'he loved (lit.: was loving) her for three years'

My consultants suggested that (77) might be used to describe a situation in which the 'he' referred to was trying to establish a relationship with the 'her' he loved for a period of three years and then finally gave up; sentences like (77) are sometimes rendered as 'he was wanting her (for three years)'. Sentence (78) provides a similar example:

(78) nī a-rī-korwo a-kī-menya macokio
she-NF-be found she-Imp-know answer
'she will be knowing the answer'

This sentence may be used to describe a future situation in which 'she' is consciously aware of the answer, and tends to imply a readiness to provide the answer to someone who asks for it.
The facts concerning the use of stative imperfect forms in Kikuyu are strikingly similar to the facts concerning stative progressive forms in English, as described for example in Dowty [1974]. In both languages, stative verbs can occur in an imperfect (or progressive) form if the state is one that can be construed as unstable and requiring maintenance on the part of some principle participant. Clearly, this factor in the use of imperfect/progressive forms is a fruitful area for further comparative work on the semantic organization of the lexicon.

Are there inchoative process verbs in Kikuyu, corresponding to the inchoative state verbs which I have described? Some of the verbs which allow "stative"-imperfect forms may in fact be ambiguous between a state and a process meaning or may be basically process verbs. The best candidate that I am aware of for such an analysis is akana 'alight (of a fire or light)', which is frequently translated as 'burn' (clearly a process verb in English). Consider, for example, the following uses of the verb akana (translations given are those supplied by my consultants):

(79) mwaki nɛ ŋ-ra-akana
    cooking fire it-SImp-burn 'the cooking fire is burning'

(80) nɛ w-a-akana
    it-SPerf-alight 'it is lit/has lit' (i.e. the fire is ready for cooking)

(81) nɛ ŋ-ra-akan/ire ḳra
    it-NP-alight/Comp yesterday 'it alighted yesterday'

(82) nɛ ŋ-ra-akan/ire mattha matatũ
    it-NP-burn/Comp hours three 'it burned for three hours'

It is possible that akana is lexically four-ways ambiguous among the meanings: 'alight' (inchoative state), 'be lit' (state), 'ignite' (inchoative process), and 'burn' (process). Whether or not we draw this conclusion will depend ultimately on how we view the state/process distinction.12

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12A minor fact about Kikuyu which supports the view that inchoative state verbs are lexically ambiguous is the fact, noted in Barlow (1960:129), that a small number of such verbs can be used without any tense or aspect marking to describe a (presently existing) state. For example:
4.2. The "persistent-state" meaning of /It/. I think the most important reason for considering the morpheme /It/ to be ambiguous in Kikuyu is the simple fact that it expresses two related but nevertheless distinct ideas, neither of which can be merely reduced to the other. To see that this is so, it is especially helpful to consider again some of the transitive inchoative state verbs, as in (83) and (84):

(83) ni a-a-hing /It te mürango
    he-RP-close /It door
    a. 'he had closed the door' OR
    b. 'he had the door closed'

(84) ni a-a-nyit /It te mwana
    she-RP-hold /It child
    a. 'she had taken hold of the child' OR
    b. 'she was holding the child'

Gloss (a) of sentence (83) involves the idea of a prior action of closing the door; this action produces a specific result ('the door being closed'), but the idea expressed in (83a) does not strictly require that such a state continue to exist (at the time referred to). In gloss (83b), on the other hand, what is asserted is that an agent has discretion over whether the door is open or shut and that he maintains the door in a closed state (possibly through inaction rather than any active effort). The case is similar with (84): gloss (a) involves the idea of a prior event of taking hold, gloss (b) the idea of a continuing activity(/state) of holding. Given the nature of the activity, 'holding' implies a previous action of 'taking hold'. But the action and the activity(/state) nevertheless remain separate conditions in the world. If forms with /It/ always linked the notion of "prior event" with "continuing state", it would be reasonable to assume that both ideas are intrinsic to the basic meaning of this morpheme. However, as I have shown in 4.1, the idea of a "continuing state" is essential to the meaning of an /It/ form only when an inchoative state verb (with its lexical stative meaning) is involved. It therefore seems reasonable to conclude that the two ideas expressed by /It/ in fact reflect two distinct meanings for this marker.

\[ ni tü-mw-enda \]
\[ we-him-love \]

'we love him'

Such examples show that enda includes within its range of meaning a simple state of loving, in addition to an event of falling in love.
There are a number of grammatical considerations which support this semantic claim and which suggest that /ɪt/ has two grammatical functions corresponding to its two meanings. Specifically, the view I wish to defend is that /ɪt/ can function not only as an inflectional marker of the category "perfect aspect" but also as a derivational marker of the category "persistent state". The meaning of the category "persistent state" is that a state exists and has been in existence for some appreciable period of time. Thus, for example, there are derived stems such as -rūarīte '(continue to) be sick' and -kuīte '(continue to) be dead' which contrast with the roots -rūara 'be/fall sick' and -kuə 'die/be dead' in that the derived stems can refer only to continuing states of sickness or death respectively and cannot refer to the inceptive phases of such states. On the grammatical plane, these derived stems also contrast with their roots in that they are invariable, whereas the basic roots are inflected for aspect.

The best evidence in favour of this analysis is the existence of the "defective verb" paradigm of Kikuyu. There is a small number of pure stative verbs in this language which have invariable stems and which combine only with the three past tense prefixes or "zero". All of these defective verbs end in one of the irregular allomorphs of /ɪt/, and many of them are morphologically related to regular verbs (with full paradigms). Verbs in this class include the following:

<table>
<thead>
<tr>
<th>Defective verb</th>
<th>Morphologically related regular verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>rī 'be'</td>
<td>--- (cf. tuīka 'be/become')</td>
</tr>
<tr>
<td>ŭī 'know'</td>
<td>--- (cf. menya 'know/realize')</td>
</tr>
<tr>
<td>rūngīī 'be upright'</td>
<td>rūgama (OR rūngama ) 'stand (of a person)'</td>
</tr>
<tr>
<td>kīgīī 'be horizontal'</td>
<td>kīgama 'be horizontal'</td>
</tr>
<tr>
<td>ogīī 'be crooked, bent'</td>
<td>ogoma 'be bent, crooked' (cf. oga 'go awry')</td>
</tr>
</tbody>
</table>

(from Barlow [1960:171-180])

What the defective verbs share (in contrast to the corresponding non-defective stems) is the notion of an established or continuing state. These verbs cannot be used to refer to the inceptive phase of a state. It seems reasonable to conclude from these facts (a) that the semantic component "continuing
state" is contributed by -iT (an irregular/archaic form of the morpheme /iT ) and (b) that -iT is derivational rather than inflectional, since many of the stems with which it combines do not occur independently of -iT or some other verbal extension.

As additional support for this analysis of the morpheme /iT(-iT) , it is interesting to note that some non-defective verbs have retained (in at least some dialects) an irregular/archaic perfect form, along with a regularized form, and the archaic form tends to be associated exclusively with the "persistent state" meaning of /iT . For example, noga 'be/become tired' has both (regular) nogete 'have been/become tired', and (irregular) nogiT '(continue to) be tired'. The association of distinct meanings with distinct allomorphs is, of course, a natural historical development once a morpheme has become lexically ambiguous. (It must be admitted, however, that this historical development has not been carried out systematically in Kikuyu. My consultants all used nogete for both meanings and functions.)

Another significant consideration is the existence of a class of non-stative verbs, including gucia 'pull' and kuua 'carry away', whose /iT forms are ambiguous in exactly the way that is predicted by the two-function analysis of /iT . Consider the following examples:

(85) nI a-ra-guc/Itie mükanda
    he-NP-pull/Perf rope
  a. 'he had pulled the rope'
  b. 'he was pulling the rope'

(86) nI a-ra-ku/Ite mūrigo
    he-NP-carry away/Perf load
  a. 'he had carried away the load'
  b. 'he was carrying away the load'
    (rendered by one consultant as 'he was in a state of carrying away the load')

The proposed analysis of /iT provides a good explanation of the above ambiguities because of the similarity between a state such as 'being tired' and a homogeneous activity such as 'pulling a rope'. It is therefore natural to extend the meaning of /iT as a derivational marker, from "persist in the state of..." to the more general meaning, "persist in the homogeneous condition of...". In these examples, analyzing /iT as bi-functional seems a much more plausible approach than attempting to relate the two meanings for each example in terms of conversational implicature.
It is helpful to note the difference in meaning between examples such as (86b) and (87):

(87) nī a-ra-ku/aga mūrigo 'he was carrying away the load'
    he-NP-carry away/Imp load

Despite the identical English glosses, these two examples have different meanings. Sentence (87) can be used, for example, to talk about the initial (developing) phases of the episode, when the referent is perhaps struggling to get a secure grip on his load or to overcome the initial inertia of a heavy load. However, (86b) can only be used to describe a situation in which the action is well underway and the referent is simply following through on the latter stages of his activity.

Another set of examples which are more easily explained on the assumption that /Tt has two meanings and two grammatical functions are sentences such as (88) and (89):

(88) nī a-a-hanyuk/Tte ithaa rīmwe 'he had run for an hour'
    he-RP-run/Perf hour one

(89) nī a-a-rūar/Tte kiumia kīmwe a. 'he had been sick for a week'
    he-RP-be sick/Perf week one    b. 'he was sick for a week'

In example (88), there is only one natural understanding of the sentence, which corresponds to the reading that gives wide scope to the perfect marker vis-à-vis the durational adverb; (88) means 'it had been the case that he ran for an hour' but not 'for an hour it had been the case that (prior to that hour) he had run'. The latter reading is clearly inadmissible for pragmatic reasons: it is odd to assert that a fact ('his having run') remains true for some specified length of time, since it is in the nature of facts not to vary over time. Consider now example (89), with its two different glosses. The first corresponds to the expected case in which /Tt expresses perfect aspect and has wide scope over the durational adverb (as in (88)). Gloss (b) involves the "persistent state" meaning, and in this case /Tt has narrow scope. The simplest explanation for the fact that the durational adverb can have narrow scope in this example is the assumption that /Tt expresses the category "persistent state" rather than "perfect
aspect", since in all other cases, a durational adverb cannot have wide scope over a perfect marker.

A final point of major importance for the analysis of /ît/ involves the auxiliary construction with the verb korwo 'be found'. This auxiliary verb can itself occur in almost all tense and aspect forms, and is followed by a main verb marked with the prefix kî- (for imperfect aspect), a- (for short-perfect), or /ît/ (for long-perfect aspect).

(90) a. nî a-ga-korwo a-kî-hanyûka 'he will be running'
    he-RF-be found he-Imp-run

b. nî a-ga-korwo a-a-hanyûka 'he will have just run'
   he-RF-be found he-SPerf-run

c. nî a-ga-korwo a-hanyûk/ît 'he will have run (some time previously)'
   he-RF-be found he-run/LPerf

korwo can also be followed by a defective verb, e.g.

(91) nî a-ga-korwo a-rî nyûmba 'he will be at the house'
    he-RF-be found he-be (at the) house

There are some combinations of an inflected form of korwo followed by a certain form of main verb which are not acceptable. One of these is illustrated below in (92), where both korwo and its main verb have the marker /ît/:

(92) *nî a-kor/etwo a-hanyûk/ît (no translation attempted)
    he-be found/Perf he-run/LPerf

This construction becomes acceptable (and meaningful) if the main verb is changed from long-perfect aspect to imperfect aspect, as shown in (93):

(93) nî a-kor/etwo a-kî-hanyûka (kahinda kanene)
    he-be found/Perf he-Imp-run time large
    'he has been running (for a long time)'
   (my consultants felt that the adverbial kahinda kanene was necessary to complete the sense of (93))

What renders (93) acceptable is that akîhanyûka describes a concrete situation, hence it is reasonable to assert that this situation endures for a long time. In (92), however, the idea expressed is that the fact of 'his having run' remains true for a long time, and (as indicated in earlier dis-
cussion) this makes no sense as a conversational message.

Consider now the following examples, where the main verb is an inchoative state verb:

(94) nī a-kor/etwo a-hing/ite mūrango (kahinda kanene)
    he-be found/Perf he-close/LPerf door time large

'he has had the door closed (for a long time)'

(95) nī a-kor/etwo a-rūar/ite (kahinda kanene)
    he-be found/Perf he-be sick/LPerf time large

'he has been sick (for a long time)'

The "persistent-state" meaning of these main verb forms renders the construction meaningful, because the main verb now describes a concrete situation. Moreover, only the "persistent-state" meaning is possible, and this meaning is more than the mere implication of a concrete state resulting from a completed action. Event verbs which are not inchoative state verbs fail to render the construction acceptable, as demonstrated by (96):

(96) *nī a-kor/etwo a-tony/ete nyūmba (kahinda kanene)
    he-be found/Perf he-enter/LPerf house time large

My consultants suggested (97) as the acceptable way to express the meaning which they inferred that I wanted to express via (96):

(97) nī a-kor/etwo a-rī nyūmba (kahinda kanene)
    he-be found/Perf he-be (at the) house time large

'he has been in the house (for a long time)'

This data on the auxiliary construction with korwo thus provides rather strong evidence that "perfect aspect" and "persistent state" are independent categories. In the construction illustrated by (94) and (95), /īt/ is restricted to its role as a derivational suffix, with the meaning "persistent state".

5. Conclusion

My approach to the Kikuyu verb system has, on the one hand, placed emphasis on the fundamental similarity in the major category distinctions between Kikuyu and other languages and, on the other hand, has attempted to ex-
plain some of the more unusual features of the system in terms of non-standard category distinctions such as "manifest action/imminent action".

The aspect system is built upon a basic three-way contrast among "perfect", "imperfect", and "completive" aspect; my choice of terminology here reflects my conviction that these categories are essentially the same as their counterparts in (for example) the Indo-European languages. Kikuyu adds to this basic set of contrasts a distinction between "short-perfect/long-perfect" and between "short-imperfect/long-imperfect". In the basic verb paradigm, these secondary aspectual distinctions are found only in the present tense; and as I have argued here and in Johnson [to appear], they arise from the need to distinguish episodes that are "manifest with respect to the moment of speaking" from those that are as yet "imminent (= not fully manifest) at the moment of speaking".

The tense system is built upon the usual distinctions among "present", "past", and "future", as determined by the actual moment of speaking. The system is unusual, however, in that the "current time unit" (today, this month, etc.) also plays a pivotal role in determining the overall pattern of tense distinctions, since each of the many tense categories involves a time unit defined in relation to the "current time unit". Diagram 1 summarizes the six time units that are used in the tense system.

The fact that the temporal reference system of Kikuyu has all of the principal semantic distinctions characteristic of such systems, plus a number of relatively "exotic" elaborations on the central themes, thus makes it a rich field for investigation into the nature of verb aspect and tense. As our knowledge and understanding of this (and other Bantu) systems continues to grow, I think there can be little doubt that the Bantu languages will have a very significant impact on the scientific understanding of the nature of time reference in all human languages.

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13 The auxiliary construction with korwo generalizes the "short-perfect/long-perfect" contrast to tenses other than the present.
"prior to the immediately preceding time unit"

"time unit immediately preceding the current time unit"

"current time unit"

"beyond the current time unit"
REFERENCES


The paper deals with the associative postposition in the Saharan SOV language, Kanuri. A unified analysis of all of the environments in the language in which this morpheme (or its homophone) occurs is presented. An explanation is provided for the uses of the associative in existential predicates, phrases of accompaniment, noun phrase conjunction, etc. It is proposed that the same postposition occurs as a topic marker and as a subordinating conjunction for a wide range of adverbial clauses. Its use to mark direct object pronouns is related to its function as a topic marker, and thus it is argued that Kanuri has no accusative case marker. The paper ends by underlining the significance of the proposed relation between topic constructions and certain adverbial clause constructions (including conditionals) in Kanuri, since similar relations have recently been documented for other languages.

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1. Introduction

It is the purpose of this paper to present a linguistic description of the full range of syntactic environments in which the Kanuri associative postposition \( +(\text{C+}) \) occurs and to use this description to explain the seemingly incongruous spectrum of roles that it assumes. Because of the apparent incongruity of one morpheme having all of the functions described here, earlier treatments of Kanuri grammar have proposed instead three or four different morphemes. Among the titles ascribed to the various morphemes, here described as one, are those of a suffix to the noun producing derived adjectives, a conjunction joining noun phrases, an accusative case marker, and a conditional clause subordinator. At the level of the postpositional phrase, some of its most obvious functions suggest its designation as a "comitative case marker", and only in a recent treatment of Kanuri syntax did it come to be referred to as the "associative postposition" [Hutchison 1976:12]. It will here be demonstrated that this postposition functions not only at the level of the postpositional phrase but also as a subordinating conjunction in an interesting variety of subordinate clause constructions of Kanuri. The paper will concentrate on an effort to establish a basic meaning for the associative morpheme and to show how this meaning predictably interacts with constituents in the various syntactic environments in which it occurs. Thus all of the meanings that it takes on in translation will be shown to be predictable reflexes of its basic meaning and a given syntactic environment.

The suggestion that these functions are all carried out by one morpheme in Kanuri should not be surprising given the many such unseeming relationships that have been documented in so many other languages. In Bambara, for example, the conjunction \( \text{ni} \) 'and' has a number of comitative functions. When it introduces a postpositional phrase it takes on various associative, means, and semi-instrumental meanings. When it occurs in construction-initial position before a clause, it functions as a subordinating conjunction translatable in English by 'if ...'. In Hausa, the morpheme \( \text{da} \) has all (and more) of the comitative meanings at the phrase level, including associative, instrumental, means, existential, and also a variety of crucial functions at the clause/sentence level. The latter include the introduction of relative clauses, tem-
poral completive 'when' clauses, certain 'since' and 'because' type clauses, and other roles as well [Abraham 1968:153-55]. According to Abraham, at least, all of these functions are carried out by one morpheme \( \text{dà} \).

In English, the functions of the words 'with', 'if', and 'when' are rather exclusively restricted, limited to specific syntactic environments, with little if any overlap. It should be noted, however, that the preposition 'with' does also function like a subordinator when it introduces reduced subordinated clauses with nonfinite verb forms as in 'with Sally gone, we were finally able to relax'. This is nearly synonymous with 'since Sally had gone, we were finally able to relax'. In general, however, the existence in languages like English of the subordinating conjunctions 'when' and 'if', the associative/instrumental 'with', and the correlative conjunction 'and', may contribute to the feeling of the apparent unlikelihood that these and other meanings could be handled by a single morpheme in a given language, as will be proposed here with regard to the Kanuri associative.

2. Kanuri Typology and the Phonology of the Associative

Kanuri is a Saharan language of the Nilo-Saharan family and is a strict verb-final language. With very few exceptions, the SOV order is maintained throughout, with OSV being the only permissible variant in most environments. Kanuri has a complete system of postpositions and no prepositions. Among the postpositions are those which also function as subordinating conjunctions and complementizers, always in clause or embedded sentence final position. In noun phrases, the head noun precedes, with possessives, adjectives, and determiners following, usually in that order. Thus in relative clause constructions the order is 1) head nouns, 2) relative clause, 3) determiners. Matrix sentences are normally preceded by their complements and subordinate clauses. The associative postposition will be shown to be one of the postpositions which also functions as a subordinating conjunction.

The wide range of English translations that the associative takes on as a function of different syntactic environments is comparable to that of \( \text{dà} \) in Hausa. However, Hausa \( \text{dà} \) is always phonologically autonomous and easily recognizable in all of its occurrences. In Kanuri, the inherent typological ordering and the phonology of the associative combine to make it more diffi-
cult to consistently distinguish the Kanuri associative morpheme. The plethora of suffixes and the inevitable stacking of determiners, adjectives, postpositions, and subordinators at the end of words, phrases and clauses, make it sometimes virtually impossible to distinguish certain morphemes. The phonological shape of the associative contributes greatly to this problem.

The basic phonological structure of the associative can be depicted as \( + (C+)a \), but the phonetic realization of this basic form is conditioned by the final element of the preceding morpheme. After a final consonant, the \((C+)\) of the associative \( +(C+)a \) assimilates to the consonant preceding it.

(1) kū kasām +mā
   today breeze ASSOC

After a front vowel, the \((C+)\) is realized as the semivowel \( y \):

(2) njī +ā (njīyā)
    water ASSOC

After a back vowel, \((C+)\) is realized as the semivowel \( w \):

(3) kāmū+nzé sūrō +ā (sūrōwā)
    his wife is pregnant
    wife his stomach ASSOC

After a central vowel, \((C+)\) has no phonetic realization:

(4) yīm iādē +ā
    on Sunday
    day Sunday ASSOC

In the Standard Kanuri Orthography (SKO), the associative is written simply as \( +ā \) after any vowel, as in 2-4 above, and as \( +ā \) after the assimilated geminate consonant after any consonant final morpheme, as in 1 above. It is always written as part of the word to which it is suffixed.

3. Syntax and Semantics of the Associative in the Simple Sentence

The underlying unity of most of the "meanings" taken on by the associative postposition is made apparent in this section. That it in some way predicates the existence of the noun phrase it marks and usually relates that noun phrase to some other constituent is the common characteristic of its meaning in the simplest as well as the most highly restricted syntactic environment described here. It is relational and in many environments determines the syntactic and semantic relationship between two noun phrases.
The analysis begins with examples in which the associative occurs in sentence-final position, having the entire sentence within its syntactic scope. The discussion then proceeds to examine and relate the meanings of the associative in more restricted environments, with its progressively restricted syntactic scope reflected in its meaning. In each of the following subsections, the phrase structure of the construction type under consideration is presented schematically, and this is followed by a discussion with relevant examples.¹

3.1. The associative postposition as a predicate of existence.

| PS:  S = NP ASSOC, where normally NP = N |

The constituent structure under consideration here allows for one NP, which is the subject of such a construction, and the associative postposition, which functions as the predicate. While this syntactic environment does not represent the most common use of the associative, it does reveal its basic existential meaning in a clearly unencumbered environment. The meanings that it takes on in more intricate syntactic environments can be understood on the basis of its syntactic role and meaning in this very basic context.

(5) tēmâ+ à
    hope ASSOC

(6) njî + à
    water ASSOC

¹Throughout the paper, the following abbreviations are used in the text and in glossing the examples.

<table>
<thead>
<tr>
<th>ASSOC</th>
<th>associative postposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>morpheme boundary</td>
</tr>
<tr>
<td>PS</td>
<td>phrase structure</td>
</tr>
<tr>
<td>NP</td>
<td>noun phrase</td>
</tr>
<tr>
<td>N</td>
<td>noun</td>
</tr>
<tr>
<td>S</td>
<td>sentence</td>
</tr>
<tr>
<td>SKO</td>
<td>Standard Kanuri Orthography</td>
</tr>
<tr>
<td>ADV</td>
<td>adverb</td>
</tr>
<tr>
<td>POSS</td>
<td>possessive pronoun suffix</td>
</tr>
<tr>
<td>IMPERF</td>
<td>imperfect verb aspect</td>
</tr>
<tr>
<td>PRF</td>
<td>perfect verb aspect</td>
</tr>
<tr>
<td>PST</td>
<td>past tense</td>
</tr>
</tbody>
</table>

| 1S        | 1st person singular      |
| 2S        | 2nd person singular      |
| 3S        | 3rd person singular      |
| 1P        | 1st person plural        |
| 2P        | 2nd person plural        |
| 3P        | 3rd person plural        |
| NEG       | negative                 |
| DET       | determiner +dé           |
| IMPER     | imperative               |
| OBJ       | object                   |
| VP        | verb phrase              |
Since no constituents precede the associative postpositional phrase in examples (5-9), the existence of the associative marked noun phrase is predicated in relation to the world, nature, the universe, etc. Thus in such non-verbal environments, the syntactic scope of the associative postposition is the entire sentence.

When preceded by an adverbial of time or place, associative predicates like those in (5-9) are thereby qualified. The PS of such constructions can be depicted as $S = ADV \ NP \ ASSOC$. In this environment, the existence or presence of the associative marked NP is no longer in association with the universe but rather related only to the time or place described by the adverbial. Such constructions assert that the time or place is characterized by the associative marked NP.

Preceded by a time adverbial, this construction is often used to describe the weather at a given time, or any other prevalent or existing condition.

(10) kú kákù+a
    today cold ASSOC
    'it is cold out today'

(11) kêmôndè kànå +ə
    this year hunger ASSOC
    'there is hunger/famine this year'

(12) kú sálå+ə wå?
    today prayer ASSOC Q
    'is there prayer today?'

Preceded by a locative expression, this construction is used to describe something which characteristically exists in a place. Such constructions may have a possessive connotation as is demonstrated in (13).

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2Lukas [1937:23] treated examples of the type included in this section as instances of "derived adjectives".
Another way in which the predicates of existence here under consideration may be qualified is by a preceding NP. The PS of such constructions can be depicted as $S = NP_x NP_y ASSOC$, where $NP + N (POSS_y)$. The possessive suffix which may modify $N_y$ is coreferential with the construction-initial $NP_x$. Here the associative predicate of existence asserts the existence of $NP_y$ in association with $NP_x$. Further, when $POSS_x$ occurs, the associative asserts the existence of $NP_y$ either as a possession of $NP_x$ or as a characteristic of $NP_x$. This syntactic environment produces sentences describing physical sensations, (pre)occupation, ownership, or possession.

In environments like the above involving a noun of physical sensation or (pre)occupation, the construction with the possessive suffix is apparently synonymous with that without it.

In describing ownership and possession, the associative predicates the existence of $N_y$ with its owner $NP_x$. $NP_y$ may be represented by $POSS_x$ within $NP_x$. The occurrence of $POSS_x$, with or without $NP_x$, implies $NP_x$'s title to or ownership of $N_y$. In the following example, in the absence of $POSS_x$, temporary possession is implied.
In 21, permanent ownership or title is not entailed, whereas it is in examples 22 and 23.

(22) Módú kéké+nzé+à

'Modu has/owns a bicycle'

(23) kú Módú kéké+nzé+à

'Modu has his bicycle with him today'

When the coreferent antecedent NP_x is a personal pronoun, the independent pronoun in construction-initial position becomes optional, and is normally omitted in non-emphatic environments.

(24) kéké+nzé+à

'he has/owns a bicycle'

(25) (nyí) fár+ném+ mà wá?

'have/own a horse?'

(26) àwó +ném + mà

-you own things/you are well off'

(27) férò ádà kwâ + nzé + à

'has her husband'

(28) kâm ádà dínlì + nzé mìyâ + à

'his 100 ASSOC

This same constituent structure may be used for descriptive purposes when no question of ownership or title is involved. In such cases, the coreferent POSS_x is unnecessary and normally omitted.

(29) dálá yámga bútì+ bè + à

'the jackal has the audacity of the hyena'

(30) kàmú+ nzé sûró + à

'his wife is pregnant (has a stomach)'

3.2. The associative postpositional phrase within the noun phrase.

\[ \text{PS: } \text{NP}_x = \text{N}_x \text{ N}_y \text{ ASSOC} \]

The constituent structure of the noun phrases treated in this section normally occurs in the environment of a verbal sentence. N_x in this structure is characteristically without any determiner element, in its role as head noun of the noun phrase. Any noun phrase determiners occur after the associative postposition, as do any function markers indicating the function.
of the entire noun phrase in the verbal sentence. When the associative occurs within a noun phrase constituent, the existence of the associative marked N_y is predicated in association with the antecedent noun N_x, and thus the associative postpositional phrase functions attributively to describe that head noun antecedent. The syntactic scope of the associative is clearly not sentential in this environment and is thus limited to the realm of the noun phrase. The implication is that of an N_x characterized by, existing with, or possessing an N_y.

It is this use of the associative which led previous authors to analyze this postposition as a suffix used to derive adjectives from nouns. Nouns marked with the associative and functioning in the syntactic environment described here as modifiers, were described as "derived adjectives". Such observations were indeed true, especially since they were often made in reference to an obvious group of nouns having convenient adjectival counterparts in other languages. A typical, often-cited example is the Kanuri equivalent of 'hungry', which is kənə+a, the "derived adjective" form of kənə 'hunger'. Similarly, kənə+mə 'sleepy' is the "derived adjective" of kənə+m 'sleep'. It was usually the case in such descriptions that this was represented as a unique morphological process, productive for a limited set of nouns. No unified relationship was recorded between the suffix forming an adjective from a noun and the great variety of other environments in which a homophonous morpheme occurred. It is clear from the following examples, showing head nouns with associative marked modifiers, that in fact any noun can occupy the N_y position and thus take on the modifier role.

(31) tada kənə+a

child hunger ASSOC

'a hungry child'

(32) ləshə hər+rə

evening meal peace ASSOC

'a peaceful evening meal'

(33) shiələwə ngəwərə+a

star tail ASSOC

'a shooting star (with a tail)'

When the associative is applied within the noun phrase to the negative ba 'there is/are not', the meaning is 'without' or 'not having'.

(37) kám kànà bá +à +dá
    man hunger NEG ASSOC DET
    'the man without hunger (well off)'

(38) kám àwó bá +à +dá
    man thing NEG ASSOC DET
    'the man who has nothing'

(39) shí bá +à +dá
    it NEG ASSOC DET
    'the one without it/that doesn't have any'

(40) béré núwà +ném bá +à +dá
    meal share your NEG ASSOC DET
    'the meal in which you have no share'

Noun phrases having an adverbial meaning are produced with this same constituent structure when the noun 'day' and/or the names of the days of the week occur in the possible noun positions. The slightly altered PS of such constructions can be depicted as $NP_{adv} = (N_x) NP_y$ ASSOC. The $NP_y$ position is often occupied by the name of a day of the week, in which case the head noun yím 'day' may be omitted in the $N_x$ position.

(41) yím lâdá +à fèkín
    day Sunday ASSOC come/1S IMPERF
    'I will come on Sunday'

(42) sábdá +à lèjín
    Saturday ASSOC go/3S IMPERF
    'he will go on Saturday'

(43) (yím) lètèlín +nà
    day Monday ASSOC
    'on Monday'

(44) yím+dá+à
    'on that day'

(45) yím fàr ãdà núnà +à +dá
    day horse this die/3S PRF ASSOC DET
    'on the day that this horse died'

(46) yím dábdô+à àsår
    afternoon ASSOC
    'it was in the afternoon around asar time'

(47) (dunya) gólagè +à
    world year ASSOC
    'next year, in a year'
3.2.1. The associative in noun phrases of counting and measuring. The constituent structure of the noun phrases treated in this subsection is again NP = NP\textsubscript{x} NP\textsubscript{y} ASSOC. Here the difference in meaning results purely from lexical selection, since N\textsubscript{x} and N\textsubscript{y} are nouns of measurement, monetary quantity, and number. In this context, the N\textsubscript{x} position is taken by a number or a counted noun describing money, telling time, or a measured quantity. The N\textsubscript{y} position is taken by a number. N\textsubscript{y} thus exists with N\textsubscript{x}, but since it is a number, it is in addition to N\textsubscript{x}. It is often the case that N\textsubscript{x} describes whole measurable units and N\textsubscript{y} the fractions or additional uneven parts of whole units.

(48) naira fal kow wuwyu+a 'one naira and fifty kobo'
(49) naira uwu sulu indi+a 'five naira and two shillings'
(50) fam indi sulu mewu+n wuskun+n+na 'two pounds and eighteen shillings'
(51) sa mewu ntlu mewu+n wuskun+n+na '10:18 o'clock'
(52) sa mewu reta+a 'half past ten'

In a marketing situation, this same constituent structure is used to express the notion of 'worth' in measuring piled quantities of produce, etc. Here in the modifier function, the associative postpositional phrase describes the worth of the measured quantity, which is the head noun antecedent in N\textsubscript{x} position.

(53) adu karta sulu ndawu+a 'how many shillings is this pile/this pile shilling how much ASSOC measure worth?'
(54) karta sulu indi+a 'a two shilling pile/measure'

If N\textsubscript{y} occurs in this environment without its antecedent N\textsubscript{x}, the associative postpositional phrase may take on the function of the entire noun phrase.

(55) sulu+a 'a shilling's worth'

Genitive and possessive constructions of Kanuri involve the use of the genitive postposition +be, as in fato Musa+be 'Musa's house', karta luwasa+be 'a pile of onions'. To demonstrate the inherent difference in this environment between the genitive and the associative postpositions, it should be noted that with +be, the noun phrase karta sulu indi+be would
mean literally 'two shilling coins in a pile', whereas with the associative, kôrtè sûlè îndî+a means 'a two shillings-worth pile'. One can however use the genitive to connote 'worth' if the number is repeated, as in kôrtè sûlè îndî îndî+bè.

Idiomatically, associative marked numbers occur in the expressions kàlà fàl+là 'having one head' and cì tìtì+à 'having one mouth' and take on the meaning 'at once' or 'at one blow'. Here the indirect postposition +rò is suffixed to these expressions to render them adverbal in this context.

(56) jìlwà îndì kàlà fàl+là+rò sàtà
   rats two cì tìtì+à+rò catch/3S PST
   'he caught two rats at one blow'

3.2.2. The associative in "someone else" constructions. Again in this subsection, an attributive associative phrase follows a head noun antecedent within the noun phrase. Here, however, the second noun position is always filled by one of the generic human nouns kâm 'person' or its plural âm 'people'. The resulting associative phrase has a genitive-like meaning and refers to something that either belongs to another person or is an inalienable body part, in the generic sense, belonging to all people. Inside of the NP, the associative predicates a person or people to be co-existing with the head noun and thus implies that the head noun has a person associated with it, i.e. belongs to or is part of someone.

(57) fàtò kâm+mà
   'someone's/someone else's house'

(58) shîm kâm +mà +làn
   eye person ASSOC in
   'in the presence of others/in someone else's eyes'

Because of the generic sense and application of such associative phrases, they occur frequently in the context of Kanuri proverbs.

(59) shîm kâm+mà+dà, kàzáà+à
   eye person ASSOC DET spear ASSOC
   'other people's eyes, they have spears'

(60) múskò kâm+mà+yè nà rààmà zègàmbìnbà
   hand AGENT want/2S PRF scratch/3S NG IMPERF
   'another person's/someone else's hand never scratches the place you want'
The fact that the syntactic scope of the associative in these constructions is within the noun phrase is shown by the occurrence of the determiner in (59) and the agentive postposition +ye in (60).

As was observed with regard to the examples in 3.4.1, here also if $N_x$ does not occur, then the associative postpositional phrase may take on the function of the entire noun phrase.

(61) kam+mà 'of or about someone else/other people'
(62) kam+mà ngéwù+rò mànànanàmìn 'you talk a lot of other people'

a lot talk/2S IMPERF

3.2.3. The associative within conjoined noun phrases.

PS: $NP = NP_x ASSOC NP_y ASSOC (NP_o ASSOC)$

Within complex noun phrases containing a series of conjoined noun phrases, all of the conjoined constituents are marked with the associative postposition. Thus, while the scope of the associative postposition is still limited to being within the noun phrase, there is no head noun/modifier relationship since all are associative-marked. The existence predicated by the associative is applied to each noun phrase and therefore equal co-existence is implied.

(63) Módù+à Kàshìm+mà kàsùwù+rò lèyàdà 'Modu and Kashim went to the market'
market to go/3P PST

(64) Àli+à Shëttì+mà+ròkkò lèzài 'Ali and Shettima will go together'
together go/3P IMPERF

(65) mátò+làm lètò+à màrà+rà+làn lètò+à gàdè
car by going plane by going different
'traveling by car and traveling by plane are quite different'

---

4In this environment, when the associative postposition is suffixed to two or more conjoined NPs, the SKO requires that a hyphen be used to indicate each use of the associative and that final consonant gemination not be shown. For the purposes of this paper however, I will violate the convention in order to consistently show the ASSOC as a single morpheme.

5Lukas described the morpheme -à as a "correlative conjunction" used to conjoin a series of words [1937:145-146]. In his section "Zusammengesetzte Nominalphrasen", Cyffer refers to the use of the associative to conjoin words as an instance of his "kopulative Morphem" [1974:46]. Cyffer does allude to the possible relation between his "Adjektivierungsmorphem" -wà and his "kopulative Morphem" [1974:46-47].
Two or more members of an associative-conjoined series may occur together with a plural verb form in the passive-reflexive derivation. This derivation, with its characteristic t affix, results in intransitive meanings derived from underlying transitive verbs. Thus in the following examples we are again dealing with the conjoined subjects of an intransitive proposition structurally, even though the meanings are reciprocal. If one of the noun phrases in such a reciprocal series is a pronoun, it is normally omitted.

(67) Múṣá+a Fántá+a lèfátánà 'Musa and Fanta greeted each other'
(68) Múṣá+a tūrūiyénà 'Musa and I saw each other/we and Musa saw one another'
(69) bálì tūrūiyén 'we will see each other tomorrow'

In verbless environments, the conjoined noun phrases may be used to express relationships of similarity and difference between two noun phrases.

(70) kàánzà+a kàkkê+a gà̀dègàdè 'his and mine are different'

3.2.4. The associative in noun phrases expressing direction.

\[
\text{PS: } \text{NP} = N_x N_y (ASSOC) \text{LOC ASSOC, where } N \text{ is a place noun}
\]

Examples involving the above structure appear to be somewhat idiomatic in Kanuri, while still being quite productive. In its most productive use, the \(N_x\) position in this structure is filled by the noun kèlà 'head'. Thus the construction kèlà kàsúwù+n+nà, which might literally be translated as 'a head characterized by/having at the market' comes to mean 'towards the market'. Some speakers consistently apply the associative postposition twice in this environment, as is indicated by the (ASSOC) in the above schema. They would thus prefer kèlà kàsúwù+à+n+nà.

(71) kèlà ndà (±à) +n+nà?6 'where are you heading?/where to?'

6Lukas referred to examples of this type involving the associative postposition as instances of the "accusative suffix" [1937:20]. What Lukas and others refer to as the "accusative case suffix" and record in the writing
That we are here dealing with a noun phrase, and not with an oblique adverbal postpositional phrase is apparent from the examples in (74).

(74) a. kèlå kàsùwù(+à)+n+nà lèngìn 'I am going towards the market'
    b. *kàsùwù(+à)+n+nà lèngìn
    c. kàsùwù+rò lèngìn 'I am going to the market'
    d. kàsùwù+mbèn lèngìn 'I am going through/via the market'

It is clear from (74b) that the combination of postpositions LOC+ASSOC do not function as normal adverbal oblique postpositions like those shown in (74c) and (74d). The use of the associative always entails association with something, and here the head noun kèlå with which it is associated is not optional.

The nouns sèdå and cìdå, which both mean 'earth, ground', have each derived accreted noun forms through the affixation of the associative. Therefore the nouns sèdå and cìdå have come to mean 'bottom, underneath'.

(75) kèlå sèdå(+à)+n+nà 'downwards/towards the bottom'
    kèlå cìdå(+à)+n+nà

The directionality implied by this construction type may also be applied temporally, connoting direction in time.

(76) sùwà+n tàì kèlå fúwù+n+à+só 'from morning onwards'

3.2.5. The associative postposition in participle formation.

PS: NP = (NP_x) VP_x ASSOC, where NP_x is the subject of VP_x
    and V of VP_x is in the imperfect aspect

The associative postposition may be affixed to the imperfect aspect of

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system as -gà is in fact phonologically and, in all of its occurrences, phonetically identical to the associative postposition being treated in this paper.
the verb to form a finite participle form. This derived participle form always occurs dependently and usually describes an action which is simultaneous with the action of the subsequent matrix verb. The subject of the finite participle form and that of the matrix verb are often identical. The Kanuri imperfect aspect verb form, like all verb forms of the language, carries its subject pronoun internally. Therefore, whether the subject of $V_P$ is manifested independently or not in sentence-initial position, the associative postposition, as in all of its uses here under consideration, predicates the existence of the action of the imperfect aspect verb form, in relation to a noun phrase, in this case its subject noun phrase. This imperfect action thus exists or is going on simultaneously with the action of the following matrix verb, which may be completive or imperfect. Here is the complete paradigm for the verb $bù+$ 'eat':

1S  $bùk₁n+ña$ ...  '(while) eating I ...'
2S  $bùm₁n+ña$ ...  '(while) eating you ...'
3S  $zàw₁n+ña$ ...  '(while) eating he/she ...'
1P  $bùiyèn+ña$ ...  '(while) eating we ...'
2P  $bùw₁+à$ ...  '(while) eating you ...'
3P  $zàw₁n+ña$ ...  '(while) eating they ...'

(77)  t’àdà  kàskà  +bè  zàw₁n+ña  nápkònò
  son tree of eat ASSOC he sat down
  'he sat down while eating a fruit'

(78)  sààsáì+à  lèyádà
  run/3PASSOC go/3P PST
  'they went away running'

It is important to note that though this structure and its meaning lend themselves to analysis as oblique adverbial phrases, they can in fact be related to the other modifying roles played by associative postpositional phrases if the subject noun phrase is considered the head noun of a noun phrase modified by the particle form.

It should be noted that Koelle [1854:31-32] did relate this participle use of my associative postposition to its use in the formation of what he and Lukas after him referred to as "derived adjectives".
4. Functional Relation of the Associative Postpositional Phrase to Subject and Verb

The syntactic environments for the associative treated in this section are separated from those described in section 3 because they are unique and somewhat controversial. Some of the structures already analysed are re-examined here in verbal environments. In Kanuri, the following syntactic minimal pair is possible, differing only with regard to the (in)transitivity of the verb.

(79) tādānza+a kādlo 'she/he came with her/his child'
(80) tādānza+a cūrō⁸ 'she/he saw her/his child'

In (79) the associative marked noun phrase is the companion of the subject, and in (80) it is the object of the verb. In (79) the associative relates the noun phrase to a pronominal subject. In (80) the associative is an external function marker, relating the NP of VP to the subject of the sentence via the verb form.

It will be demonstrated that in the environment of an intransitive verb, an associative marked NP functions either attributively to the subject NP, or jointly with the subject NP, in carrying out the intransitive action. It will be argued that in the environment of a transitive verb, the morpheme which marks NP of VP (and is homophonous with the associative) is in fact the associative postposition and not a different accusative-marking morpheme. Furthermore, it will be argued that even though the intransitive and transitive sentences may appear to have identical surface structures, the underlying constituent structure of each entails that the associative marked NP be part of the subject NP in the intransitive environment and NP of VP in the transitive environment.

4.1. Associative marked NP of subject NP in intransitive environments.

PS: NP = PP, where PP is an associative postpositional phrase

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⁸Here the associative postposition is marking the direct object of the verb 'see'. In all other treatments of Kanuri syntax this morpheme, which is homophonous with the associative, has not been related to it. Thus in other treatments, and according to the SKO, it is normally written as -gā. Here I will write it as the associative postposition, which I believe it to be.
Kanuri is not a language which may express a "transitive" notion with an intransitive verb and an associative adpositional phrase ('come with' = 'bring' etc.). A plethora of distinct transitive verbs to express 'bring', 'take', 'carry', etc. exists and are preferred.

In reference to Hausa, Parsons [1962] referred to intransitive verbs taking the associative đà before a semantic direct object as "associative intransitive verbs". Members of that subset of intransitive verbs include mànțaa đà 'forget', tunàa đà 'remember', kulàa đà 'look after', and rabàa đà 'break off with/from', among many others. According to Parsons and his pair of examples cited below, in the environment of certain intransitive verbs, change in constituent order may alter the semantic role of the object of a preposition from that of presumably oblique companion of the subject to that of understood direct object. He says:

"The difference between an associative and an ordinary intransitive verb extended by đà plus nominal is seen clearly in: yaa zoo đà dansa makaranta 'he has brought his son to school' [lit: 'he has come with his son to school'], but yaa zoo makaranta đà maatarsa ['he has come to school with his wife']" [Parsons 1962:256; translations in brackets mine].

Thus in languages such as Hausa one might argue that an innately oblique preposition relates an NP to an intransitive verb and results in an essentially transitive interpretation.

In Kanuri this is not possible. Such constituent order changes in Kanuri can only result in a change of emphasis, topicality, etc. but not in a change in (in)transitivity. One clear and important distinction between the Kanuri associative postposition and comitative adpositions in other languages is that it does not function as the marker of instrumentals. The locative + lãn (Lukas' "ablative" case marker) functions as the means/instrumental marker. The associative functions to associate noun phrases, and it is this which explains its not occurring as an oblique part of the verb phrase in the intransitive context. An associative-marked NP can only bear an oblique modifying relationship to a preceding NP, not to a verb. Nevertheless it is safe to point out here that the occurrence of the associative in (80), tâđànžâ cùrò 'she saw her child', is not a case of an extension of the func-
The Kanuri Associative Postposition

...tion of the associative based on its comitative role in (79), táfândzé à kádlò 'she came with her child', where it indicates the companion of the subject.

In section 3, variations on the basic structure (NP(+ASSOC)) NP+ASSOC were examined in different contexts. We are here dealing with the same structure, but as it occurs in the simple verbal sentence. Because NPs exhibiting this surface structure may come from different underlying structures, a slight range of ambiguity may result as is the case in (81).

(81) a. kámú+nzé tádà+nzé+à kádlò
wife his child her ASSOC come 3S PST
(i) 'his wife came with her child'
(ii) 'his wife that has a child came'

b. kámú+nzé+dé tádà+nzé+à kádlò
DET 'that wife of his came with her child'

c. kámú+nzé tádà+nzé+à+dé kádlò
DET 'his wife that has a child came'

d. kámú+nzé+dé, tádà+nzé+à+dé, kádlò
DET DET 'that wife of his, the one that has a child, came'

Readings (81a, i and ii) are structurally disambiguated in (81b) and (81c) respectively. They represent two variations on the underlying complex noun phrase structure. In (81b) the head noun phrase is set off with a determiner and is modified by the following postpositional phrase, as in NP = NP PP, whereas in (81c), the head noun cannot be marked by a determiner since it is functioning as the head of a restrictive relative clause construction. There the associative postpositional phrase is part of the determiner element of the complex NP and comes from an underlying sentential relative clause. In (81d) the pauses and determination of both parts of the complex NP indicate an appositive non-restrictive relative clause con-

9In (81a), one could argue that the implication is that the wife "brought" her child, but only to the same degree that this is implied by its English translation.

10The analysis I have presented to distinguish the underlying structure of such pairs differs from that proposed by Cyffer [1974:32]. He treats examples like (81c) as relative clauses, just as I have proposed. However, he considers the postpositional phrase of accompaniment in (81b) to be an oblique constituent of the verb phrase, thus an adverbial constituent rather than a modifier of the subject noun phrase as I have proposed.
struction.

Equal accompaniment, without the dependence relationship of examples like (81a), is reflected with a plural verb form and co-existing conjoined subject NPs, each marked by the associative postposition.

(82) Módù+à tádà+nzé+à(só) káshò '(both) Modu and his child came'

child his all come/3P PST

In the environment of a plural verb form, if one of the coordinated NPs in the series is a pronoun and omitted, then the utterance may be ambiguous (when taken out of context) between the dependent accompaniment reading and the equal accompaniment reading. In (83a) the omitted anaphorically understood pronoun is shown in parentheses. In (83d), a singular verb form is required.

(83) a. (sàndí) tádà+nzé+à káshò 'they came with his child'
    they

b. (sàndí+à) tádà+nzé+à káshò 'they and his child came'

b. (shí+à) tádà+nzé+à káshò 'he and his son came'
he

d. *(shí) tádà+nzé+à káshò

In (84), the implication is either one of accompaniment by his wife or one of the state of having a wife, i.e. of being married.

(84) kámú+nzé+à ìèwónò 'he went with his wife/he went married'
wife his ASSOC go/3S PST

4.2. Major constituent marking by the postpositions. Though a number of authors have described what have been referred to as the "nominative" and "accusative" case suffixes of Kanuri, there has yet to appear a satisfactory scientific explanation of their nature or of when they are and are not required to mark major noun phrase constituents in verbal sentences. Koelle [1854:173-174] described the "accusative" as follows:

"The accusative termination which seems to be often short, is as frequently omitted as it is used, because this case can generally be easily known from the context, even without distinction of form. It is especially under the following circumstances that the accusative termination can be omitted, without producing the slightest ambiguity -
1. When the subject is distinguished by the nominative termination - .
2. When the subject stands before the object and verb - ...
3. When the objective inflection of the verb points out the accusa-
tive - ...

Similarly, Lukas [1937:17] introduced the "nominative" and " accusative" cases by stating,

"The nominative and accusative suffixes ( -ye , -ga ) are often omit­
ted; they must be used, however, if the word-order would otherwise
cause ambiguity, i.e. if it is not clear which noun is subject and
which object ..."

When discussing "word-order" and the "use of the case-suffixes" he states,

"The nominative suffix is often omitted. The accusative suffix is
often omitted, though not with personal pronouns ... But it is some­
times advisable, and sometimes even necessary to use at least one of
these suffixes if (1) It would not otherwise be clear from the word­
order what is subject and what is object ... (2) If the subject is
followed by a qualified object, ..." [1937:149]

Cyffer referred to them both as "Funktionsmorphem" [1974:44-45] and presented
a similar explanation, adding that the "Funktionsmorpheme" is always deleted
"wenn das Objekt ein Interrogative-Morphem als Zentrum oder als nominale Er­
weiterung enthält" [1974:108]. Thus, more than a century since the time of
Koelle's writing, it is still the basic tenets of his description that are
used to describe the Kanuri "case" system.

I argue, however, that Kanuri does not have a case-marking system. In
Hutchison [1976:22] these two "case suffixes" of Kanuri were referred to as
the "agentive" and the "direct object" postpositions. It is here being pro­
posed that a "direct object postposition" does not exist. In the following
examples, direct object pronouns are obligatorily marked with the associa­
tive postposition.11

11 For the purpose of consistency and in violation of the SKO, the post­
positional marking these direct objects is written as the associative +(c+)à ,
rather than as +gà , which has been referred to as the accusative case suf­
fix. The hypothesis that the associative is also the direct object marker
would explain why we experienced so much difficulty in Nigeria teaching
Kanuri school teachers and others to make the orthographical distinction
among the associative +à , the direct object marker +gà , and the other
If non-pronoun direct objects are substituted for the independent pronouns in (85) and (86), it is apparent that only the fronted object in (85') below is marked with the associative postposition, whereas it is not marked in (86'). This is because in (85') the OSV order has been selected for pragmatic reasons, in violation of the canonical SOV order. There associative marking of a (pro)noun object is paired with marking of the out-of-order subject by the agent postposition +yè.

(85') Ālì à kànà yè cǐtā 'Ali was stricken by hunger'  
(86') Mūsà lèfàné 'greet Musa'

The uses of the agent and associative postpositions to mark subjects and objects respectively are clearly inter-related.

In (85) and (86) the associative postposition is not within a complex NP in an NP modifier position but rather has as its scope an entire NP constituent. In order to explain the above tentative observations, it is necessary to examine other such environments where the associative also sets off an entire NP. In the following subsection, the use of the associative to left-dislocate NPs is used to explain its role in marking direct objects under certain conditions.

4.3. The semantics of the associative and left-dislocation. I hope it is apparent that the semantic role of the associative is always a reflex of its ways in which the associative is written in subordinate clause constructions. For reasons of supposed grammatical clarity, the SKO, which I helped develop, writes what I am here proposing as one morpheme in at least four different ways.

I would argue that the OSV order together with obligatory postpositional marking of both major NP constituents represents the Kanuri equivalent of a passive construction with an expressed agent. Intransitive passives in which a semantic object occurs as the subject are derived from transitive verbs through the III passive-reflexive derivation of the verb [Lukas 1937: 93 ff]. In the latter environment no agent may be expressed.
syntactic position and scope, i.e. whether it stands alone or is preceded and/or followed by another constituent. It has been observed that when preceded by a governing constituent, the scope of the associative phrase is modified and the existence predicated in association with that preceding constituent. It will here be argued that elsewhere, in non-modifying roles, where the scope of the associative postposition is the entire constituent, that the associative-marked constituent is in some way dislocated from a following predicate. This dislocation is related to movement toward sentence-initial position. It will be demonstrated later in this subsection that associative-marked object noun phrases can be explained as dislocated constituents.

The following examples demonstrate the role of the associative postposition in left-dislocating entire constituents. Constituents dislocated in this way have often been referred to as "topicalized".

\[(\text{87})\] a. \(\text{Ali bàrèmá}\)  
   b. \(\text{Ali+à bàrèmá}\)  
   ASSOC

\[(\text{88})\] a. \(\text{shí kásúwù+làn}\)  
   he market at  
   b. \(\text{shí+à kásúwù+làn}\)  
   ASSOC

\[(\text{89})\] a. \(\text{nònganyí}\)  
   b. \(\text{wú nònganyí}\)  
   I  
   c. \(\text{wú+à nònganyí}\)  
   ASSOC

\[(\text{90})\] \(\text{kù+à lèngînbâ}\)  
   ASSOC go/IS NEG IMPF

'Ali is a farmer'

'As for Ali he's a farmer'

'he is at the market'

'as for him he's at the market'

'I don't know'

'me I don't know (and e.g. don't ask me again)'

'as for me I don't know'

'as for today I won't go'

From the finite verb forms in (89a) and (90), it is apparent that the Kanuri verb form carries root, aspect, and subject pronoun morphemes. The verb is thus synthetic and sentential and can as well carry all the noun phrase arguments of the sentence. It is clear in (89) that the subject pronoun is manifested independently to emphasize or topicalize it.

Similarly, in neutral, unmarked environments, it is natural with a transitive verb for first and second person objects to be manifested only as af-
fixes to the finite verb form with the comparable third person object forms having no overt marking. The independent pronoun objects are therefore excluded from the normal anaphoric conditions of an utterance.

(91) a. růkěnə
    see/1S PRF
    'I saw it/him/her'
b. shî+ə růkěnə
    'him/her/it I saw (him/her/it)'

(92) a. nzű+růkěnə
    OBJ
    'I saw you'
b. nyî+ə (nzű+) růkěnə
    you
    'you I saw (you)'

Thus, the use of the associative applies here to constituents which are moved leftward out of their normal, typologically-predicted position. The required use of the associative postposition to mark independent pronoun direct object can be perhaps understood in this light. According to the present analysis, the associative marked direct objects not because it is an accusative case marker, but rather because the independent occurrence of the object represents a dislocation from its neutral position "inside" the finite verb form. Non-pronoun subjects and direct objects are normally not marked by any postposition when they occur in their neutral positions. Either may be associative-marked when left-dislocated.

In Chafe [1976] are described the cognitive statuses that nouns can have in discourse, depending upon the "packaging" given them by the speaker for the purposes of the utterance context. In Kanuri, a constituent that is dislocated and marked by the associative postposition is marked as having a referent that carries one or more of Chafe's six statuses: (1) givenness, (2) contrastiveness, (3) definiteness, (4) subject, (5) topic, and (6) point of view/empathy. The semantic reasons for the use of the associative to left-dislocate are based in these statuses, especially the statuses givenness, contrastiveness, and point of view/empathy.

5. Left Dislocation and the Case for Subordination

It has been shown that the associative postposition is used in conjunction with left-dislocation of noun phrase constituents for the purpose of contrastive focus and for other semantic reasons. It was observed that the
occurrence of OSV order represents a case of left-dislocation in which a dislo­
cated direct object must be marked with the associative, reflecting its se­
"mantic prominence. Further, in Kanuri as in many other languages, subordin­
ated adverbial clauses represent another instance of left-dislocation. In
sentence-initial position, the existence predicated by the associative post­
position in marking such constituents may be interpretable not only with the
contrastive focus "as for" type of reading, but also with a "given" reading or a conditional "if" type of reading. The associative marks whatever pre­
cedes it as a real or unreal given in the utterance context, to be followed
by the new information based on that given in the following main predicate.
A conditional interpretation establishes the scene just as does NP topicalization.
In Kanuri there is no overt syntactic distinction between the two so
that in sentence-initial position the structure NP+ASSOC (,) may be inter­
preted in either way as in the following example.

(93) ny̱í+a (,) ìbí̱ dí̱min?  'as for you(,) what will/would you do/
you ASSOC what do/2S IMPERF are you doing?
if it were you(,) what would you do?'

For some speakers the dislocative pause (represented in parentheses by the
comma) is optional and often excluded for the topicalized NP reading and con­
sistently included for the conditional 'if' reading. In both readings of
(93) the associative predicates the existence of the dislocated subject pro­
noun as the given antecedent to the following predicate, whether it be inter­
preted as an NP topic or a hypothetical conditional.

The postpositional subordinator of "conditional" clauses of Kanuri (which
is homophonous with the associative) has been analyzed as a distinct "condi­tional" morpheme in other treatments of Kanuri syntax [Lukas 1937:159-160].
The present analysis proposes that one morpheme, the associative postposition,
also occurs as the subordinator of conditional clauses.

Kanuri is not the first language for which a significant syntactic and
semantic relation between topic constructions and adverbial clause construc­
tions has been proposed. In his treatment of Ngizim syntax, Schuh justified
treating topicalized noun phrases together with sentence level adverbs not
only because of their syntactic similarity but also due to their "semantic
"commonality", since both construction types "state antecedent conditions to the main clause, bring into the foreground some aspect of the main clause, or both" [Schuh 1972:323]. Thompson [1977:32-38] wrote that in many languages both adverbal clauses and topics:

(1) are sentence-initial;

(2) need not be an argument of the main predication;

(3) perform the discourse dependent role of linking an antecedent to a main clause;

(4) (à la Chafe [1976]) set a "spatial, temporal or individual framework within which the main predication holds";

(5) are definite.

As a subordinator of adverbal clauses the associative subordinates all "conditional" clauses, as well as generic "when/whenever" clauses, and "given that/since" clauses which have been referred to as "absolutive" or "circumstance" clauses. When an entire clause is set off by the associative and the contrastive focus reading is therefore not possible, the semantic distinctions between, for example, a "given" real clause and a "given" unreal clause are determined by the structure of the clause and/or the aspect of the verb within the clause. In general, associative-subordinated clauses are of the following structure:

CLAUSE + ASSOC MAIN PREDICATE = if/when/given + CLAUSE (then) MAIN PREDICATE

5.1. Associative subordination of sentential adverbial clauses. Associative-subordinated non-verbal clauses are interpreted either as hypothetical or counterfactual conditional clauses. In the absence of overt counterfactual marking, the following example may be interpretable in either way when taken out of context.

(94) shí mâi+â wú yé gâ!̂wùngîn
he king ASSOC I too get rich/1S IMPERF

a. 'if he is king I too will become rich'

b. 'if he were king I too would become rich'

The adverbial noun câ referring to a former, no longer existent state, or to one that is contradicted by present reality, may precede the associative-
subordinated clause as the overt marker of the counterfactual condition as shown in (95). Its occurrence may be duplicated in the main clause or matched by กูว่า 'by now'.

(95) จา่ ฆุ้ ฆุ้+ฉำ (ฆุ้/กูว่า) วุ้ ย ฆัลวุ้งน้า
get rich/1S PRF

'if he were/had been king I too would have gotten rich by now'

In (96a) the same subordinate clause has been marked as nominalized and real/definite in the utterance context through the application of the determiner +ดะ, followed by the associative. This determiner plays a significant role in associative subordination both for non-verbal and verbal clauses. As a marker of definiteness or identifiability, it may identify a constituent as a resumptive topic in a conversation or discourse. Its occurrence in relative clause-final position has led some to refer to it as a relative pronoun, rooted in a demonstrative just as is the English relative 'that'. Associative-subordinated clauses in which +ดะ occurs in clause-final position before the subordinator are factive adverbial clauses and lend themselves to interpretation in English as "given that" or "since (it is true that)" clauses. The determiner +ดะ never occurs in counterfactual clauses.

(96) a. ฆิ ฆ่+ฉำ วุ้ ย ฆัลวุ้งน้า 'given (the fact) that/since he is king I too will become rich'

b. *จา่ ฆุ้ ฆุ้+ฉำ+ฉำ วุ้ ย ฆัลวุ้งน้า

Associative-subordinated verbal clauses may similarly have a hypothetical, counterfactual, and a real factive interpretation, depending upon which aspect of the verb occurs within the clause and whether or not the clause is factually marked with the determiner +ดะ. Certain verb aspects and clause structures may also lend themselves to interpretation as predictive, generic, and absolutive/circumstance clauses.

The interaction of the meaning of the associative with the structure of the subordinated clause and its verb aspect is clear from the following examples. It is apparent that what in other languages is carried out through the variation of subordinators is effected in Kanuri by variation of verb aspect.

(ça) IMPERFECT ASPECT CLAUSE (+DET) ASSOC

sùlùyìn+na njì sùwúdè

'if he is going out he should bring back water'

cà sùlùyìn+na njì sùwúdin

'if he were going out he would bring back water'

sùlùyìn+ dé+a fà+ndé+rò ́ishìn

'since he is going out he will come to our house'

(ça) NEGATIVE COMPLETIVE CLAUSE (+DET) +ASSCC

sùlùwùnyì+à fátòn fàndâmìn

'if he hasn't gone out you'll find him at home'

cà sùlùwùnyì+à kùwà cídàndé tàmònyénà

'if he hadn't gone out we would have finished our work by now'

sùlùwùnyì+ dé+a kàléwà gènyì

'since he hasn't come out something is wrong'

(ça) PERFECT CLAUSE (+DET) +ASSOC

sùlùwùnà+ à kàmù+ nzé+rò wòtíyà+dé yé

'if he has gone out give the letter to his wife'

cà sùlùwùnà+ à kùwà fàn+nyì+rò nàzégènà

'if he had gone out he would have reached my house by now'

sùlùwùnà+dé+a lènyèndé yàyè kàl

'since he has gone out we might as well go'

(ça) PAST TENSE CLAUSE +ASSOC

cúlùwò+ à àré wù+rò gùllé

'as soon as/when/if he comes out come and tell me'

cà cúlùwò+ à kùwà kàsùwù+làn cùrúkò

'had he gone out I would have seen him in the market by now'

VERB EMPHASIS COMPLETIVE +ASSOC

sùlùyì+à nà+nàm+rò lèjìn

'when he goes out he goes/will go to your place'

---

13 It should be pointed out that subordinate clauses marked as nominalized, etc. by the determiner +dé only occur in those verb aspects which may occur in relative clauses, i.e. the imperfect, the negative imperfect, the perfect, and the negative completive. For a discussion of this cf. Hutchison [1976:12-73].

14 This aspect of the verb, i.e. the verb emphasis completive (Lukas' predictive) plus the associative postposition, is referred to by Lukas as the "Dependent Future" [Lukas 1937:71] and is written by Lukas and in the SKO with
(câ) NOUN EMPHASIS COMPLETIVE +ASSOC

shí+má sùlúwò+à gùlë ísé 'if/when HE comes out/has come out tell him to come here'
cà shí+má sùlúwò+à kùwá túrúiyénà 'if HE had come out we would have seen each other by now'

5.2. The relation between topics and conditional clauses. In an important article, Haiman [1978] suggested that conditional clauses and topics may be related in a great many languages. He established the following definitions for each:

"A conditional clause is (perhaps only hypothetically) a part of the knowledge shared by the speaker and his listener. As such, it constitutes the framework which has been selected for the following discourse" (p.583).

"The topic represents an entity whose existence is agreed upon by the speaker and his audience. As such, it constitutes the framework which has been selected for the following discourse" (p.585).

Haiman argues that topics, like conditional clauses, are presuppositions of their sentences, and subsequently that presuppositions are "reducible to presuppositions of existence" (p.586).

The Kanuri evidence provides indubitable support for the Haiman hypothesis. Both topics and conditional clauses of Kanuri are marked syntactically through left dislocation, their existence being predicated by the associative postposition. There is no overt syntactic marker in Kanuri to distinguish a left dislocated NP interpreted as contrastively focused from the same constituent interpreted conditionally. The fact that these construction types, as well as the complete spectrum of non-verbal and verbal clauses (cf. 5.1) are all designated for their respective roles through marking by the same associative postposition, clearly documents their syntactic and semantic similarity in Kanuri.

the suffix +yà. Lukas treats +yà as another morpheme distinct both from the conditional +gà, the accusative +gà, and the "derived adjective suffix" +(C+)à. Here I have written this form of associative subordination as +à, since I propose it is the same associative morpheme.
6. Conclusion

It has been the purpose of this paper to demonstrate first of all that there is only one morpheme \(+(C+)\text{a}\) in the Kanuri language, instead of the three or more different morphemes that have traditionally been proposed. Second, I have tried to show how a single morpheme with the basic meaning that has been described for the associative postposition, could feasibly carry out all of the functions ascribed to the (traditionally proposed) different homophonous morphemes.

I have suggested that the associative asserts the existence of a constituent which it marks and that the semantics of this predication is everywhere determined by the syntactic position and role of the constituent it marks, both with regard to order and syntactic hierarchy. When nothing precedes and nothing follows an associative-marked constituent, the existence of that constituent is asserted in relation to the world as shown in 3.1. When preceded by a governing constituent (whether a subject noun phrase as in 3.1 or the head noun of a complex NP as in 3.2), then the existence of the associative-marked constituent is predicated in relation to the preceding governing constituent in a modifying function. In the environment of an intransitive verb, it was shown that the associative-marked constituent exists with the subject of the verb either as its companion or as its modifier in a relative clause construction as described in 4.1. In the environment of a transitive verb, it was shown that direct object pronouns and non-pronouns are obligatorily marked with the associative postposition when left-dislocated, either leftward out of their canonical position within the finite verb form, or leftward from pre-verb position past the subject NP to OSV position, as in 4.2. It was shown that any NP can be left-dislocated and marked with the associative to mark it as a topic in sentence-initial position, as in 4.3.

Finally, it was shown that there are environments in which a left-dislocated constituent may be interpreted either as a topicalized NP or as a condition on the following main predicate (cf. 5). The lack of any overt syntactic marker in Kanuri to distinguish these two interpretations was used to introduce the role of the associative postposition as subordinator of a wide range of subordinate clause types (cf. 5.1), among them what have tradition-
ally been referred to as "conditional" clauses. Finally, the fact that (left-) dislocated conditionals and topics are both enveloped in the wide range of functions of the associative postposition was shown to be significant in light of recent documentation of similar relationships in other languages (cf. 5.2). It is hoped that the proposed unity of the seemingly incongruous spectrum of functions of the associative postposition in Kanuri may contribute to the reconsideration of the status of morphemes of this type and the constructions in which they occur in other languages.

REFERENCES


Hausa has been described as having stress on High toned syllables which shifts to Low toned syllables under certain conditions, notably when the first word of a Noun + Noun or Verb + Noun construction is LH and the second word is stressed on the first syllable. This paper examines those constructions to determine what phonetic feature causes the observed change in pronunciation and whether or not that feature can be called stress. The results of the experiment lead to the conclusions that while there are contextually conditioned pronunciation changes which occur in certain grammatical constructions in Hausa, these changes cannot appropriately be described in terms of stress but rather must be considered tonal changes.

1. Introduction

1.1. Stress in Hausa. The feature stress has not received nearly the attention in writings on Hausa that the features tone and vowel length have received. Nonetheless, for over 50 years many grammars and articles on Hausa have included some statement on stress. Taylor [1923] is probably the first to actually mention stress and distinguish it from tone and vowel length. He says:

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1Work for this paper was begun while working as a Research Fellow at the Centre for the Study of Nigerian Languages, Bayero University, Kano during 1974-1976. It was completed as part of my Ph.D. dissertation [Dresel 1977], and I am particularly grateful for the help given to me by Robert Port.

2Some of the earlier writings on Hausa such as the grammars of Seidel [1906], Migeod [1914], and Robinson [1917] contain the words accent and emphasis. Since the terms are not clearly defined it is difficult to know if they refer to what we would call stress or tone. It is most probable that they refer to tone, although the section in Migeod on the movement of accent is quite a bit like Abraham's later descriptions of the movement of stress.
"apart from the natural emphasis which seems to be inherent in a long vowel—and generally speaking long vowels predominate in Hausa, especially at the end of a word—nouns have ordinarily no stress accent except when a vowel is final and precedes the enclitics ne and ce or the negative particle ba. With words of more than one syllable the stress is normally leveled out" (p. xi).

Abraham [1934, 1959] has the most complete account of stress in Hausa. He does not define stress itself but claims there is an intimate connection between stress and tone such that High tones are stressed and Low tones are unstressed [1959:185]. For example: 3

I dokI 'horse' HL, stress on first syllable
àl'kawâ'ri 'promise' LHLH, stress on second and last syllables

Pilszczikowa [1968] also claims that stress usually falls on High tone syllables. She finds that in words of all High or all Low tones, all the syllables are stressed, and that in words of various tones, the first syllable with High tone carries the main stress and other High tone syllables have secondary stress. Wängler [1963] does not discuss stress at great length but mentions that most High tone syllables are stressed while Low toned ones are unstressed and that Falling tone is always stressed. He does, however, indicate stress in all his diagrams by circling the stressed syllables. Kraft and Kraft [1973] and the similar Kraft and Kirk-Greene [1973] represent the most recent accounts of stress:

"(i) Differences in stress alone do not account for differences in meaning between words. (ii) Stress generally, though by no means always, falls on syllables possessing High tone. (iii) When a series of High tone syllables is followed by a Low tone, the High tone syllable immediately preceding the Low syllable carries greater stress.

3The Hausa examples in this paper are written in standard Hausa orthography with the following modifications:

is used to indicate a short vowel
is used to indicate a Low tone
is used to indicate stress on the syllable following it

Long vowels and High tones are not marked, and stress is only marked where it is relevant to the discussion.
than the preceding High syllable unless such a syllable is both word final and short" (p. 37).

1.2. **Stress movement.** Abraham [1934] describes several types of stress movement. The most interesting ones deal with Noun + Noun and Verb + Noun constructions. He also discusses nouns followed by the stabilizer ne/ce and by the possessive pronouns, and verbs followed by the negative particle ba.

According to Abraham, LH nouns are stressed on the second syllable. He finds, however, that the stress shifts to the first syllable when these words are followed by nouns which are stressed on the first syllable. This means, in most cases, nouns whose first syllable has High tone. So, for example, *kà're* is stressed on the second syllable, but in the construction *Ikàren* Audù, it is stressed on the first syllable. His observations about LH verbs are that the stress shifts to the first syllable when followed by

- a) a noun stressed on the first syllable,
- b) a noun whose stress has shifted to the first syllable,
- c) a noun with even stress (HH),
- d) a Low toned noun (LL).

Abraham's claims about Noun + Noun and Verb + Noun constructions can be summarized as follows:

$$L^1H \rightarrow LH / \_ \_ [\text{stress}]$$

Pilszczikowa [1968] has a similar account of stress movement rules which she acknowledges to be based mainly on Abraham [1934], with additional information from the diagrams in Wangler [1963]. She concludes that there cannot be two consecutive stressed syllables across word boundaries. If that should happen the stress on the first word moves back one syllable.

Yet another observation on the shifting of stress in Hausa is to be found in Parsons [1961:119]. He notices as Abraham does that the stress of some words shifts to the final syllable before ne/ce, but claims that stress is interrelated with both tone and vowel length. He gives the following exam-

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4 While Abraham describes LL nouns as being unstressed he finds that they behave as having stress on the first syllable for stress movement. Pilszczikowa says LL nouns are stressed on both syllables. Because of this discrepancy I have used LL words in all of my test environments.
1.3. Experimental investigation of stress movement. It has been noticed by several investigators, then, that there are variations in the pronunciations of certain Hausa words which seem to be environmentally conditioned. The words so affected seem to be nouns and verbs in close construction with following nouns or enclitic particles. The change in pronunciation has been attributed to a shift of stress. Two experiments were designed and conducted, therefore, to try to determine what phonetic (phonological) feature causes the observed change in pronunciation. Furthermore, an attempt was made to clarify the question of whether or not there is in fact something we can call stress in Hausa. Both experiments deal with shifts of stress, not stress alone. It is difficult to try to investigate stress alone in Hausa since both tone and vowel length are phonemic. It is not clear how to distinguish between pitch effects, or duration effects, and stress. In dealing with shifts of stress, however, we are dealing with exact minimal pairs. If the same word is pronounced one way in one environment and another way in another, then there is reason to believe that some feature, possibly stress, has shifted, causing the difference in pronunciation.

In discussing the phonetic realization of stress, Hyman [1977:40] describes a stressed syllable as being frequently characterized by a pitch change, by greater duration, and by greater intensity. The work of Fry [1955], Bolinger [1958], Lehiste [1970], and others indicates that pitch or changing pitch followed by duration are the most important perceptual cues to stress, at least for English. In the experimental study of Abraham's claims about stress in Hausa measurements were made of fundamental frequency and duration. The hypothesis was that if the change in pronunciation noticed by Abraham is to be called stress it should show up phonetically as a change in both fundamental frequency and duration. Lea [1977] has reported that combinations of cues work better for stress determination than individual ones. This should be especially true in a language like Hausa where fundamental frequency and duration have their own phonological roles in the
language. Thus, if the change in pronunciation showed up as a change in only fundamental frequency or only duration it could probably be accounted for by phonological rules concerning these features. If, however, differences in both fundamental frequency and duration were detected than a case could be made for saying that the difference was one of stress.

2. **Experiment 1**

2.1. **Noun + Noun**

2.1.1. **Introduction.** This experiment was designed to examine the claims made by Abraham about stress movement in Noun + Noun constructions as described above. Abraham made his claim about constructions in which the first noun has a LH tone pattern. We were interested to see if the pronunciation of that noun could be affected by the first tone of the following noun. The hypothesis was that the Low tone first syllable would have different fundamental frequency and duration measurements depending on whether the following word had initial High tone or initial Low tone. The experiment examined Noun + Noun constructions in which the first noun had the four possible tone patterns: HH, HL, LH, and LL. The same four tone patterns were used for the second noun although only the effect of the first tone was under investigation.

2.1.2. **Methods.** The Noun + Noun constructions were investigated in the following frame:

\[
\text{wannàn } N_1 \text{ + linker } N_2 \text{ ne/ce 'this is } N_1 \text{ of } N_2
\]

For the test word \(N_1\) 8 words were used, two words with each of the above tone patterns, one having a short first vowel, and one a long first vowel. Vowel length was controlled since the hypothesis predicted systematic lengthening. The context word \(N_2\) was one of four words with the same tone patterns as the test words. The 32 utterances were read five times each by three Hausa speakers\(^5\) and were recorded in a sound treated room on a Sony tape recorder. In addition the sentences which Abraham used as illustrations

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\(^5\)Adam Sheik Abdullahi, Mohammed Sabo Nanono, Nicholas Pweddon
Table 1: Materials for Experiment 1 - Noun + Noun

<table>
<thead>
<tr>
<th>N1</th>
<th>daga</th>
<th>'bracelet'</th>
<th>gara</th>
<th>'wedding present'</th>
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<tbody>
<tr>
<td></td>
<td>kądà</td>
<td>'crocodile'</td>
<td>tasà</td>
<td>'dish'</td>
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<td></td>
<td>gàda</td>
<td>'duiker'</td>
<td>kàza</td>
<td>'chicken'</td>
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<tr>
<td></td>
<td>gwàdò</td>
<td>'blanket'</td>
<td>kèkè*</td>
<td>'bicycle'</td>
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<tr>
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<td>Bellò</td>
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<td>Bàla</td>
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|      | màcè   | 'woman'

8. Wannàn garan màcè nè.
15. Wannàn tasàr Bàla cè.
27. Wannàn gwàdòn Bàla nè.
32. Wannàn kè(ken) màcè nè.
33. Wannàn kàren Audù nè.
34. Wannàn kàren ìlí nè.
35. Wannàn gàn rùwa nè.

* kèkè* has two pronunciations: LL and Lì, which are in free variation. The second syllable is therefore shown in parentheses. This word was only analyzed when it was pronounced as LL.
of his claims were also recorded. All the test sentences are shown in Table 1. As none of the five readings were judged to be better or worse than the rest, the first and third reading were arbitrarily chosen and the recordings were played through a Trans-pitch meter into a Siemens Oscillomink multi-channel graphic recorder. A fundamental frequency curve was obtained as well as a duplex oscillogram for segmentation and length measurements. Measurements to the nearest 5 Hz were made of the fundamental frequency of the two vowels of the test word N₁. Each vowel was measured twice, once 20 msec after onset and once 20 msec before the end. This was done to reduce consonantal influence, such as the sudden increase in fundamental frequency following unvoiced consonants [Lea 1977]. An investigation of the two fundamental frequency measurements of each vowel showed that while the fundamental frequency was unchanging in some cases and changing in others the contour was consistent for any given syllable and not affected by environment. This was confirmed by statistical analysis of the results using a t-test. Therefore the means of the two measurements were the values used in the experiment. The duration of each vowel of the test word was measured to the nearest 10 msec on the duplex oscillogram tracing.

2.1.3. Results. Table 2 shows the mean values for fundamental frequency for the first vowel (V₁) and the second vowel (V₂) of the test word (N₁) in the two contexts, before initial High tone nouns and before initial Low tone nouns. These values are plotted in Figure 1. The slope of the lines indicates the overall pitch contour across the two syllables of the test word. A left to right upward slope indicates that the first vowel has a lower fundamental frequency than the second; a downward slope that the second vowel is lower.

Looking first at the tone contour of the LH word, statistical analysis of the results using a t-test shows that the difference between mean fundamental frequencies before a following High tone and before a following Low tone in the context word is significant (p < .02). It is marginally significant (p < .10) for HL words. For HH and LL words the difference is not sig-

6Described by Fant [1958].
Table 2: Fundamental Frequency (Hz), Experiment 1 - Noun + Noun

Test Word (N₁) tone patterns

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<td>(1.9)</td>
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</tbody>
</table>

Mean fundamental frequencies (to nearest Hz) of V₁ and V₂ of test words (columns) in environments of words with initial High tone and initial Low tone (rows). Standard deviations shown in parentheses below each fundamental frequency value. (Six tokens: 3 speakers x 2 readings).

Table 3: Duration (msec), Experiment 1 - Noun + Noun

Test Word (N₁) tone patterns

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</table>

Mean values for duration (to nearest msec) of V₁ and V₂ of test words (columns) in environments of words with initial High tone and initial Low tone (rows).

Meaning. Thus the tone of the first syllable of the context word seems to influence the tone contour of the preceding test word when the word is HL or LH but not if it is HH or LL. The overall tone levels of the various tone patterns are different depending on the tones of the following words, but
Stress in Hausa

Figure 1: Mean Fundamental Frequencies of $V_1$ and $V_2$ of Test Words (Nouns)

Key: 
- environment of following High tone
- environment of following Low tone

This difference is not significant in any of the cases as determined by $t$-tests.

The durations of $V_1$ and $V_2$ in msec for the four test noun tone patterns in
the two general contexts of following High and Low tones are shown in Table 3. It is clear that the tone of the context noun has no effect on the duration of the vowels of the test words.  

2.1.4. Discussion of results

2.1.4.1. LH nouns. The design of this experiment was based on a claim which predicted a change, which might be a change in stress, in the pronunciation of LH words depending on the initial tone of the following word. The aim of the experiment was to find out if there was any measurable difference in fundamental frequency or duration depending on environment. The results for LH words show that the pitch of the Low tone is slightly higher when the word occurs before a High tone than when it occurs before a Low tone, as can be seen in Figure 1. The data also show that the difference in pitch between the two syllables is smaller before a following High tone than before a Low tone. There was no effect on the duration of the test word due to the tone of the context word. In the examples that were taken directly from Abraham the values for fundamental frequency and duration showed the same trends, although the difference in pitch between V₁ and V₂ was not significant due to a small data sample.

Thus, although there is evidence that the pitch of LH words is affected by the initial tone of the following word, the absence of any effect on duration makes the use of the term stress inappropriate. While certain aspects of Abraham's observations have been validated, it seems preferable to account for them in terms of tonal context rules rather than introducing a new feature called stress.

2.1.4.2. HL nouns. The results for HL words show, of course, that the High tone is on a higher pitch than the Low. One interesting result is that the difference in pitch between the two tones is smaller when the following word begins with a High tone than when it begins with a Low tone. This was also the case with LH nouns and both can be seen in Figure 1, where the solid line is shorter than the dotted one. Thus the basic observation made by Abraham

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7 According to Klatt [1976] a just-noticeable change in duration is 25 msec. Changes of 20% or more may serve as primary perceptual cues.
can be expanded to say that the pronunciation of both LH and HL nouns is affected by the initial tone of a following noun. Another interesting result for the HL nouns is that the High tone has the highest overall pitch, and the Low tone is itself within the fundamental frequency range for High tone. The Low tone is on a lower pitch before a following Low tone than a High tone, however.

2.1.4.3. HH and LL nouns. The pitch of both syllables of HH and LL words was higher before a following Low tone than before a following High tone, although not significantly so.

2.1.5. Conclusions. Abraham made the observation that the stress of LH nouns could shift from the second to the first syllable depending on the grammatical construction they were in and the phonological features, tone in particular, of the following word. This observation was investigated experimentally with additional tone patterns included as controls. The results of the experiment showed that the initial tone of the second noun had an effect on the fundamental frequency of the first noun when it was LH or HL. Overall pitch level changes were also observed for the HH and LL nouns, but they were not statistically significant. The initial tone of the context noun had no effect whatever on the duration of any of the test words. It was concluded, therefore, that while there is indeed a change in pronunciation in LH words depending on the features of the following word, as noticed by Abraham; the change is not, as he claimed, one of stress. Although the fundamental frequency changes, the duration does not, and changes in both would be expected in order to consider the difference stress. Furthermore, it was not only LH words which exhibited a change in fundamental frequency but HL words as well. Thus Abraham simply observed one case of a more general process. The changes observed were changes in fundamental frequency and occurred in all the nouns. They appeared to be cases of general tone rules and pitch realization rules in the language.\textsuperscript{8} Thus the phonological context

\textsuperscript{8}Meyers [1976] has a good account of pitch realization rules in Hausa. The phonetic realization of various tonal contours is also treated in Wängler [1963]. Both are discussed in Dresel [1977].
is important in that the sequence LH H, for example, will have a different phonetic realization than LH L. The grammatical context is important in that two nouns in the genitive construction form a close unit, the tones becoming a sequence subject as a whole to pitch realization rules.

3. Experiment 2

3.1. Verb + Noun

3.1.1. Introduction. This experiment was designed to examine the claims made by Abraham about stress movement in Verb + Noun constructions as described in section 1.2. As in the previous experiment, Abraham's claims deal only with LH verbs. HH and HL verbs were added here, however, both as controls and because the results of the previous experiment showed an effect on both LH and HL nouns. There are no LL verbs in Hausa. For Verb + Noun constructions, Abraham's hypothesis about stress movement is slightly different. He claims that the stress should shift from the second to the first syllable when LH verbs are followed by HH, HL, or LL words. That is, although LL words are said to have no stress, they supposedly function like nouns stressed on the first syllable. Experimental validation of Abraham's observation should show a change in fundamental frequency and duration on the first syllable of LH verbs before HH, HL, or LL nouns but not before LH nouns. Based on the results of the previous experiment, however, we expect that there will be no effect on duration but that there will be a contextually determined change in the fundamental frequency of LH and HL verbs.

3.1.2. Methods. Six verbs were chosen, expanding on the claim and conditions stated by Abraham, two each with the tone patterns HH, HL, and LH. Four nouns were chosen with the tone patterns HH, HL, LH, and LL. The 24 sentences were read in the following frame and were recorded under the same conditions as the previous experiment:

\[ \text{ta V N} \quad \text{'she V N'} \]

An additional six sentences were read, taken from the examples used by Abraham, to illustrate his claim. The materials recorded are shown in Table 4. The measurement conventions and statistical analysis are the same as in the
Table 4: Materials for Experiment 2 - Verb + Noun

<table>
<thead>
<tr>
<th>Verbs</th>
<th>Nouns</th>
<th>Materials for Experiment 2 - Verb + Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>sato 'steal'</td>
<td>gara 'wedding presents'</td>
<td></td>
</tr>
<tr>
<td>debo 'draw out'</td>
<td>tasà 'dish'</td>
<td></td>
</tr>
<tr>
<td>dubà 'look at'</td>
<td>kàza 'chicken'</td>
<td></td>
</tr>
<tr>
<td>b gà 'beat'</td>
<td>èkè 'bicycle'</td>
<td></td>
</tr>
<tr>
<td>sà'ta 'steal'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dùba 'look at'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Ta sato gara.
2. Ta sato tasà.
3. Ta sato kàza.
4. Ta sato kè(ke).
5. Ta debo gara.
6. Ta debo tasà.
7. Ta debo kàza.
8. Ta debo kè(ke).
9. Ta dubà gara.
10. Ta dubà tasà.
11. Ta dubà kàza.
12. Ta dubà kè(ke).
13. Ta b gà gara.
14. Ta b gà tasà.
15. Ta b gà kàza.
16. Ta b gà kè(ke).
17. Ta sà'cì gara.
18. Ta sà'cì tasà.
19. Ta sà'cì kàza.
20. Ta sà'cì kè(ke).
21. Ta dùbì gara.
22. Ta dùbì tasà.
23. Ta dùbì kàza.
24. Ta dùbì kè(ke).
25. Bài shìgà ba.
26. Ya shìgà dàkî.
27. Ya shìgà kògì.
28. Ya tàfì gîdà.
29. Ya nèmì gîdà.
30. Ya nèmì màcè.

*The final vowel of these verbs shortens before noun objects.
**The final vowel of these verbs (Parsons Grade II) changes to -ì before noun objects.
***See Table 1.
Noun + Noun experiment.

3.1.3. Results. Figure 2 shows the mean fundamental frequencies of LH verbs before the four noun tone patterns. As can be seen, contrary to Abraham's claim, LL context nouns do not pattern with HH and HL in terms of their effect on the preceding verb but rather have the same effect as LH nouns.

Table 5: Fundamental Frequency (Hz), Experiment 2 - Verb + Noun

<table>
<thead>
<tr>
<th>Verb tone patterns (test words)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td>V₁</td>
<td>V₂</td>
<td>V₁</td>
<td>V₂</td>
<td>V₁</td>
<td>V₂</td>
</tr>
<tr>
<td>H</td>
<td>113</td>
<td>112</td>
<td>125</td>
<td>109</td>
<td>102</td>
<td>105</td>
</tr>
<tr>
<td>(1.9)</td>
<td>(1.8)</td>
<td>(1.6)</td>
<td>(1.5)</td>
<td>(2.1)</td>
<td>(1.2)</td>
<td>H</td>
</tr>
<tr>
<td>L</td>
<td>118</td>
<td>119</td>
<td>121</td>
<td>106</td>
<td>104</td>
<td>113</td>
</tr>
<tr>
<td>(2.4)</td>
<td>(1.5)</td>
<td>(3.2)</td>
<td>(2.1)</td>
<td>(1.8)</td>
<td>(4.2)</td>
<td>L</td>
</tr>
</tbody>
</table>

Mean fundamental frequencies (to nearest Hz) of $V₁$ and $V₂$ of verbs (columns) in collapsed environments of nouns with initial High and initial Low tones (rows). Standard deviations shown under each fundamental frequency value. (Six tokens: 3 speakers x 2 readings).

Table 5 shows the mean fundamental frequencies of the verbs in the contexts of a following initial High tone and a following Low tone. These values are plotted on Figure 3. The differences in tone contours within the word are significant for LH verbs as indicated by a t-test ($p < .02$). For HH verbs the difference is only of marginal significance ($p < .10$) and for HL verbs there is no difference. It seems, therefore, that the initial tone of the context noun only has an effect on the tone contour of preceding verbs whose tone pattern is LH. There are also significant differences in the overall pitch levels of the verbs depending on the tone of the following noun. The overall tone level of HH and LH verbs is significantly higher ($p < .02$) before following Low tones. While there is also a difference in absolute level for HL verbs, the difference is not significant.
The durations (in msec) for the two vowels of each of the three types of verb in the two contexts are shown in Table 6. While the duration of both vowels is consistently a bit longer before following High tones than Low tones, the difference is not significant \( p < .20 \). Even for \( V_1 \) of the HH verbs, which has the biggest difference, it is only marginally significant \( p < .10 \). We can conclude, therefore, that the initial tone of the context noun has no significant effect on the duration of the verb.
Figure 3: Mean Fundamental Frequencies of $V_1$ and $V_2$ of Test Words (Verbs)

Key:
- solid line: environment of following High tone
- dashed line: environment of following Low tone
Table 6: Duration (msec), Experiment 2 - Verb + Noun

Verb tone patterns (test words)

<table>
<thead>
<tr>
<th>H</th>
<th>H</th>
<th>H</th>
<th>L</th>
<th>L</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V_1 )</td>
<td>( V_2 )</td>
<td>( V_1 )</td>
<td>( V_2 )</td>
<td>( V_1 )</td>
<td>( V_2 )</td>
</tr>
<tr>
<td>234</td>
<td>203</td>
<td>138</td>
<td>152</td>
<td>196</td>
<td>75</td>
</tr>
<tr>
<td>215</td>
<td>196</td>
<td>132</td>
<td>151</td>
<td>183</td>
<td>72</td>
</tr>
</tbody>
</table>

Mean durations (to nearest msec) of \( V_1 \) and \( V_2 \) of the three verb tone patterns (columns) in the environment of nouns with initial High and initial Low tones (rows).

3.1.4. Discussion of results

3.1.4.1. LH verbs. Abraham claimed that LH verbs would be pronounced with stress on the first syllable before HH, HL, or LL nouns, and with stress on the second syllable before LH nouns. The results of this experiment indicate that there is a difference in pronunciation in LH verbs depending on the context they are in, but that the difference is only in pitch. Since there is no difference in duration as well, the difference cannot be considered one of stress. There is less pitch difference between the two vowels of LH verbs when they are before a High tone than when they are before a Low tone. Furthermore, the pitch of LH verbs in the environment before a High tone is such that the pitch of the High tone is in the fundamental frequency range of Low tones. The difference between \( V_1 \) and \( V_2 \) is not only less, but the absolute values are also significantly lower. Thus, LL nouns pattern with LH nouns contrary to Abraham's claim that HH, HL, or LL nouns should all trigger a stress shift.

3.1.4.2. HH verbs. The HH verbs showed a tendency to have slightly higher pitch on the first syllable before Low tone words. While this difference is only marginally significant, there is a difference in the overall pitch such that the fundamental frequency of both syllables is much lower before a High tone than before a Low tone.
3.1.4.3. **HL verbs.** For HL verbs the difference between the mean fundamental frequency values before High and Low tones was not great enough to be considered the result of contextual influence. There was a difference in absolute values however, such that the fundamental frequencies of both vowels were higher before a following High tone than before a Low tone. In HH and LH verbs the opposite was found, that is, the absolute values were higher before following Low tones. Thus it seems there is assimilation of a Low tone in one word to a following Low tone, but dissimilation of a High tone to a following Low.

3.1.5. **Conclusions.** Based on a claim made by Abraham about the pronunciation of LH verbs when followed by nouns of various phonological qualities, an experiment was designed to try to determine what phonetic feature was influencing the pronunciation of these verbs. LH verbs were investigated in four environments, and HH and HL verbs were added as controls. The hypothesis was that if the change in pronunciation was a change in stress, it would be measurable as an increase or change in fundamental frequency and increased duration. The overall pitch was higher for LH and HH verbs before Low tones, and higher for HL verbs before High tones. Furthermore there was a significant change in the difference between $V_1$ and $V_2$ for LH verbs, and a marginally significant one for HH verbs. The tone of the context nouns had no effect, however, on the duration of the test verb. There are, then, as Abraham noticed, some environmentally conditioned phonetic changes in some Hausa verbs. These changes cannot be described, however, as the result of stress but rather as the result of tonal rules.

There are some similarities and some differences in the results for the two experiments. In both cases it was found that the difference in pitch between the vowels of LH words was greater before a following Low tone than a High tone. The difference in pitch contour between the vowels of level toned words was not significant in either experiment. The main difference is that the contour effects (difference between $V_1$ and $V_2$) are more noticeable in the Noun + Noun experiment, while the effect on absolute values (pitch level) is greater in the Verb + Noun experiment.
4. General Conclusions

Any discussion of stress in Hausa must look at two questions. One is the definition of stress as a feature different from tone, and the other is the necessity of both features for the description of the language.

Addressing himself to the first question Meussen [1970] writes that distinctions in stress are less stable and more likely to be affected by changes in intonation or tempo than are distinctions in tone. It has also been noticed that one difference between tone and stress is that while they are both characterized by relative high pitch, they function differently in relation to surrounding syllables. High toned syllables tend to cause surrounding syllables to raise their pitch, while stressed syllables tend to cause surrounding syllables to lose their stress (Pike [1974:169] and Hyman and Schuh [1974:81]).

Several authors have addressed themselves to the question of the need of features both of stress and of tone. Meussen [1970] lists several African languages, investigated by other linguists, which are described as having both stress (either predictable or unpredictable) and tone. Lea [1973] entertains an interesting speculation about the problem in relation to historical linguistics. He surmises that tone and stress contrasts might both exist in a language at some point in its development. However, he predicts changes which would make the interpretation of one type of contrast become a perceived contrast of the other type. Woo [1969] reviews data from several languages, Bambara (Mande) among them. She classifies Bambara as a tone harmony language since each lexical item has one of two pitch patterns. She claims, however, that in addition, Bambara has rules of stress assignment. In a word with HH tone, the second syllable will be stressed and will therefore be higher in pitch, longer, and of increased intensity. She concludes that although stress is related to pitch it can exist independently of it. Stress is related to pitch in that stress often has the effect of raising pitch and lack of stress of lowering pitch. A similar relationship exists between stress and vowels and vowel quality. Woo concludes therefore, that pitch and stress are different phonological features. Lehiste [1970] tries to evaluate the evidence regarding the possible independence of fundamental fre-
quency and intensity on the one hand, and stress and pitch on the other. She concludes that although there are two physiological mechanisms, subglottal pressure and the tension of the vocal folds, that can produce increases in fundamental frequency independently of each other, speakers tend neither to do so systematically nor use them for different linguistic purposes nor perceive any distinction between them.

The results of the experiment on stress in Hausa lead to the conclusions that while there are contextually conditioned pronunciation changes which occur in certain grammatical constructions in Hausa, these changes cannot appropriately be described in terms of stress but rather must be considered tonal changes. There is no need therefore for both tone and stress to describe Hausa. Furthermore, the "prominence" which occurs behaves linguistically like tone and not like stress.

There are, however, reasons why the term stress has persisted in descriptions of Hausa. The major investigators of Hausa have been Europeans whose languages were stress languages. Lea [1977] reports that there is experimental evidence that listeners judge foreign languages in terms of what they know to be the correlates of stress in their own languages and what they hear as prominence in the foreign language. People working on Hausa could easily, then, interpret fundamental frequency or duration changes as stress. Even when this was not the case, investigators like Abraham, who described the tone and vowel length systems very accurately, occasionally found what they considered variations from the normal tone patterns. It was very convenient, therefore, to use a different feature, stress, to describe them. As seen by the results of the experiment, there is instrumental evidence that the observations made by Abraham were in fact correct. But whereas he accounted for the observation by calling it stress, we have found that wider reaching tone rules, already functioning in Hausa, can account for the observed change. The experiments were conducted to look at shifts of stress which were determined to be experimentally more suitable than an investigation of stress on individual words. The results of the stress shift experiments however, indicate that there is no justification for introducing a feature of stress.
REFERENCES


ANNOUNCEMENT: THE "GBE" WORKING GROUP

During the 14th West African Languages Congress held at Cotonou (People’s Republic of Bénin) from April 13 to 19, 1980, a group of linguists met on April 15, 1980, in order to examine the language unit spoken in the area extending from the Southern Volta Region (Ghana) to Badagry area (Nigeria). The debates have shown that:

1. The language unit is not, but very vaguely, identified.
2. There is no clearly demonstrable classification of the language unit considered.
3. It is not clear what the relationship of the language unit (considered) with the neighboring language units such as Yoruba, Central Togo, Ga-Dangme, etc. is.
4. It seems clear, however, that Greenberg [1966] took Westermann [1930] for granted and that Westermann's work did not have a clear justification for it.
5. It is desirable to depart from the previous and inadequate names used to refer to the whole language unit, because they are confusing, i.e. such names as Ewe, Ewe-Fon, Aja, Ajatado, Aja-Ewe, Foja, Egaf, etc.

It was then unanimously agreed that much more investigation on the language unit is necessary, and that the name "Gbe" will be used to refer to the language unit as a whole, subject to later findings at the end of a comprehensive research project. All the linguists present at the meeting therefore felt that they should constitute themselves into a Continuing Working Group in order to attempt to answer the following questions:

1. Is the language unit investigated a language, a dialect cluster, a language cluster, or several languages?
2. What linguistically significant speech forms are within the language unit considered?
3. How do the speech forms group themselves genetically?
4. Is it possible to attempt a reconstruction of Proto-Gbe?

The discussants then unanimously resolved to form a Continuing Project Group, to be known as the "GBE" WORKING GROUP (GROUPE DE TRAVAIL "GBE") in order to engage the "Gbe" Research Project (Projet de Recherche "Gbe"). This project will be conducted in three phases:

Phase One: data collection, using a revised Swadesh 100 word list
Phase Two: genetic classification
Phase 3: reconstruction of "starred" forms

Any person interested in joining the Group may contact the general coordinator (address below).

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PUBLICATIONS RECEIVED


Following the Somali Revolution in 1969, Somali was adopted as the national language of Somalia and in 1972 an official Romanized orthography was adopted. "Dr. Hussein M. Adam examines this experiment in his wide-ranging account of the purposes, philosophy, and consequences of the policy. Adam emphasizes the primacy of cultural change and mass participation in Somalia's socialist development strategy. Socialism in Somalia, he explains, is a dialectical process encompassing not only the production and distribution system but the entire social, cultural, and political life of the nation. The same revolutionary forces that prompted Somalia's historic decision to transform and modernize its previously unwritten language recognized the need to express and conceptualize in written form the principles and practices of the revolution" (from the Introduction, p. vi).


Fr. Sacleux, who is widely known for his linguistic research in East Africa, took a deep interest in the language of the Comorian Archipelago. He wrote several important works on what he called the "popular tongue" of the Archipelago (as opposed to the Swahili dialect which was used simultaneously as an "official" language). In particular, he left a manuscript dictionary, which appears posthumously in this volume. This work is an indispensable treatise on the Comorian language, a Bantu language which has too often been mistakenly confused with Swahili, and certainly merits the renewed interest it now receives. The first volume contains a grammatical sketch and the Comorian-French section. The second volume has the French-Comorian section.

