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GENDER AGREEMENT IN CHICHIEWS

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Gender in Chichewa is described as a complete system. First the basic data on gender agreement are presented and it is shown how the available agreement markers correlate with the noun genders (and how the system has changed in the recent past). There follows a discussion of interesting phenomena which do not fit easily into the main gender system. Next structures involving conjoined noun phrases headed by nouns from various genders are analysed in detail. The rules required to account for the Chichewa system prove particularly complex; rules proposed for other Bantu languages do not cover all the Chichewa facts. The data are important for comparative work within Bantu and for typological claims which go beyond.

0. Introduction

In this paper we give an overall view of the gender system of Chichewa. We distinguish between the genders into which nouns are divided and the agreement markers used to agree with them, and we show that the relation between them is not straightforward. We also cover phenomena on the fringe of the gender system, such as nouns which do not fall completely into a single gender.

*Corbett's part of this research was supported by the Economic and Social Research Council (UK), grant reference number CO0232218. This support is gratefully acknowledged. Mtenje wishes to thank the Association of Commonwealth Universities for a grant enabling him to undertake postgraduate study in Britain. We are also grateful to the following for their intuitions: Sam Mchombo, Lazarus Miti, Alice Mtenje, and Mike Zulu. Their judgements do not coincide with those of Mtenje for all examples, and we have concentrated on his idiolect, but having their reactions for comparison was most helpful.
and we relate these data to more general typological claims. The most interesting problem is that of gender agreement with conjoined noun phrases (gender resolution). This question has been the subject of several studies on different Bantu languages. Chichewa is particularly instructive and we relate our findings both to work in Bantu and to relevant data outside.

The paper is structured as follows: after brief background notes (section 1), we outline the gender agreement system (section 2), then discuss problems at the margin of the system (section 3), before turning to the major problem, that of gender resolution (section 4).

1. **Background**

This study is essentially a description of the gender system of one native speaker of Chichewa (the second author) as spoken in Malawi in Central Africa. The dialect examined here corresponds fairly closely to the "Standard" dialect of Malawian Chichewa; it is one of the dialects of what is called "Chinyanja" in neighbouring countries like Zambia, Zimbabwe, and Mozambique. Since, for socio-political as well as linguistic reasons, the term "Chichewa" is used only in Malawi, we will continue in this paper to employ this name to refer to the Malawian dialect, as opposed to other terms (such as Chinyanja/Chichewa as used by some other authors, including Mapanje [forthcoming]).

Chichewa belongs to the Bantu group of languages of Africa; it is classified by Guthrie as N31B. Like many other Bantu languages, Chichewa is a tone language; lexical (and, in some cases, grammatical) contrasts may be signalled by variations in pitch levels. There are two level tones in Chichewa, high (H) and low (L). One may also find contour (gliding) tones which are obtained only as a combination of the two level tones. Thus, a low tone followed by a high tone on one syllable (LH) yields a rising tone while the reverse sequence (HL) gives a falling tone.

Since our interest in this study is in the system of gender in Chichewa, we will ignore details of tone; examples will therefore be given without tone markings. Besides, none of the arguments given crucially hinges on tone. A detailed discussion and analysis of tone in Chichewa within an autosegmental model is available in Mtenje [1986].
Another salient structural property which Chichewa shares with other Bantu languages is the division of nouns into genders, traditionally referred to as noun classes. Nouns can be assigned to genders in part on semantic grounds but phonological and morphological factors also play a part. It is this gender system which is the focus of our paper.

2. Basic Agreement Facts

We take as our starting point the clear account given by Watkins [1937]; data from Price [1943] have also proved useful, particularly as the basis for examples. First we present the forms acceptable to Mtenje within the descriptive scheme of Watkins, then we give the differences in detail between this idiolect and that described by Watkins; we also relate the description to the traditional Bantu schemes of noun classes. Watkins recognises ten classes (we shall call them genders) and a similar scheme is adopted by Mapanje [forthcoming]. We take agreement evidence to be crucial in setting up the genders.

The following sentences illustrate the ten genders in turn, using subject agreement forms as a diagnostic; we label agreements simply as "ag":

(1) a. munthu a-ku-thamanga
   person ag-pres-run
   'the person is running'

   b. anthu a-ku-thamanga
   people ag-pres-run
   'the people are running'

In this first gender, the subject agreement marker a is the same for singular and plural. However, object markers are distinct; (1c) and (1d) are continuations of (1a) and (1b) respectively:

   c. ndi-ku-mu-ona
   1st sg-pres-ag-see
   'I see him/her'

   d. ndi-ku-wa-ona
   1st sg-pres-ag-see
   'I see them'

The first gender is exceptional in having this coincidence of singular and plural for subject agreement, as well as in having considerable allomorphic variation for different agreeing elements. In the other genders, the singular and plural subject agreement forms are distinct, as in the following exam-
ples (from genders 2, 3 and 4):

(2) a. mudzi u-ku-kula  
    village ag-pres-grow  
    'the village is growing'

b. midzi i-ku-kula  
    villages ag-pres-grow  
    'the villages are growing'

(3) a. tsamba li-ku-bvunda  
    leaf ag-pres-rot  
    'the leaf is rotting'

b. masamba a-ku-bvunda  
    leaves ag-pres-rot  
    'the leaves are rotting'

(4) a. ulendo u-dza-tha  
    journey ag-fut-end  
    'the journey will end'

b. maulendo a-dza-tha  
    journeys ag-fut-end  
    'the journeys will end'

In the fifth gender, number is again differentiated in the agreement markers, but not in the noun itself:

(5) a. njoka i-ku-gona  
    snake ag-pres-lie flat  
    'the snake is lying flat'

b. njoka zi-ku-gona  
    snakes ag-pres-lie flat  
    'the snakes are lying flat'

In the sixth gender, number is typically marked on noun and verb in the same way:

(6) a. chipatso chi-ku-bvunda  
    fruit ag-pres-rot  
    'the fruit is rotting'

b. zipatso zi-ku-bvunda  
    fruits ag-pres-rot  
    'the fruits are rotting'

This phenomenon, sometimes termed "alliterative concord", is often treated as the norm in Bantu languages, even a defining feature. When we view the Chichewa gender system as a whole, however, we see that while there is often some relation between the morphology of nouns and the agreements they take, the two by no means coincide.¹ (The situation is not so different from Indo-

¹Semantic factors clearly have a role in that most nouns denoting humans
European languages like Latin or Russian.) The seventh gender also shows alliterative concord. It is a special gender in that it comprises mainly nouns formed from nouns of other genders. Original prefixes are retained, and a new prefix is added to give diminutive meaning. Thus besides the noun mwana/ana 'child/children' (gender 1), we find kamwana/ti ana 'infant/infants':

(7) a. kamwana ka-li bwino
   infant ag-be in good order
   'the infant is well'

   b. ti ana ti-li bwino
   infants ag-be in good order
   'the infants are well'

The remaining three genders are all to be distinguished from the genders we have discussed so far. They are the so-called locative genders. They each have one agreement form, not a singular-plural pair like the other genders. And there are very few nouns which are restricted to these genders. Gender 8 is used to show position (roughly 'at/on'):

(8) panyumba pa-ku-tentha
    at house ag-pres-hot
    'it is hot at the house'

Nyumba 'house' is an ordinary gender 5 noun. There are a few nouns, often body parts, which typically occur in this gender, such as pakhosi 'neck' and pakamwa 'mouth'; pa is felt to be the normal prefix and similarly pa the normal agreement marker. It is not, however, possible to add a second pa to ensure locative meaning (*papakhosi).

Gender 9 is for location within:

(9) munyumba mu-ku-tentha
    in house ag-pres-hot
    'it is hot in the house'

The final gender, number 10, can designate more general location:

belong to gender 1. But phonological and morphological factors also play a part in gender assignment. For instance, it is generally the case that nouns whose initial prefixes have the palatal affricate ([ć]) belong to gender 6. Similarly, most nominals with initial nasals belong to gender 5, just as most nouns beginning with aspirated plosives are members of gender 3.
The tenth gender also includes verbal nouns:

(11) kuthamanga ku-ma-pweteka 'running hurts'
    running ag-habitual-hurt

These last three genders are clearly different from the others and there might be some question as to whether they should be called genders at all. For the present, our purpose is to record the forms. For a convincing account of the reasons for special treatment of these genders in ChiBemba see Givón [1972:12-13, 28-34]; for a discussion of locatives in OluLuyia, see Dalgish [1976].

We now bring together the data on Watkins' ten classes (as illustrated in the sentences above) and relate them to the traditional Meinhof numbering scheme. We thus follow Doke's recommendation [1935:64] of grouping singular and plurals together for studying an individual language, while also referring to the Meinhof numbering.

Table 1: Subject concord markers in Chichewa

<table>
<thead>
<tr>
<th>Watkins class</th>
<th>Common Bantu class</th>
<th>agreement markers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>singular</td>
</tr>
<tr>
<td>1</td>
<td>1/2</td>
<td>a</td>
</tr>
<tr>
<td>2</td>
<td>3/4</td>
<td>u</td>
</tr>
<tr>
<td>3</td>
<td>5+11/6</td>
<td>li</td>
</tr>
<tr>
<td>4</td>
<td>14/6</td>
<td>u</td>
</tr>
<tr>
<td>5</td>
<td>9/10</td>
<td>i</td>
</tr>
<tr>
<td>6</td>
<td>7/8</td>
<td>chi</td>
</tr>
<tr>
<td>7</td>
<td>12/13</td>
<td>ka</td>
</tr>
<tr>
<td>8</td>
<td>16</td>
<td>pa</td>
</tr>
<tr>
<td>9</td>
<td>18</td>
<td>mu</td>
</tr>
<tr>
<td>10</td>
<td>15+17</td>
<td>ku</td>
</tr>
</tbody>
</table>

The Watkins numbers are straightforward; the concords are illustrated in sentences (1)-(10), gender 10 also being illustrated in sentence (11). The tra-
ditional Bantuist numbering separates singular and plural, hence Watkins' class 1 would be class 1 singular and class 2 plural. This scheme has advantages for historical and comparative work. Nouns of class 11 (singular) appear to have joined class 5, and the two functions of Watkins' class 10 were originally fulfilled by two different classes.

In Table 1 we have given only subject agreement markers, rather than a large table with all agreement markers listed separately (for a particularly impressive example of this genre see Laws [1885]). The point is that the different agreement markers (for different agreeing elements) almost all involve automatic alternations, and listing these variants would obscure rather than clarify the issues we wish to address. The gender where alternations tend to be irregular is the first, as we saw in sentences (1c) and (1d). Besides the main allomorph a and the allomorph mu for object agreement, there is another allomorph u found, for example, with certain pronouns and with the perfect tense.

We now turn to the differences between Mtenje's idiolect and that described by Watkins, which are as follows:

1. Watkins gives wa (orthographic ūa; ū is an unrounded bilabial glide) as the plural for genders 1, 3, and 4. Mtenje has ūa as a more marked alternative to a in all three cases.

2. Watkins has bu as an alternative to u for singular agreement with gender 4. He states that bu is used more frequently by older people [1937:34]. This alternative is not used by Mtenje, but only u.

3. For singular object agreement with gender 4, besides the alternative bu as for subject concord, Watkins gives only u, while for singular object concord with gender 2 he gives (w)u. In fact the appearance or not of w is a phonetic problem; there is variability as to when w is possible, but u and wu cannot constitute a minimal pair. Hence there are no grounds for differentiating between the singular concords of the second and fourth genders, since when w is possible in one it will also be possible in the other.

2The morphological processes involved are described with relation to specific examples in footnotes 4, 9, and 10 below.
4. For the plural concord of gender 6, Watkins has \( \text{vi} \) while Mtenje has \( \text{zi} \). \( \text{vi} \) is maintained in some dialects, particularly in the northern part of the Chichewa speaking area, but for Mtenje the plural concords of genders 5 and 6 are identical.

5. For the plural concord of gender 7 Watkins has \( \text{tu} \) while Mtenje uses \( \text{ti} \).

It is also worth recording a difference as compared to the table at the end of Price [1943], which links to point 1 above. For the perfect tense prefix for the plural of gender 1, Price gives \( \text{wa} \), while for the plurals of 3 and 4, he gives \( \text{a} \). This is probably just an error. For Mtenje the unmarked form for all three is \( \text{a} \), while \( \text{wa} \) is an alternative; \( \text{wa} \) is not possible for any of the three.

If we now look back to Table 1, we can claim that the three plural markers \( \text{a} \) are indeed identical. Their allomorphs for the different agreeing elements have identical distribution (recall, however, that this is not the case for the singular \( \text{a} \)). Similarly the two singular markers \( \text{u} \) are identical, as are the plural markers \( \text{zi} \). We can therefore redraw Table 1 to give a more accurate picture of the gender system of Chichewa, by including agreement markers (or target gender forms) once only, and by representing sets of nouns taking identical agreements (controller genders) by lines drawn linking the relevant agreements:

Table 2: The gender system of Chichewa

<table>
<thead>
<tr>
<th>Singular Agreement Markers</th>
<th>Plural Agreement Markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{u} )</td>
<td>( \text{2} )</td>
</tr>
<tr>
<td>( \text{a} )</td>
<td>( \text{1} )</td>
</tr>
<tr>
<td>( \text{i} )</td>
<td>( \text{4} )</td>
</tr>
<tr>
<td>( \text{li} )</td>
<td>( \text{3} )</td>
</tr>
<tr>
<td>( \text{i} )</td>
<td>( \text{5} )</td>
</tr>
<tr>
<td>( \text{ch} )</td>
<td>( \text{6} )</td>
</tr>
<tr>
<td>( \text{ka} )</td>
<td>( \text{7} )</td>
</tr>
<tr>
<td>( \text{zi} )</td>
<td>( \text{ti} )</td>
</tr>
</tbody>
</table>
Gender Agreement in Chichewa

The numbers of course represent the genders according to Watkins' scheme. It is interesting to note that there are seven genders (we omit genders 8-10 here since they are outside the singular-plural opposition), though there are not seven distinct agreement forms in either number. There are in fact six singular forms and four plural forms. This pattern is in accord with Greenberg's [1963:112] Universal number 37: "A language never has more gender categories in nonsingular numbers than in the singular." The relation between the singular and plural forms is also of interest; given the concord taken by a noun in the singular, one cannot determine unambiguously the form it takes in the plural; similarly, given the plural, the singular cannot be uniquely determined. Such systems have been termed "crossed systems" [Heine 1982:197]. The appearance of this complex system is quite recent; as long as the singular agreements of gender 4 were distinct from those of gender 2, the system was not crossed. Given the singular agreement form, the plural could be predicted (though not vice versa). Heine calls systems like this earlier one "paired", though we would prefer the term "convergent". If we postulate an even earlier system in which the Common Bantu classes given in Table 1 had distinct agreement forms, then the system was even simpler in the sense there was a clearer matching of singular and plural agreement forms (though conversely it was more complex in the sense that there were more actual agreement markers).

3. Marginal Gender Phenomena

Having described the core of the gender system, we now turn to two problems: the first concerns nouns whose semantics and morphology are in conflict and the second is the problem of agreement in gender when there is no noun as head of the noun phrase controlling the agreement (neutral agreement).

3.1. Semantic agreement. The vast majority of nouns belong to a particular gender and consistently take all the expected agreements. However, as is normally the case in gender systems, there is a small number of nouns which are not completely consistent. These are nouns for which the different principles of gender assignment come into conflict.\(^3\) There is a semantic principle ac-

\(^3\)There are also instances in which nouns do not take the expected number
cording to which nouns denoting humans are in gender 1. And, as mentioned earlier, there is a morphological principle which determines the gender of a noun according to the prefixes it takes. Nouns which take no prefix in either singular or plural (and which therefore do not differentiate the numbers) normally belong in gender 5. There are a few nouns which denote humans (and so would be expected to be in gender 1), but which have the morphological form of gender 5. In Chichewa these normally take gender 5 agreements. Similarly, there are nouns denoting humans with the prefixes chi-/zi- (the morphological form of gender 6) which normally take gender 6 agreements; in addition there are diminutives formed from nouns denoting humans which normally take the agreements of gender 7.

---

agreement. Singular nouns denoting humans may take plural agreement, which indicates respect:

(i) bambo a-ku-yenda
father ag-pres-walk

'father is walking'

Bambo belongs to the first gender and so the a is ambiguous; object agreement (wa) is unambiguously plural:

(ii) ndi-ku-wa-ona
1st sg-pres-ag-see

'I see him' (literally 'them')

The singular object marker mu would be grossly impolite. In fact all agreements will be plural:

(iii) bambo anga (< a + a + nga)
father my

'my father'

Again the singular wanga (< u + a + nga) would be inappropriate. Of course, the use of the plural for politeness is a widespread phenomenon in Bantu, in Dravidian languages, and in Indo-European. What is particularly interesting here is that plural agreement is usual for all agreement targets, including the nominal predicate:

(iv) bambo ndi aphunzitsi
father is teachers

'father is a teacher'

The use of the singular (mphunzitsi) would be a bald statement of fact, while (iv) identifies with father and is polite. The singular in (iv) is, however, less bad than in (iii). Note that the copula ndi does not inflect for number. The interest of (iv) is the plural nominal predicate as a politeness marker; the nominal predicate thus shows syntactic agreement with the subject, a phenomenon which Comrie [1975:410-412] in his survey of different predicate types, found extremely rare.
Let us begin with the diminutives. Kamwana is a small child or infant. It takes agreements of gender 7:

(12) kamwana ko-kongola ka-ku-gona
    small child ag-prety ag-pres-sleep
    'the pretty small child is sleeping'4

Gender 1 agreements are ungrammatical:

(13) *kamwana a-kongola a-ku-gona
    small child ag-prety ag-pres-sleep
    'the pretty small child is sleeping'

Similarly with the relative pronoun:

(14) kamwana ka-mene ka-ku-gona
    *kamwana a-mene a-ku-gona
    small child ag-who ag-pres-sleep
    'the small child who is sleeping'

Subject pronouns are normally dropped; however, the form of emphatic pronouns, and of the subject agreement marker when no pronoun is included, are both normally of gender 7. Yet gender 1 agreements are also possible when sufficiently separated from the noun:

---

4The form ko on kokongola is derived as follows. The initial stage is the attachment of the infinitive prefix ku (which is justified by the fact that it appears on the surface in the case of monosyllabic roots). Then the adjectival prefix a and the agreement marker ka are attached:

\[
\begin{align*}
\text{ka} & \quad + \quad \text{a} & \quad + \quad \text{ku} & \quad + \quad \text{kongola} \\
\text{ag} & \quad \text{adj} & \quad \text{infin} & \quad \text{verb root}
\end{align*}
\]

Vowel coalescence reduces the identical vowel sequence a + a to a and the resulting structure ka + ku undergoes a regular morpheme fusion rule which changes a + ku into o if the verb is not monosyllabic, yielding the required surface form kokongola. For details of the (morpho-)phonological rules referred to here, see Mtenje [1986; forthcoming]. Note that, for simplicity, we do not separate the final vowel from the stem throughout.
(15) kamwana  ka-mene  ka-ma-gona  mu-nyumba  umu  ka-mene  ka-ma-pita
kamwana  ka-mene  ka-ma-gona  mu-nyumba  umu  ka-mene  ka-ma-pita
small child  ag-who  ag-habit-sleep in house  this  ag-who  ag-habit-go
to school in London,  mother  his  ag-habit-ag-love  him
' the small boy who sleeps in this house who goes to school in London,
his mother loves him'

In (15), ka and iko (which has the optional extension ko ) show agreement
as for gender 7, while mu and iye(yo) are gender 1 forms. A similar effect
can be observed in the plural (we change one of the nouns to avoid ambiguity
in the agreement markers):
(16)  tiana ti-mene ti-ma-gona  mu-nyumba  umu  ti-mene ti-ma-pita
tiana ti-mene ti-ma-gona  mu-nyumba  umu  ti-mene ti-ma-pita
small children  ag-who  ag-habit-sleep in-house  this  ag-who  ag-habit-go
to school in London,  dog  ag-their  ag-habit-ag-love  them
'the small children who sleep in this house who go to school in London,
their dog loves them'

Again the emphatic pronoun and the object agreement marker can be of gender 7
(syntactic) or of gender 1 (semantic), provided they are sufficiently far from
the noun.

When we substitute the word chitsilu 'fool' (morphologically gender 6),
then the switch to semantic agreement is not possible in an example similar to
(15):
(17) chitsilu chi-mene  chi-ma-gona  mu-nyumba  umu  chi-mene  chi-ma-pita
chitsilu chi-mene  chi-ma-gona  mu-nyumba  umu  chi-mene  chi-ma-pita
fool  ag-who  ag-habit-sleep in-house  this  ag-who  ag-habit-go
to school in London,  dog  ag-his  ag-habit-ag-love  him
'the fool who sleeps in this house who goes to school in London,
his dog loves him'

However, when the pronoun is yet further removed from the noun, semantic agree-
ment becomes a possible alternative:
(18) chitsilu chi-mene chi-ma-gona mu-nyumba umu chi-mene chi-ma-pita fool ag-who ag-habit-sleep in-house this ag-who ag-habit-go
ku sukulu ku London, galu wa-ke a-ma-chi-konda ndipo mai a-ke
to school in London, dog ag-his ag-habit-ag-love and mother ag-his
a-ma-bvomera-di kuti a-na-{mu} iye(yo) {a}
ag-habit-agree-indeed that ag-past-ag-see him ag-pres-walk
ndi galu yo
with dog that
'the fool who sleeps in this house who goes to school in London,
his dog loves him and indeed his mother agrees that she saw him
walking his dog'

Not surprisingly, the switch to semantic agreement in longer sentences is also
possible with kamwana 'infant'. With a noun like nkhalamba 'old person',
the switch from gender 5 to gender 1 is acceptable in sentences like (18), and
is marginally possible in sentences like (15), but the result in the latter is
less good than with kamwana. Thus the switch is easiest with kamwana (gen­
der 7), then with nkhalamba (gender 5), and most difficult with chitsilu (gender 6).

These examples provide interesting support for the claim of the Agreement
Hierarchy. This hierarchy, for which see Corbett [1979, 1983a:8-41, forth­
coming] and Cornish [1986:203-213], consists of four basic positions:

attributive modifier < predicate < relative < personal
pronoun pronoun

The claim made is as follows:

For any controller that permits alternative agreement forms, as we move
rightwards along the Agreement Hierarchy, the likelihood of agreement
forms with greater semantic justification will increase monotonically.

The Chichewa data support this claim. Though semantic agreement (gender 1
agreement with nouns in other genders which denote humans) is only a marginal
phenomenon in Chichewa, the one position where it is possible is in the (em­
phatic) personal pronoun (and of course in agreements dependent on it or on a
dropped pronoun). Though the hierarchy was postulated on the basis of evi­
dence from a range of languages, most of the data were from Indo-European;
thus data from Bantu are of special interest. Furthermore, it was claimed that within any one position on the hierarchy, the choice of agreement form may be influenced by "real" distance, the degree of separation of the target from its controller measured in words. And indeed, we have seen convincing evidence that semantic agreement becomes more likely the further the pronoun is separated from the controlling noun.

3.2. **Neutral agreement.** All gender systems require a strategy for agreement with elements which do not carry gender and number features in the normal way. Such elements vary from infinitives to interjections. There are two strategies: either one of the normal agreement forms is used (often the third singular neuter), or there may be a special form solely for this purpose [Corbett 1980]; even when a normal form is used it can usually be distinguished by some syntactic means.

In Chichewa, the situation is particularly interesting in that the equivalent of the infinitive is marked by a special prefix *ku* and also takes *ku* as an agreement marker, as illustrated in example (11) above; there is a special gender (gender 10) which infinitives share with locatives. There is still the question of interjections. Consider the following example:

(19)  
\[
\begin{align*}
'aaa' & \text{ a-na-mv-eka} \\
'aaa' & \text{ ag-past-hear-passive}
\end{align*}
\]  

'an "aaah" was heard'

We must ask what form of agreement the *a* is. It is not a simple alliterative agreement as the next examples prove:

(20)  
\[
\begin{align*}
'ooo' & \text{ a-na-mv-eka} \\
'ooo' & \text{ ag-past-hear-passive}
\end{align*}
\]  

'an "oooh" was heard'

(21)  
\[
\begin{align*}
'mayo' & \text{ a-na-mv-eka} \\
\text{crying-sound} & \text{ ag-past-hear-passive}
\end{align*}
\]  

'a crying sound was heard'

To determine which *a* marker is involved we should consider object agreement (cf. (1c) and (1d)):

(22)  
\[
\begin{align*}
\text{a-na-mu-mva} & \text{ Mayo} \\
\text{ag-past-ag-hear crying sound}
\end{align*}
\]  

'he heard a crying sound'

In this example the initial *a* represents subject agreement; *mu* is the form
of interest; it is the object agreement marker which agrees with, or, more accurately, shows the failure of agreement with, the element in object position, mayo. Note that in all these examples the form ku, which is found with infinitives, is unacceptable. The last example demonstrates that the acceptable form is in fact the singular of gender 1; this is surprising, since the first gender is associated with humans (though not exclusively). The syntactic effect with such neutral agreement mentioned earlier, is that conjoining forms which take neutral agreement usually does not produce a plural. Indeed, the same effect is observed in Chichewa:

(23) 'mayo' ndi 'aaa' wa-ke ti-na-mu-mva kuṭali
crying-sound and 'aaah' ag-his ag-past-ag-hear far away

'we heard his crying sound and "aaah" far away'

The wa (u+a) of wake is a gender 1 singular marker; ti is first plural subjective concord; the mu is again gender 1 singular objective concord. Thus elements which are outside the gender system take gender 1 singular agreement as the neutral agreement form; this remains the only acceptable form even when such elements are conjoined. Chichewa (and, we assume, various other Bantu languages) is interesting typologically in this respect, since there is a special agreement form for infinitives, but this form does not function as the neutral agreement form. Whereas, from comparisons beyond Bantu, we might have expected elements outside the gender system to take the same agreements as infinitives, the role of neutral agreement marker is, rather surprisingly, filled by the marker for the singular of gender 1.

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5This construction should be distinguished from that in which there is an implied locative such that the noun phrases present in surface structure do not control verb agreement, as in the following:

(i) ku-li mphepo ndi mitambo
ag-be wind and clouds

Ku is the gender 10 locative marker, indicating general location. In suitable contexts, similar examples with pa and mu are also possible. The word order is fixed as in (i); noun phrases which precede the verb must control subject-verb agreement.
4. Gender Resolution

Gender resolution is one of the most interesting areas of Bantu syntax; given the relatively high number of genders it is natural to ask what happens in conjoined structures. Provided agreement is with all the conjuncts, then rules are required to specify both number and gender. The number rule is straightforward (there is no complication of the dual number, for example): conjoined noun phrases take plural agreements. (However, a restriction will be imposed on this rule at the end of section 4.1.)

Gender is, of course, much more complex. Interest in this area was stimulated by the important work of Givón [1970; 1972:80-93]. Givón coined the term "gender resolution", though it is important to realise that gender reso-
olution rules may operate even when there is no "clash"; as we shall see below, if all conjuncts are headed by nouns of the same gender it does not follow that agreement will be in that gender. Givón's work has led to several publications on the problem, and we too will use his account as the framework for our analysis. Givón analyses Luganda and ChiBemba. Voeltz [1971] considers problematic data in Xhosa, where gender resolution is more restricted than in Luganda and ChiBemba. Roberts and Wolontis [1974] modify and extend the rules proposed by Voeltz, and also widen the range of languages to include Tswana and Zulu. Brauner [1979] gives examples of gender resolution (mainly for non-human conjuncts but also cases of human and non-human conjoined) from written Swahili sources. The brief description of gender resolution in Mateene [1980: 332-333] suggests that Nyanga is broadly similar to ChiBemba. Givón's data were considered in a general typology of resolution rules in Corbett [1983b]. Finally Bokamba [1985] extends the languages considered to include Dzamba, Likila, and Lingala.

Given the different patterns of gender resolution found in the languages investigated to date there is clearly some challenging comparative and typological work to be done. As preparation for this we require data on as many different languages as possible. Chichewa appears to be an interesting case, being more restrictive than ChiBemba but less so than Xhosa. In some cases the judgements are not clear-cut; various combinations cause problems. And there is variation between speakers in the acceptability of some sentences. In view of the need for comparative data, we have concentrated on trying to describe the system of one speaker (Mtenje) as accurately as possible. It is perhaps worth pointing out that for those examples for which we have the judgements of three speakers, Mtenje's judgement is "average", in that he usually accepts more examples involving gender resolution than one of our three main informants and fewer than the third. In this description we include

\[ i\bar{z}\bar{i} \text{ is an emphatic personal pronoun, consisting of } i \text{ (root)} + z\bar{i} \text{ (plural agreement marker)} + i \text{ (proximate marker); } i + i \text{ becomes } i \text{ by vowel coalescence. Thus, semantic (resolved, plural) agreement is found in the predicate and in the positions to the right on the Agreement Hierarchy (the relative and personal pronouns), but not in attributive position. This is fully in accord with its predictions.} \]
problems which are often disregarded in accounts of gender, such as the agree­ments used with conjoined infinitive phrases.

We begin with Givón's scheme of rules, which may be reformulated as fol­lows:

1. If all the conjuncts are semantically [+human], the plural of gen­der 1 (a in Chichewa) will be used.
2. If none of the conjuncts is semantically [+human], the plural of gender 6 (zi in Chichewa) will be used.
3. If the conjuncts are semantically mixed, the comitative construc­tion is preferable; if gender resolution is forced, the form will be as in rule 2.

It is worth pointing out that similar rules (but without any mention of diffi­culty in conjoining animates with inanimates) were proposed by Horton [1949: 189] for Luvale. The important thing about these rules is that they have a semantic basis: it is the noun's meaning rather than its grammatical gender which counts. For ease of exposition we shall consider in turn examples in which none of the conjuncts denotes a human (section 4.1), those where only humans are involved (section 4.2), and those in which the conjuncts are seman­tically mixed (section 4.3); finally we summarise the rules for gender resolu­tion (section 4.4).

4.1. No conjuncts denoting humans. When none of the conjuncts denotes a hu­man, we would expect the agreement marker to be zi (traditional class 8). Since this form serves as the plural of gender 5 as well as of gender 6 in Chichewa, it would be reasonable to suppose that it would be, if anything, more generally used for gender resolution in Chichewa than in ChiBemba. How­ever, though zi is indeed the main form for agreement with conjoined noun phrases denoting non-humans, there are several complications, as we shall see below. Let us consider first the straightforward cases:

(24) ukonde ndi chipatso zi-ku-bvunda
    4 sg  6 sg  ag-pres-rot
    net and fruit are rotting

(25) mtengo ndi masamba zi-ku-kula
    2 sg  3 pl  ag-pres-grow
    tree and leaves are growing
(26) malalanje ndi zikuni zi-ku-bvunda
   3 pl 6 pl ag-pres-rot
   oranges and pieces of wood are rotting

In each of these there is a clash of genders. But this is certainly not a requirement for gender resolution, resulting in the use of zi . In the next example we have two nouns from the second gender, but zi is still the required form:

(27) mpeni ndi mphika zi-ku-sowa
   2 sg 2 sg ag-pres-missing
   knife and pot are missing

The plural of gender 2 (*ikusowa) is quite unacceptable. Similarly with two nouns from gender 3:

(28) lalanje ndi tsamba zi-ku-bvunda
   3 sg 3 sg ag-pres-rot
   orange and leaf are rotting

The plural of gender 3 (*akubvunda) is not possible. There are thus good grounds for the claim that non-human conjuncts require the zi form. Not all combinations are so readily accepted. There was some hesitation over the following, but zi was the only possible form:

(29) munda, ng'ombe ndi khasu zi-li uko
   2 sg 5 sg (or pl) 3 sg ag-be
   garden, cow and hoe are there

There was also considerable uncertainty when a diminutive was included, whether singular or plural:

(30) (?) ukonde ndi kakhasu zi-li uko
   4 sg 7 sg ag-be
   net and little hoe are there

(31) (?) ukonde ndi timakasu zi-li uko
   4 sg 7 pl ag-be
   net and little hoes are there

Though these combinations were less readily accepted than those given earlier, zi was still the only possible form. We suggest the following reason for the difficulty with (30) and (31). The overall scheme of the resolution rules
is semantic (based on the feature \([+/-\text{human}])\). However, gender 7 has the closest correlation to semantics, its members being diminutives. It is the ignoring of this semantic feature in the agreement in (30) and (31) which gives the problem.

So far we have considered combinations including at least one singular conjunct. When all conjuncts are plural, the picture is more complex:

(32) mipeni ndi miphika \{ i \} -ku-sowa
    \{ zi \}
    2 pl 2 pl ag-pres-missing
    knives and pots are missing

Both \( I \), the agreement form for the plural of gender 2, and the \( zi \) form are acceptable. With gender 3, however, \( a \), the agreement form for the plural of 3, seems normal, while \( zi \) is less good:

(33) malalanje ndi masamba \{ a \} -ku-bvunda
    \{ ?zi \}
    3 pl 3 pl ag-pres-rot
    oranges and leaves are rotting

With gender 4, \( zi \) is less good again:

(34) maukonde ndi mauta \{ a \} -li uko
    \{ ??zi \}
    4 pl 4 pl ag-be
    nets and bows are there

There are two hypotheses which would fit these data:

1. If plural nouns of the same gender are conjoined they take the plural agreement form for that gender.

This hypothesis is based on the gender of the nouns (the controller gender); it covers, for example, a sentence in which two gender 3 nouns are conjoined. The second hypothesis refers not to the gender of the nouns but to the agreement form (the target gender):

2. If plural nouns which would take the same plural agreement form are conjoined, then that form will be used.

(In either case \( zi- \) will be an alternative with varying degrees of acceptability.) To choose between the two hypotheses, we conjoin plural nouns of
genders 3 and 4, which both have a as the plural marker. The second hypothesis predicts that a will be used, while the first makes no prediction (and so we would expect the regular form zi):

(35) ma la lanje ndl maukonde { a }-li uko

3 pl 4 pl ag-be
oranges and nets are there

This demonstrates that the second hypothesis is correct: when plural nouns which take the same agreement form (target gender form) are conjoined, that form will be used (zi may be an alternative). We can confirm this view by considering non-humans in gender 1. First an example with two nouns of that type:

(36) am phaka ndl agalu { a }-ku-thamanga

1 pl 1 pl ag-pres-run
cats and dogs are running

Then a non-human from gender 1 together with a plural noun from gender 3 (which would also take a):

(37) am phaka ndl ma la lanje { a }-li uko

1 pl 3 pl ag-be
cats and oranges are there

Note that when animate class 1 nouns are conjoined, as in (36), *zi was not accepted. With the few inanimates, zi was not excluded:

(38) akatundu ndl akabudula { a }-ku-sowa

1 pl 1 pl ag-pres-missing
the pieces and the pairs are missing
of baggage of shorts

Gender 5 has the added complication that the noun does not mark number. For this reason we include modifiers. Not surprisingly, all possibilities, singular and plural, take zi, since the general rule and the special rule for plurals both predict the zi form:
We must also consider conjoined plurals from the diminutive gender:

(43) tlmlpenl ndl tlmlphika \{ tɛ \} -ku-sowa
    7 pl                       7 pl    ag-pres-missing
small knives and small pots are missing

This confirms our hypothesis: each noun individually would take tɛ, and this is the preferred form when the nouns are conjoined.

When the conjoined noun phrases are headed by plural nouns which would require different agreement forms, then zɛ is assigned by the usual rule:

(44) maukonde ndl mlpenl zɛ-ɛl uko
    4 pl                        2 pl   ag-be
nets and knives are there

Let us now consider the implications of the data in this section. We took as a working hypothesis the suggestion (from analyses of other Bantu languages) that any example all of whose conjuncts denote non-humans would take the agreement zɛ. The situation in Chichewa turns out to be considerably more complex than that. There are cases where zɛ is not possible or is not the preferred form. The most consistent and also the most interesting cases are those involving plural conjuncts: if each individually would take the same target gender form, then this will be preferred (zɛ may also be pos-
These data recall the well-known analysis of Xhosa by Voeltz [1971]. Agreement with conjoined noun phrases is highly restricted in Xhosa, but is possible if plural noun phrases require phonologically identical markers. Chichewa has the same possibility, though without the theoretically important complication of Xhosa introduced by degemination. However, the rule has wider application in Chichewa in another respect: There are more types of noun phrase to which it can apply since Chichewa has greater syncretism of plural markers than Xhosa. Our analysis of Chichewa shows some similarities to the reanalysis of the Xhosa data by Roberts and Wolontis [1974].

The data in question are also comparable to data from Serbo-Croat, and the account given for Serbo-Croat applies in large measure to Chichewa. It will be necessary to give a brief account of resolution in Serbo-Croat in order to demonstrate the relevance of the data. Serbo-Croat is a South Slavonic language spoken in Yugoslavia. It preserves the three Indo-European genders, with distinct agreement markers in singular and plural. The basic gender resolution rules are as follows:

1. If all conjuncts are feminine, the feminine form is used.
2. Otherwise the masculine form is used.

For examples, and for complications which need not concern us here, see Corbett [1983a:187-191]. As can be deduced from these rules (together with the number resolution rule, which specifies the plural), conjoining masculine and feminine, masculine and neuter, feminine and neuter, and even neuter and neuter gives rise to masculine plural agreements. However, and this is the relevant point, if all the conjuncts are neuter plural, then neuter plural agreement is required:

(45) ... ta sećanja (neut pl) i razmatranja (neut pl) sve su više
those memories and reflections ever have more
ustupala (neut pl) mesto novim utisćima ...
yielded place to new impressions (i.e. made way more and
more to new impressions)

(Andrić, Travnička Hronika)
Since Serbo-Croat has only three genders, the neuter plurals appear as exceptional. Sets of masculine plural or feminine plural conjuncts behave like the singulars and can, at least at first sight, be covered by the ordinary rules.

The analysis offered for the neuter plurals was as follows [Corbett 1983a: 208–209]. We cannot claim that gender resolution rules operate only when the conjuncts are of different genders, since two neuter singulars take a masculine plural verb. Nor can we claim that gender resolution operates only as a consequence of number resolution, since the combination feminine plural plus neuter plural requires a masculine plural verb, which must result from gender resolution. The correct generalization appears to be that gender resolution can be triggered in two ways. First it must operate if number resolution operates. There is a very general principle that if one resolution rule operates, all must operate if possible. This solution requires a stipulation in the number resolution rule that number resolution can operate only provided there is at least one singular conjunct. (This is the restriction mentioned at the beginning of section 4.) The second possible trigger for gender resolution is the presence of different genders in the subject. It can be seen that (45) above meets neither condition: number resolution could not operate, since there is no singular conjunct, and gender resolution could not operate without this trigger since the conjuncts are of the same gender. It followed as a logical consequence of this analysis that examples with conjoined masculine or conjoined feminine plurals also do not undergo resolution; however, in Serbo-Croat there was no way to prove this claim. In Chichewa, on the other hand, there are two agreement forms (i and ti) which are not specified in

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7 There is often the option not to apply the resolution rules and have agreement with one conjunct only, typically the nearest, but it is not possible to select from among the resolution rules. Thus, 1st singular and 3rd singular will not produce 3rd plural, which would result from the operation of number resolution but not of person resolution, agreement in person being with the nearer conjunct. Similarly, masculine plural plus neuter singular will not give rise to masculine singular, by the operation of gender resolution, with agreement in number being with the nearer conjunct.
the output from any of the gender resolution rules and yet, as we have already seen, any of the plural agreement forms can occur, provided each conjunct individually would require that form. For Chichewa, more obviously than for Serbo-Croat, the general conditions on the operation of resolution rules are a more economical solution than a long list of individual rules specifying a large number of possible combinations of conjuncts and the required agreement forms.

There are two differences between Chichewa and Serbo-Croat which are of importance here. Serbo-Croat has a "parallel" gender system, i.e. there is a one-to-one mapping of the (three) singular target genders onto the target genders in the plural. Nouns are divided into three controller genders, matching the three target genders. As we saw in section 2, the situation in Chichewa is considerably more complex. Hence, it makes a difference whether we refer to controller (noun) genders or target genders. Thus, for Chichewa the possible triggers for gender resolution are as follows:

1. Number resolution (number resolution specifies plural agreement; it can operate provided there is at least one singular conjunct).

2. The presence of conjuncts which would require different target gender forms.

Note that the examples considered at the beginning of this section involving singular conjuncts of the same gender are covered by the first trigger: the presence of a singular conjunct triggers number resolution, which dictates the plural; number resolution in turn triggers gender resolution, which specifies zi- when all conjuncts denote non-humans. The second difference between the two languages is that in the cases of plural conjuncts requiring the same agreement form, resolution is excluded in Serbo-Croat while, as we have seen, it is sometimes an alternative, less favoured, possibility in Chichewa. There is no unambiguous evidence as to where this option should be stated. One possibility is merely to state that gender resolution may apply optionally even when not obligatorily triggered. An alternative would be the optional dropping of the condition on number resolution (hence simplifying that rule); number resolution could then apply even if all conjuncts are plural (still speci-
fying the plural form of course); it would then trigger gender resolution, which would require the zi form in the examples in question.

We have seen that plural conjuncts which require the same agreement form are not normally involved in resolution. Apart from this, Giv6n's rule requiring the zi form covers many of the examples of conjoined noun phrases denoting non-humans. There are some cases where this form is not felicitous, the most systematic group being examples involving gender 7. We suggest that this is because gender 7 has a firm semantic basis (the nouns are diminutives), and the resolution rule, itself semantically based, takes no account of this semantic feature. There are two further types of exception to the rules just

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8There is a curious exceptional case, which we leave for future research. It concerns the first gender, which includes humans, several animals, and a very few inanimates. When humans from this gender are conjoined, the agreement marker is a, which is the expected form (as discussed in section 4.2). When, however, noun phrases denoting animals are conjoined, Mtenje still accepts only a:

(i) mphaka ndl galu a-ku-thamanga
   1 sg   1 sg ag-pres-run
cat and dog are running

The expected form zi is excluded. However, in constructions in which an object marker for the conjuncts would be required, no acceptable form could be found, a, mu, zi, and wa all being rejected. When two of the rare inanimates are conjoined, both a and zi are possible.

(ii) katundu ndl kabundula { a ku-sowa
   1 sg   1 sg ag-pres-missing
   piece of baggage and pair of shorts are missing

Though this requires further investigation, it appears that the human/other animate distinction plays a role. Finally, we conjoin noun phrases denoting a human and an inanimate:

(iii) mnyamata ndi katundu { a ku-sowa
   1 sg   1 sg ag-pres-missing
   boy and piece of baggage are missing

The fact that a is a marker both of the singular and of the plural for gender 1 nouns is probably at least a part of the explanation for this irregularity. And (iii) is likely to involve agreement with mnyamata only (cf. section 4.3).
given, usually ignored in work on gender resolution. We consider them in subsections 4.1.1. and 4.1.2.

4.1.1. Gender 10 (infinitives). Studies of gender resolution in Bantu often ignore the question of conjoined infinitives. In other language groups it is frequently the case that conjoined infinitives require neutral agreement (cf. section 3.2.) just as a single infinitive does. However, the fact that Bantu infinitives have a special agreement form and a special prefix means that the situation is potentially different, and so worth investigating. The following sentence has conjoined infinitives:

(46) kuvina ndl kumba \{ku\}-ku-chili-nda uko {zi} to dance and to sing ag-pres-take place there 'dancing and singing are going on there'

Both alternatives, gender 10 agreement and the zi form, are fully acceptable. (Note that this was the case even for the informant who was least ready to accept conjoined structures, querying examples which others immediately found unexceptional.)

There is a semantic difference between the options; given the right context, one of the options can be excluded:

(47) kudya ndl kuyankhula nthawl yomweyo ndl \{*kolpa\} \{zolpa\} to eat and to talk time same is bad

Note the two occurrences of ndl in this example. Ndl with high tone means 'and' (as we have seen in numerous examples) and also 'with'. With low tone,

\[\text{The adjectival forms kolpa and zolpa are derived as discussed in footnote 4. Kolpa is derived from the verb ipa:}\]

\[\text{ku + a + ku + ipa}\]
\[\text{ag adj infin verb root prefix}\]

\[\text{The sequence a + ku undergoes morpheme fusion giving o, and the resulting structure ku + o is changed into ko by morpheme final vowel deletion. Zolpa is similarly derived from zi + a + ku + ipa. Details of these rules and conditions on their application are given in Mtenje [1986:1-50].}\]
ndi is the copula 'is'/'are' (which does not take prefixed agreement markers)
There is a further ndi which is the first person singular agreement marker; this has low tone, unless high is assigned by a tense marker.

In the next example the zl form is also unacceptable:

(48) kukwatira ndi kumanyenga akazi ena nthawi yomweyo ndi { kolpa }  
      to be married and to flirt women other time same is bad
      'being married and flirting with other women at the same time is bad'

In both these examples, in place of kolpa, we could have chinthu cholpa
'a bad thing', but not *zinthu zolpa 'bad things'. The point, of course, is
that in both sentences it is doing the two things together which is considered 
bad.

When it is clear that the actions are considered separately, then the 
judgements are reversed:

(49) mai a-ku-dwala ndlp'o kuonera TV ndi kudya ndi  
      mother ag-pres-sick and so to see TV and to eat are
      { zomwe } a-ku-chita basi
      ag-what ag-pres-do only
      'mother is sick, and watching TV and eating are the only things 
      she can do'

(50) kuphunzira sukulu ndi kulemera ndi { zobvuta }
      to learn school and to be rich are difficult
      'being educated and being rich are difficult (to achieve)' 

( Zobvuta < zl + a + ku + bvuta ; see footnote 9.) Thus conjoined infini-
tives are an exception to the general rule, in that when they are construed 
as a joint activity the gender 10 form is used; otherwise the zl form is 
used as normal. Some examples (like (46) above) allow either interpretation.

10The forms chomwe and zomwe are derived as follows: to the basic form omwe are added the agreement forms chi and zl. The rule of final 
vowel deletion referred to in the previous footnote then deletes the i of 
the agreement markers resulting in chomwe and zomwe respectively.
It is relatively unusual to conjoin an infinitive with another noun, but when this occurs the regular zi form is used:

(51) kulpa ndi imfa ndi { zoopsyə} *koopsyə
10 5 sg
(to be) evil and death are frightening

This example would come under the general rules for inanimates.

4.1.2. Locatives. A related problem, also rarely addressed, is that of conjoined locatives (but cf. Givón [1972:101]). Gender 8, pa 'at', is the most specific in terms of location; it cannot be conjoined even with another gender 8 form:

(52) *panyumba ndi padambo pa-ku-tentha
 at house and at marsh ag-pres-be hot
'it is hot at the house and at the marsh'

The alternatives, *mukutentha, *kukutentha, *zikutentha are all excluded. Not surprisingly, when pa is conjoined with the other locatives, there is no acceptable form:

(53) munyumba ndi panja { *pa \-ku-tentha
\*mu
\*ku
\*zi}
in house and outside ag-pres-be hot
'it is hot in the house and outside (in the yard)'

(54) kudambo ndi panja { *pa \-ku-tentha
\*mu
\*ku
\*zi}
at marsh and at outside ag-pres-be hot
'it is hot at the marsh and outside'

Gender 9, mu 'inside' allows conjunction with other gender 9 forms:

(55) munyumba ndi mugalaja mu-ku-tentha
in house and in garage ag-pres-hot
'it is hot in the house and in the garage'
Other agreements, including \textit{zi}, are excluded. Gender 9 will not permit conjunction with other genders as shown by (53) above and by (56):

\begin{equation}
(56) \quad \text{munyumba ndi kunja} \begin{cases}
\*pa \quad \text{-ku-tentha} \\
\*mu \quad \text{-ku-tentha} \\
\*ku \quad \text{-ku-tentha} \\
\*zi \\
\end{cases}
\end{equation}

\begin{tabular}{l}
\begin{tabular}{l}
in house and at outside ag-pres-be hot \\
'it is hot in the house and outside'
\end{tabular}
\end{tabular}

Gender 10, the least specific of the locatives, also allows conjunction with forms of the same gender:

\begin{equation}
(57) \quad \text{kudambo ndi kuthengo ku-ku-tentha} \\
\begin{tabular}{l}
at marsh and at bush ag-pres-be hot \\
'it is hot at the marsh and in the bush'
\end{tabular}
\end{equation}

No other agreement, including \textit{zi}, is acceptable; thus locative gender 10 differs from infinitive gender 10 in this respect. Locative gender 10 cannot be conjoined with other locatives as (54) and (56) show.

We have seen that the locative genders do not follow the general rule for inanimates, since \textit{zi} is excluded. Gender 8 does not allow conjoining, 9 and 10 allow conjoining only within the gender. Thus the locative genders, once again, behave differently from the normal noun genders; nevertheless, a full account of the agreement system must include the conditions for conjoining them and the form to be used where conjoining is possible.

4.2. \textbf{Conjuncts denoting humans}. When all conjuncts denote humans, then on the basis of patterns established elsewhere in Bantu, we expect the target gender form used for the plural of gender 1, that is the form with \textit{a} in Chichewa. When both nouns are from the first gender then indeed not surprisingly, the \textit{a} form is accepted without query:

\begin{equation}
(58) \quad \text{mkazi ndi mwana a-ku-yenda} \\
\begin{tabular}{l}
1 sg 1 sg ag-pres-walk \\
woman and child are walking
\end{tabular}
\end{equation}

Of course, the more interesting cases are those involving at least one noun from a different gender. The following includes a noun from gender 7; again
three informants had no difficulty in selecting the a form:

(59) mkazi ndi kamwana a-ku-yenda
    1 sg    7 sg    ag-pres-walk
    woman and infant are walking

Even with two nouns of gender 7, a is found:

(60) kamkazi ndi kamwana a-ku-gona
    7 sg    7 sg    ag-pres-lie
    little woman and infant are lying down

(61) kamkazi ndi tlana a-ku-gona
    7 sg    7 pl    ag-pres-lie
    little woman and infants are lying down

In both of these sentences Mtenje rejects the ti form (plural of gender 7). When both are plural the picture changes:

(62) tlakazi ndi tlana ti-ku-gona
    7 pl    7 pl    ag-pres-lie
    little women and infants are lying down

Here a was accepted with different degrees of reluctance; ti is considered the normal form. This links immediately to the similar examples involving inanimates; both conjuncts require the same plural gender form and so this is used. The following includes a noun from gender 5:

(63) mkazi ndi mfumu a-ku-yenda
    1 sg    5 sg    ag-pres-walk
    woman and chief are walking

(Note that for Mtenje mfumu could also be plural; some speakers have a plural form mafumu.) While this example is unproblematic, others involving nouns from genders 5 and 6 often prove more difficult:

(64) ??mbala ndi kamwana a-ll uko
    5 sg (or pl) 7 sg    ag-be
    thief and infant are there

While a is questionable, there is no better alternative. Since nouns in gender 5 have no distinct plural form, we include numerals in the following examples of genders 5 and 6 conjoined:
The most obvious point is that, as with non-humans, plural conjuncts which would each require the same target agreement marker take that marker (as in (68)); note once again that it is not a question of the nouns themselves belonging to the same controller gender. In all the other examples we find a, as expected. But it is surprising that z! is considered to be an alternative, albeit not a favoured one. This option should probably be seen in the light of the data presented in section 3.1, where we saw that semantic agreement with single nouns is a very marginal phenomenon in Chichewa; it is syntactic gender which counts. In conjoined expressions, where the overriding rule is a semantic one (based on the human/non-human distinction), syntactic gender is not totally excluded. The fact that z! is better in (66) than in (65) or (67) is to be explained by the fact that in (66) the conjunct nearer to the verb would require z!

Summarizing our discussion of conjoined noun phrases denoting humans, we may say that the situation is not so clear-cut as in some other Bantu languages. Nevertheless, once plural conjuncts requiring the same agreement form are left out of account, the basic rule requiring the a form for humans is confirmed.
4.3. **Conjuncts denoting humans and non-humans.** Givón found that for semantically mixed noun phrases, informants prefer to avoid conjoining the noun phrases and to use the comitative construction instead. If conjoining is forced, however, then the same form as for non-humans is used. In view of the results obtained with plural nouns which require identical agreement forms, it is worth investigating what happens with such nouns when they are semantically mixed. Our first example includes two diminutives, one human and one not:

(69) tiana ndl tlmiphika ti-Il apo  
7 pl 7 pl ag-be  
infants and little pots are there

This sentence was found fully acceptable, while zi was excluded. The same was true of the next example:

(70) anthu ndl abakha { a } -ku-thamanga  
1 pl 1 pl ag-pres-run  
people and ducks are running

Though these two examples include nouns of the same gender, this is not required; the requirement once again is that the nouns should be plural and require the same plural target gender agreement marker, as the following example proves:

(71) ana ndl malalanje a-ku-sowa  
1 pl 3 pl ag-pres-missing  
children and oranges are missing

Though of different genders, both take the plural marker a and the sentence is acceptable; zi is totally rejected. The phenomenon is illustrated nicely by this example involving a human noun of gender 5:

(72) mbala ndl zinthu zi-ll apo  
5 pl 6 pl ag-be  
thieves and things are there

Recall that nouns of gender 5 do not distinguish number. Mtenje accepted this sentence, but when asked how many thieves were involved, he said that there must be more than one. If imodzi 'one' is added after mbala to
make it singular, then the sentence is unacceptable, whether zi or a is chosen as the agreement marker.

Other examples involving singular nouns were also rejected:

(73) *munthu ndi ng'ombe zi-ku-yenda
1 sg 5 sg or pl ag-pres-walk
person and cow(s) are walking

A different informant, however, accepted this sentence as unproblematic, irrespective of the number of cows involved (he was the informant who, in general, was most willing to accept conjoined structures). The interesting point about (73) is Mtenje's reaction to the alternative akuyenda. There was some uncertainty at first, but it was considered bad. The use of a gets better if a numeral is included after ng'ombe (whether imodzi 'one' or a higher numeral). Consider then the following variant:

(74) munthu ndi ng'ombe zi-tatu a-ku-yenda
1 sg and 5 pl ag-three ag-pres-walk
'a person and three cows are walking'

zi is again rejected by Mtenje. The sentence as it stands is accepted or rejected, depending on its interpretation. If the person and the cows are walking separately, then a is also rejected. But if they are together, say the cows are on ropes being pulled along by the person, then a is fully acceptable. The inclusion of a possessive, which favours this type of interpretation, also makes a acceptable:

(75) anthu ndi ng'ombe zawo a-ku-yenda
1 pl 5 pl poss ag-pres-walk
'the people and their cows are walking'

Now a could be a singular or a plural marker; the crucial example is the following:

(76) chitsilu ndi ng'ombe yake chi-li uko
6 sg 5 sg poss ag-be
'the fool and his cow are there'

The agreement marker chi is unambiguously singular; both zi and a are
rejected by Mtenje. This example demonstrates that agreement is with the first noun phrase only (and this must also be the analysis for the examples involving a). We might be tempted to think that this is a case of agreement with the first conjunct, or "distant" agreement, which is rare but which nevertheless does occur [Corbett 1983b:180]. However, given the data on the interpretations which make this agreement possible in Chichewa, we must conclude that these examples do not in fact include conjoined noun phrases. Recall that ndi means both 'and' and 'with'. It appears that in the examples where agreement is with the first noun phrase, ndi should in fact be glossed as 'with'. We are dealing with a comitative construction (and so agreement with the first noun phrase is accepted). Note that the construction is possible without the need to postpose the second noun phrase (for comparable data from Xhosa see Roberts and Wolontis [1974:240-241]).

To sum up our analysis of noun phrases denoting humans and non-humans, we may say that if both are plural and each requires the same plural gender agreement form, that form will be used giving a fully acceptable sentence. In other examples the form zi, which was expected to be marginally possible, is in fact excluded (though one informant accepts it). Instead the comitative construction is used, in appropriate contexts, though this is not immediately obvious since both noun phrases may still stand in front of the verb.

4.4. Summary of gender resolution. The essentials of the strategies for dealing with conjoined noun phrases in Chichewa are as follows:

1. If all conjuncts are plural and require the same plural agreement marker, then this form will be used.

As we saw, this principle operates irrespective of the type of noun involved. In section 4.1 we treated instances of this type as not coming under the jurisdiction of gender resolution (though for some examples gender resolution was a less good alternative). Nevertheless it is surprising that this syntactic principle takes precedence over the semantically based gender resolution rules which follow.

2. If all conjuncts denote humans then the a form will be used.
While there are numerous examples to support this rule, it is not quite straightforward. In section 4.2 we noted several examples (typically involving gender 5 nouns) in which the a form was not fully acceptable (though there was no better alternative).

3. If none of the conjuncts denotes a human then the zl form will be used.

Again this holds for many examples, but there are also exceptions. Nouns from the diminutive gender (gender 7) are problematic. Genders 8, 9 and 10 also require special provision as follows:

3a. If infinitive phrases are conjoined and the interpretation is of simultaneous action, then ku will be used; otherwise zl as in the main rule.

3b. Conjoined structures involving the locative genders are unacceptable unless all are from gender 9 and the form mu is used, or all are from gender 10 and the form ku is used.

An interesting point here is that though there is a single agreement form for gender 10, locatives and infinitives do not always behave in the same way with regard to agreement. The remaining possibility is the conjoining of humans and non-humans:

4. Conjoined structures involving noun phrases denoting humans and non-humans are unacceptable (unless covered under 1 above). Provided that the comitative interpretation is possible, a comitative construction may be used, in which case the head noun phrase controls the agreement. (Other noun phrases are not necessarily postposed.)

5. Conclusion

We have attempted to describe the gender system of one native speaker of Chichewa as a whole, including phenomena on the fringe of the system, which are often omitted. This approach has considerable advantages. For example, the study of the interrelation between agreement markers which express gender and the genders into which nouns are divided facilitates the analysis of gender resolution. By analysing plural gender markers like a and zl as single forms we can make sense of the rule which allows the conjoining of some plural noun phrases but not others.
We have seen that Chichewa has a particularly interesting gender system, especially in its rules for gender resolution. These do not coincide with any of the sets of rules which have been proposed for other Bantu languages, though there are areas of overlap. Throughout the paper the relevance of the data to typological claims (based on languages within and beyond Bantu) has been amply demonstrated.

REFERENCES


AN OUTLINE OF LULUBO PHONOLOGY*

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University of Aalborg

This article outlines the phonology of Lulubo, a little known Central Sudanic language spoken in the southern Sudan. An account is given of the phonemic inventory (vowels, consonants, and tones), vowel harmony, syllable structure, special features of ideophones, and vowel elision.

1. Introduction

The Lulubo language is spoken by the Lulubo people inhabiting the area around the Lulubo Hills in the Eastern Equatoria Province of the Sudan. The Lulubo call themselves /dlûbû/ and their language /dlûbû-ô/, lit. 'Lulubo-mouth'. According to the latest census (from 1983) they number approximately eight thousand. The only data from the Lulubo language previously published are included in Tucker [1940] in the form of a word list (comprising about 500 items) and a few scattered grammatical observations.

Tucker [1940] and Tucker and Bryan [1956] classified Lulubo as a member of the Madi dialect cluster, Lulubo being its northernmost dialect. Certainly Lulubo belongs to the Moru-Madi group, which is a genetic unit within the Central Sudanic language family suggested by Greenberg [1966]. However, the Lulubo do not conceive of themselves as being Madi, and their main social contacts are with Eastern Nilotic speaking peoples (the Barĩ and the Lokoya) rath-

*The fieldwork on which the present article is based was carried out during three trips to the Sudan between 1984 and 1986. I wish to thank the Danish Research Council for the Humanities for its financial support, my principal informants Israel Lado and Vitaliano Wani for their assistance, and Simon Simonse for his hospitality and his introduction of me to the Lulubo community. I also wish to thank the editor and an anonymous referee for valuable comments on an earlier version of this article.
er than with the Madi.

The present article deals with the phonology of Lulubo. An account is given of the phonemic inventory (vowels, consonants, and tones), the syllable structure, special features of ideophones, constraints applying across syllable boundaries (vowel harmony), and processes operating across morpheme boundaries (vowel elision and tone deletion or retention).¹ The account is based on the variety spoken in Lokiliri, a village in the central part of the Lulubo area.

2. Vowels and Vowel Harmony

Lulubo has nine vowel phonemes belonging to two vowel harmony sets which are distinguished by the feature Advanced Tongue Root (ATR):²

(1) -ATR i ε a o o
+ATR i e o u

The phonemic status of the nine vowels is shown by the subminimal sets of monosyllabic words in (2–4). The sets are minimal if tone is disregarded.

(2) /i/ ɪɪ 'to give birth'³ /u/ ʊʊ 'to climb up
/i/ ɪɪ 'to pick' /o/ ʊʊ 'to bend or straighten'
/e/ ɛɛ 'to wait for' /o/ ʊʊ 'carefully'
/ɛ/ ɛɛ 'to swallow' /o/ ʊʊ 'to dance'
/a/ ʊʊ 'tiredness'

(3) /i/ wɪ 'to skin' /u/ wù 'to remove'
/i/ wɪ 'to spit' /o/ (ɔwɔ) 'to cry'
/e/ wɛ 'to do' /o/ wɔ 'to bend'
/ɛ/ wɛ 'to rub' /ɔ/ wɔ (adverb indicating resulting situation)
/a/ wɔ 'to throw'

¹For a similar account of Madi, see Andersen [1986c].

²For a comparison of the vowel systems in the Moru-Madi languages, see Andersen [1986b].

³Verb forms translated 'to (do something)' are stem forms. A monosyllabic stem is identical with the 2nd person singular subjunctive (= imperative) form. A polysyllabic stem is identical with the 3rd person perfective form.
(4) /i/  kT 'to go'  /u/  kū 'to weed'
/l/  kī 'to affect'  /o/  kō 'not'
/e/  kē 'non-existent' (PTC)  /o/  (ōkō 'to finish')
/e/  kē 'to tear'  /o/  kō 'to catch'
/a/  kā 'to ripen'

In monomorphemic words with more than one syllable, all vowels which are not /a/ belong to the same harmonic set:

(5) a. -ATR words  b. +ATR words
èbó 'basket'  èbì 'lion'
fàbè 'neck'  élé 'egg'
fàlì 'buttock'  ó'jú 'horn'
làdè 'rat'  kólól 'adze'
òmbó 'locust'  úgó 'liver'

The vowel /a/, which phonetically is -ATR, can cooccur with any vowel. It occurs both before and after each of the other -ATR vowels, as in (6) and (7), and also in initial syllables before each of the +ATR vowels, as in (8).

(6)  àsì 'fire'
èngwè 'white'
ègò 'pumpkin'
èlò 'one'
(7)  èba 'rope'
èdzà 'pot'
ègù 'fruit'
èkwà 'wealth'
(8)  àlì 'short'
èngwè 'to be beautiful'
ràbò 'banana'
òmbù 'mosquito'

While /a/ has a high lexical frequency in these positions, it never occurs between +ATR vowels and rarely after +ATR vowels, all the attested instances
probably being loanwords. See the examples in (9).

(9) ɓmɔkwà 'to iron' (from Arabic)
gómá (kind of hoe)
tʃɔpà 'house pole'
àgúrá 'horn' (musical instrument)

Derivational and inflectional prefixes agree with the root in terms of the ATR feature, i.e. the root controls the ATR value of the prefix. Cf. the pairs of verb forms in (11-14), whose prefixes have the respective meanings indicated in (10).

(10) a. i- ~ i- causative
    b. e- ~ e- direction towards the deictic center
    c. o- ~ o- 3rd person subject, perfective aspect
    d. u- ~ o- multiple performance

(11) ɓ-ŋà 'to teach' (cf. 10a)
    ɓ-ŋà 'to suckle'

(12) ɓ-ŋà 'to come' (cf. 10b)
    ɓ-ŋà 'to come back'

(13) ɓ-ŋà 'he drank' (cf. 10c)
    ɓ-ŋà 'he threw'

(14) ɓ-ŋà 'to drink' (cf. 10d)
    ɓ-ŋà 'to throw'

When the root vowel is /a/, the prefix vowels are -ATR:

(11') ɓ-ŋà 'to kill'
(12') ɓ-sà 'to arrive'
(13') ɓ-ŋà 'he ate'
(14') ɓ-ŋà 'to eat'

These facts show that /a/ belongs to the set of -ATR vowels.

For suffixes there is no general rule of harmonization. Some suffixes are
inherently either +ATR or -ATR, and they are not harmonized by the root, which
is not harmonized by them either. This class includes for instance the +ATR
suffix /-gə/, which is a masculine singulative morpheme, and the -ATR suffix
/-kə/, which is a 2nd person singular possessive morpheme in kinship terms.
Examples (15-16) show that they can combine with both +ATR and -ATR roots.

(15) ọlụbo-ʊọ 'Lulubo man' cf. ọlụbo 'Lulubo people'
   ọọdọ-gọ 'man'     cf. ọọdọ 'children'
   ọọdọ-gọ 'boy'     cf. ọọdọ 'children'

(16) ọbọl-kl 'your grandfather' cf. ọbọl 'grandfather'
   ọmbọ-kl 'your sister' cf. ọmbọ-̣ọ 'sister'

In some exceptional cases, however, /-gə/ harmonizes the root:

(17) ọrọ-gọ 'enemy' cf. ọrọ 'enemies'

Other suffixes are harmonized by the root, for instance the locative suffix
/-lẹ/ ~ /-lẹ/, which is added to verbal nouns in non-finite relative clauses
(RC) with a relativized locative adverbial: 4

4In literal translations the following abbreviations are used:

<table>
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<tr>
<th>1/2/3</th>
<th>1PEx</th>
<th>1PIn</th>
<th>2P</th>
<th>1S/2S/3S</th>
<th>ADV</th>
<th>C</th>
<th>CAUS</th>
<th>CONJ</th>
<th>COP</th>
<th>CP</th>
<th>FOC</th>
<th>GEN</th>
<th>IMPF</th>
<th>LINK</th>
<th>LOC</th>
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<tbody>
<tr>
<td>first/second/third person</td>
<td>first person plural exclusive</td>
<td>first person plural inclusive</td>
<td>second person plural</td>
<td>first/second/third person singular</td>
<td>adverb</td>
<td>completion</td>
<td>causative</td>
<td>conjunction</td>
<td>copula</td>
<td>centripetal, i.e. movement towards the deictic center</td>
<td>focus</td>
<td>genitive</td>
<td>imperfective</td>
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</table>

An oblique stroke (/) indicates that the following morpheme(s) is/are mani-
manifested solely or partly by the tone pattern of the word.
(18) a. \( \text{w∫} \) \( \text{kó-ngwí} \) \( \text{ðfó} \) \( \text{RC} \) \( \text{àwí} \) \( \text{rí} \) \( \text{ñ-gá-lé} \) \( \text{rá} \) \( \text{wó} \)

monster 3-return/IMPF place \( \text{3S} \) GEN CP-get-up/VN-LOC to PTC

'the monster returns to the place it has come from'

b. \( \text{kó-zwé} \) \( \text{gàká} \) \( \text{RC} \) \( \text{kén} \) \( \text{rí} \) \( \text{ð-tú-lé} \) \( \text{rí} \) \( \text{lnl} \) \( \text{ní} \)

3-push/IMPF platform Kenyi \( \text{GEN} \) NF-climb/VN-LOC PTC this OBJ

'it pushes the platform upon which Kenyi has climbed'

Phonetically, there is a tenth vowel quality, viz. an unrounded, mid, back, +ATR vowel \( [r] \). This vowel only occurs after the +ATR vowel /u/, as in

(19) \( [\text{úgí}] \) 'liver'
\( [\text{tíútwé}] \) 'ostrich'

When /u/ and \( [r] \) are heteromorphemic, \( [r] \) varies freely with the rounded, mid, back, +ATR vowel \( [o] \):

(20) \( [\text{góú-gí}] \sim [\text{góú-gó}] \) 'male thief' (thief/S-MASC+SG)
\( [\text{uí-gí}] \sim [\text{uí-gó}] \) 'singing' (MULT-sing/VN)

The morphemes containing \( [r] \sim [o] \) invariably have \( [o] \) when they are preceded by a vowel other than /u/:

(21) \( [\text{mádi-gó}] \) 'Madi man' (Madi-MASC+SG)
\( [\text{ði-ngó}] \) 'singing' (NF-sing/VN)

Thus we can infer that \( [r] \) is an allophone of the phoneme \( /o/ \).

3. Consonants

Lulubo has 34 consonant phonemes, whose phonetic properties are indicated in Table 1. The stops, the affricates and the nasals form a major subsystem with six contrasting points of articulation. The interdentals and the alveolars together form one series, and so do the palato-alveolars and the palatals. There are no retroflexes and labio-velars among the preglottalized stops and the nasals, nor is there a preglottalized velar stop.

Examples of words with each of the consonants are given sectionwise in (22-29) below. In the first column of each section an example is given in which each consonant is followed by the vowel /a/. Gaps indicate the lack of such words in the present author's corpus. The second column shows other,
### Table 1. Consonants

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<thead>
<tr>
<th>manner of articulation</th>
<th>bilabial</th>
<th>labiodental</th>
<th>interdental</th>
<th>alveolar</th>
<th>retroflex</th>
<th>palato-alveolar</th>
<th>palatal</th>
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<td>lateral</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>trill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>glide</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Preferably (sub)minimal, sets, in which the consonants occur before another vowel.

(22) Unvoiced stops and affricates

<table>
<thead>
<tr>
<th>Sound</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>p̄</td>
<td>'to shape (wood with an adze)'</td>
</tr>
<tr>
<td>t̄</td>
<td>'tiredness'</td>
</tr>
<tr>
<td>t̄̄</td>
<td>'to put down abruptly'</td>
</tr>
<tr>
<td>t̄̄̄̄</td>
<td>'to plait (a door)'</td>
</tr>
<tr>
<td>p̄̄̄̄</td>
<td>'to defeat'</td>
</tr>
<tr>
<td>d̄̄</td>
<td>'to swallow'</td>
</tr>
<tr>
<td>ḡ̄̄̄</td>
<td>'swallow' (bird)</td>
</tr>
<tr>
<td>t̄̄̄̄</td>
<td>'calabash'</td>
</tr>
<tr>
<td>Consonant</td>
<td>Word 1</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
</tr>
<tr>
<td>/k/</td>
<td>kā</td>
</tr>
<tr>
<td>/kp/</td>
<td>-</td>
</tr>
</tbody>
</table>

(23) **Voiced stops and affricates**

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Word 1</th>
<th>Meaning</th>
<th>Word 2</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/b/</td>
<td>ḳaba</td>
<td>'rope'</td>
<td>bómu</td>
<td>'maize'</td>
</tr>
<tr>
<td>/d/</td>
<td>gā</td>
<td>'to cut (finger-millet)'</td>
<td>bōdo</td>
<td>'half (of something like a fruit)'</td>
</tr>
<tr>
<td>/q/</td>
<td>gā</td>
<td>'to die'</td>
<td>ḍuqū</td>
<td>'frog'</td>
</tr>
<tr>
<td>/dʒ/</td>
<td>ḳaŋqā</td>
<td>'pot'</td>
<td>ḍō</td>
<td>'house'</td>
</tr>
<tr>
<td>/ɡ/</td>
<td>gā</td>
<td>'to cut'</td>
<td>ḍō</td>
<td>'male'</td>
</tr>
<tr>
<td>/ɡb/</td>
<td>ḳgbā</td>
<td>'to barter'</td>
<td>gbōróró</td>
<td>'throat'</td>
</tr>
</tbody>
</table>

(24) **Prenasalized stops and affricates**

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Word 1</th>
<th>Meaning</th>
<th>Word 2</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mb/</td>
<td>mbā</td>
<td>'to grow up'</td>
<td>mbū</td>
<td>'to drink'</td>
</tr>
<tr>
<td>/nd/</td>
<td>ńdā</td>
<td>'good'</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>/ndʒ/</td>
<td>ńdʒā</td>
<td>'face'</td>
<td>ndū</td>
<td>'to look for'</td>
</tr>
<tr>
<td>/ndʒ/</td>
<td>ndʒā</td>
<td>'protruding'</td>
<td>ndʒū</td>
<td>'to suck'</td>
</tr>
<tr>
<td>/ŋg/</td>
<td>ḳgā</td>
<td>'to get up'</td>
<td>ḍgū</td>
<td>'to smell'</td>
</tr>
<tr>
<td>/ŋmgb/</td>
<td>ḳmgbā</td>
<td>'to beat'</td>
<td>ḳmgbū</td>
<td>'nothing being left' (ADV)</td>
</tr>
</tbody>
</table>

(25) **Glottal and preglottalized stops**

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Word 1</th>
<th>Meaning</th>
<th>Word 2</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ɓ/</td>
<td>Ḳa</td>
<td>'home' (N)</td>
<td>ɓi</td>
<td>'to taste'</td>
</tr>
<tr>
<td>/ɗ/</td>
<td>ḳaŋqā</td>
<td>'to lower'</td>
<td>ɗt</td>
<td>'to spear'</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>ŋa</td>
<td>'to quarrel'</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>/ɔ/</td>
<td>ŋa</td>
<td>'stomach'</td>
<td>ŋt</td>
<td>'to grind'</td>
</tr>
</tbody>
</table>

(26) **Nasals**

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Word 1</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/m/</td>
<td>mā</td>
<td>'I'</td>
</tr>
<tr>
<td>/n/</td>
<td>nā</td>
<td>'three'</td>
</tr>
<tr>
<td>/n/</td>
<td>ḳa</td>
<td>'to eat'</td>
</tr>
<tr>
<td>/ŋ/</td>
<td>ḳa</td>
<td>'to speak'</td>
</tr>
</tbody>
</table>

(27) **Fricatives**

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Word 1</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f/</td>
<td>-</td>
<td>'to appear'</td>
</tr>
<tr>
<td>/s/</td>
<td>sā</td>
<td>'to arrive'</td>
</tr>
<tr>
<td>/v/</td>
<td>-</td>
<td>'to blow'</td>
</tr>
</tbody>
</table>
(28) Lateral and trill
\[/l/ \, l\ddot{a} \, 'to lay down' \quad /r/ \, r\ddot{a} \, 'to' (POSTP)
\]
\[\begin{align*}
\text{III} & \, \text{I}l\ddot{i} \, 'to lay down' \quad I'l \, 'to cut' \\
\text{III} & \, \text{I}r'i \, 'to' (POSTP) \quad r'i \, 'two' \\
\end{align*}\]

(29) Glides
\[\begin{align*}
/y/ \, y\ddot{a} \, 'but' (CONJ) \\
w/ \, w\ddot{a} \, 'to throw'
\end{align*}\]
\[\begin{align*}
\text{III} & \, \text{I}y\ddot{y}l \, 'rainy season' \\
wT & \, 'to skin'
\end{align*}\]

The only consonants that have a systematically defective distribution are the labiodental fricatives [f] and [v]. They only occur before rounded vowels. However, since [f] and [v] are not in complementary distribution with any other consonants, they have to be ascribed phonemic status. The phonetically most likely candidates for complementary distribution with the labiodental fricatives would be the bilabial stops [p] and [b]. But they also occur before rounded vowels, although lexically infrequently:

(30) \[\begin{align*}
\text{III} & \, \text{I}p\dot{a}t\dot{a} \, 'tendon' \\
p\ddot{u}t\ddot{a} & \, 'whip'
\end{align*}\]

(31) \[\begin{align*}
\text{III} & \, \text{I}b\ddot{o}n\ddot{g}\ddot{o} \, 'clothes' \\
b\ddot{o}n\ddot{d}\ddot{o} & \, 'tamarind'
\end{align*}\]

For [b] and [v] there even is a minimal pair:

(32) \[\begin{align*}
\text{III} & \, \text{I}b\ddot{o} \, 'to throw' \\
v\ddot{o} & \, 'to blow'
\end{align*}\]

Historically, the labiodental fricatives must have developed from labial stops before rounded vowels. This sound change seems to have affected all the Moru-Madi languages, but in Lulubo it has not been carried through for all instances of original *b and not at all for original *mb. Cf. the following examples from some of the languages, the dialect in question being indicated in parentheses:

\begin{center}
\begin{tabular}{lcccc}
Moru & Lugbara & Madi & Lulubo & Proto-Moru-Madi \\
(Miza) & (Terego) & (Burulo) & (Lokiliri) & \\
\hline
- & òvò & òvò & ìbò & *èbò \, 'basket' \\
vò & vò & vò & bò & *èbò \, 'place, land'
\end{tabular}
\end{center}
The only consonantal phonemes with allophonic variation are the velars /g ng η/ . These consonants have palatal coarticulation after the mid front vowels /e e/ :

(33) /gɪ/ [gɪ̃] 'to buy'
/ŋɪ/ [ŋɪ̃] 'to pull out'
/tʃɪ/ [tʃɪ̃] 'sand'

Palatalization does not occur before the high front vowels /i i/ , and it does not affect the unvoiced velar /k/ .

4. **Tones**

Lulubo has three tones: low (L), mid (M), and high (H). The phonemic status of the tones is shown by the following minimal triplets:

(34) L t 'to give birth' ?à 'existent' (PTC)
M t 'mouth' ?ā 'stomach'
H t 'cow' ?á 'we' (1PIN)

Any two tones may be combined within a syllable. Thus there are six compound tones:

(35) LM tɔmbè 'it is Tombe' (Tombe/FOC)
MH bá '(at) home' (home/LOC)
ML ndè kwè 'look at the tree!' (see/SUBJ+2S tree/SUBJ)
MH ?ā 'in the stomach' (stomach/LOC)
HL t-ðà 'we killed' (CAUS/1PIN-die/PF)
HM tɔ 'his wife' (female/3S)
Except for HL, compound tones are restricted to occurring in morphemically complex words, in which their two components belong to or manifest two different morphemes, as in (35). HL is fairly common in monomorphemic words, but only on final syllables. Such words appear all to be recent borrowings, for instance the following:

(36) ḍıkɛ 'gift'  (cf. Bari ḍɔk-ɛt 'gift')
    ṅwākɛ 'tongs'  (cf. Bari ṅwak-ɛt 'pincers')
    ḍìnɛ 'time'  (cf. Bari dʊŋit 'time')
    ḍɛ 'chisel'  (cf. Bari du 'chisel')
    gùrù 'money'  (cf. Sudanese Arabic giriʃ, pl. guruʃ 'money')
    sà 'watch'  (cf. Sudanese Arabic saaʃa 'hour, watch')
    kəmɭɪ 'committee'  (from English)

Exceptions are

(37) ɗɛɛɛ 'all'
    ɗɪɪ 'quickly'

which are monomorphemic but have HL on non-final syllables. However, these words are also aberrant in having HL on their final syllables, and since they are furthermore characterized by segmental reduplication, they should probably be considered ideophones (cf. section 6).

Tone distinguishes many lexical items, especially mono- and disyllabic ones. In the following examples, the words of each pair belong to the same word class (noun, verb, or adjective):

(38) rū 'body'  (39) gà 'to refuse'
    rú 'name'  gā 'to cut'
(40) ɓl 'to taste'  (41) ɗl ɗ 'short'
    ɓt 'to twirl'  ɗl ɗ 'deep'

---

6 The Bari and Sudanese Arabic data have been taken from Spagnolo [1960] and Persson and Persson [1980], respectively. Although Bari is a tone language, Spagnolo does not indicate tones.
Tone also has a high functional load in inflection and derivation. Examples given below will illustrate the use of tone for expressing contrasts within various grammatical categories.

Most nouns are not inflected for number, but nouns denoting human beings are, and one class of them distinguishes between singular and plural by means of tone. The examples in (44) illustrate two morphophonemic tone rules. Nouns with the tone pattern HH in the singular have LM in the plural, and those with LH in the singular have HH in the plural.

(44) Singlular                      Plural

a. HH                              LM
   ṣagó                              ṣagó  'husband'
   ṣózó                              ṣózó  'witch-doctor'
   ṣóndó                             ṣóndó  'sterile person'

b. LH                              HH
   ẹmbó                              ẹmbó  'orphan'
   ọgú                               ọgú  'thief'
   ọrí                               ọrí  'coward'

Verbs are inflected for mood, aspect, and person and number of the subject. Together, these categories are expressed by prefixes and by particular tone patterns. The actual tone patterns depend on phonological and grammatical properties of the stem, including its number of syllables, its inherent tone pattern, its transitivity, and its morphological composition. Two examples are given in Table 2, which shows the inflection of the stems /ná/ 'to eat' and /ómbé/ 'to tie'. The first paradigm is representative of transitive stems that are monosyllabic and have an inherently mid tone. The second paradigm is representative of disyllabic stems with the inherent tone pattern MM. Notice for instance that, in the perfective aspect, forms which express first or second person singular have the tone pattern HM, while forms which express first person plural exclusive or second person plural have LM. Anoth-
Table 2. Two paradigms of verbal inflection

<table>
<thead>
<tr>
<th></th>
<th>/nā/</th>
<th></th>
<th>/ōmbē/</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>to eat</td>
<td></td>
<td>to tie</td>
<td></td>
</tr>
<tr>
<td></td>
<td>subject</td>
<td>indicative</td>
<td>passive</td>
<td>indicative</td>
</tr>
<tr>
<td></td>
<td>indicative</td>
<td>imperative</td>
<td>imperative</td>
<td>indicative</td>
</tr>
<tr>
<td></td>
<td>per-</td>
<td>imperfective</td>
<td>per-</td>
<td>imperfective</td>
</tr>
<tr>
<td>1S</td>
<td>á-nā</td>
<td>mō-nā</td>
<td>m-ōmbē</td>
<td>m-ōmbē</td>
</tr>
<tr>
<td>1PEX</td>
<td>à-nā</td>
<td>mō-nā</td>
<td>m-ōmbē</td>
<td>m-ōmbē</td>
</tr>
<tr>
<td>2S</td>
<td>nā</td>
<td>l-nā, nō-nā</td>
<td>n-ōmbē</td>
<td>n-ōmbē</td>
</tr>
<tr>
<td>2P</td>
<td>l-nā</td>
<td>nō-nā</td>
<td>n-ōmbē</td>
<td>n-ōmbē</td>
</tr>
<tr>
<td>3</td>
<td>kō-nā</td>
<td>s-nā, kō-nā</td>
<td>k-ōmbē</td>
<td>k-ōmbē</td>
</tr>
<tr>
<td>1PIN</td>
<td>s-nā</td>
<td>s-nā</td>
<td>n-ōmbē</td>
<td>n-ōmbē</td>
</tr>
<tr>
<td>UNSP</td>
<td>s-nā</td>
<td>s-nā</td>
<td>n-ōmbē</td>
<td>n-ōmbē</td>
</tr>
</tbody>
</table>

The generalization is that the final stem vowel keeps its inherent tone in the perfective aspect but replaces it with a high tone in the imperfective aspect.

As an example from derivational morphology, consider the formation of progressive verb stems from adjectives with an initial /v/ syllable. No affixes are used, but the tones of the adjectives are replaced by low tones in the verbs:

(45) Adjective     Verb
    àzō 'long'      àzō 'to become long'
    ìndā 'good'    ìndà 'to become good'
    ọsú 'good'    ọsù 'to become good'
    àlì 'deep'    àlì 'to become deep'
    àkèlì 'red'    àkèlì 'to become red'
    àfòrò 'yellow'    àfòrò 'to become yellow'

Combining the lexical and the morphological functions of tone, the number of disyllabic words distinguished tonally is often quite large, as in the following example:
In addition to its lexical and morphological functions, tone also has syntactic functions in Lulubo. Thus, certain sentence types end in a floating tone (\( \tilde{T} \)), which is manifested on the sentence-final syllable as an addition to the inherent tone of that syllable. The result is a compound tone, unless the floating tone is identical with the inherent tone. All three tones, \( \tilde{L} \), \( \tilde{M} \), and \( \tilde{H} \), have syntactic functions in this sense.

\( \tilde{L} \) occurs after an unfocused object if the sentence has the subjunctive mood. Cf. the examples in (47), where the subjunctive verb form is identical to the perfective indicative verb form for first person subjects.

(47) \( L+\tilde{L} \rightarrow L \) \( \tilde{a}-\tilde{n}\acute{d}\check{e} \ \tilde{e}\check{b}\acute{l} \ 'let me see the lion!' \\
\( M+\tilde{M} \rightarrow \tilde{M}L \) \( \tilde{a}-\tilde{n}\acute{d}\check{e} \ \tilde{a}\check{r}\check{t}\check{\dagger} \ 'let me see the bird!' \\
\( H+\tilde{H} \rightarrow \tilde{H}L \) \( \tilde{a}-\tilde{n}\acute{d}\check{e} \ \check{t}\check{\dagger} \ 'let me see the cow!' \\
( \( \tilde{a}-\tilde{n}\acute{d}\check{e} \ '1S-see', \ \tilde{e}\check{b}\acute{l} \ 'lion', \ \tilde{a}\check{r}\check{t}\check{\dagger} \ 'bird', \ \check{t}\check{\dagger} \ 'cow')

\( \tilde{H} \) occurs after a sentence-final object if the sentence has the indicative mood and indicates that the scope of the focus is either the object or the verb and the object. Cf. the examples in (48), which are minimally different from those in (47).

(48) \( L+\tilde{H} \rightarrow \tilde{LH} \) \( \tilde{a}-\tilde{n}\acute{d}\check{e} \ \tilde{e}\check{b}\acute{l} \ 'I saw a lion' \\
\( M+\tilde{H} \rightarrow \tilde{MH} \) \( \tilde{a}-\tilde{n}\acute{d}\check{e} \ \tilde{a}\check{r}\check{t}\check{\dagger} \ 'I saw a bird' \\
\( H+\tilde{H} \rightarrow H \) \( \tilde{a}-\tilde{n}\acute{d}\check{e} \ \check{t}\check{\dagger} \ 'I saw a cow'
That this final floating ュー is actually a focus morpheme is shown by the fact that it contrasts with other focus markers, which also occur after the object, and with adverbials, which are inherently focused in that position:

(49) 有助 ে rollback ə̃ 'I did see the lion' (truth value focus)
有助 ে rollback মা 'I saw the lion' (subject focus)
有助 ে rollback ে-rollback 'I saw the lion' (verbal focus)
有助 ে rollback ে ə̃ নিত 'I saw the lion yesterday' (adverbial focus)

( /ʔə̃/ indicates completion; /mা/ is the first person singular personal pronoun; /ে-rollback/ is a verbal adverb; /ə̃ নিত/ means 'yesterday')

The same morpheme ユー is used after the predicate in a non-verbal clause of identification, which is what native speakers will normally provide when asked to translate a noun into Lulubo:

(50) েবি 'it is a lion'
ə̃রি 'it is a bird'
ফি 'it is a cow'

有助 is used instead of ュー in certain cases, for instance when the object is a proper noun. Cf. the examples in (51), which are minimally different from those of both (47) and (48).

(51) েলি ে rollback েবি 'I saw Mr. Lion'
েলি ে rollback েরি 'I saw Mr. Bird'
েলি ে rollback েফি 'I saw Mr. Cow'

Lulubo is a discrete-level tone language, i.e. there is (almost) no down-drift, nor is there anything like downstep. The pitch value of a tone remains by and large the same throughout an utterance, except on the utterance-final syllable. In utterances that are not yes/no-questions, prepausal ье is realized as an extra low pitch, and హీ, హీ and హీ rise to a lower pitch level prepausally than non-prepausally. Yes/no-questions are uttered in a higher register than the corresponding statements or orders, and a rising pitch is added after their final tone. Apart from the intonation, there is no formal difference between yes/no-questions and statements or orders.
5. **Syllable Structure**

The segmental structure of a syllable in Lulubo is /V/, /CV/, or /CCV/, but only initial syllables can be /V/:

(52) (V)CV  bǐ 'ear'  òmbí 'locust'
     (V)CVCV  fòllí 'buttock'  òŋóökó 'children'
     (V)CVCVV  tórmè 'nine'  lùgùŋo 'to kneel'

Apparent exceptions are found in words like the following, all of which are monomorphemic:

(53) /làwə/  → [læə] 'time'
     /tòwú/  → [təú] 'five'
     /gòwè/  → [gəè] 'jackal'
     /əyí/  → [əí] 'grass'
     /àràbíyà/  → [àràbíà] 'car'

Phonetically, these words contain a non-initial /V/ syllable. But in such cases either that vowel itself or the vowel preceding it is high. Therefore, these words can easily be analyzed as having a homorganic glide, i.e. a consonant, between the vowels: /w/ if the high vowel is back, /y/ if the high vowel is front.

In /CCV/ syllables, the second consonant can only be a glide. Furthermore, only non-rounded vowels have been attested in such syllables. The contrast between /w/, /y/, and zero after the first consonant is shown by the following subminimal triplet:

(54) lwà 'to count'
     lyà 'to shiver'
     lā 'to lay down'

While the syllable structure /CyV/ is rare, /CwV/ is quite common (especially when /C/ is a velar stop), so that there are many minimal pairs like the following:

(55) ìshwà 'to let (liquid) run out'  (56) gwè 'to burn'
     ì-gà 'you put' (2P-put/PP)  gè 'to buy'
The glide /w/ has been attested after about two thirds of the consonants, as in the examples in (60), which are grouped according to the point of articulation of the consonants. There are no examples of /w/ after plain labial stops and after labiovelars and no reliable examples of /w/ after interdentals and palatals. The absence of /w/ after the bilabial stops /p/ and /b/ and its corresponding presence after the labiodental fricatives /f/ and /v/ is probably systematic, considering the facts that /w/ has lip rounding, that /p/ and /b/ tend not to occur before rounded vowels, and that /f/ and /v/ only occur before such vowels (cf. section 3 and footnote 5).\footnote{In the southern part of the Lulubo area (Aru), /w/ has disappeared after some consonants, e.g. after /v/, as in the following examples:}

<table>
<thead>
<tr>
<th>(60) bilabial</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/ -</td>
</tr>
<tr>
<td>/b/ -</td>
</tr>
<tr>
<td>/mb/ mbwè 'to be ill'</td>
</tr>
<tr>
<td>/ɓ/ ɓwŋ 'to shoot'</td>
</tr>
<tr>
<td>/m/ mwà 'to rot'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(60) labiodental</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f/ fwè 'to burst'</td>
</tr>
<tr>
<td>/v/ vwɪ 'hunger'</td>
</tr>
</tbody>
</table>

\footnote{In the southern part of the Lulubo area (Aru), /w/ has disappeared after some consonants, e.g. after /v/, as in the following examples:}

<table>
<thead>
<tr>
<th>Lokiliri</th>
<th>Aru</th>
</tr>
</thead>
<tbody>
<tr>
<td>vwɪ</td>
<td>vɪ</td>
</tr>
<tr>
<td>'to follow'</td>
<td></td>
</tr>
<tr>
<td>àvwá</td>
<td>àvά</td>
</tr>
<tr>
<td>'infertile soil'</td>
<td></td>
</tr>
</tbody>
</table>

Thus, in Aru, /v/ does not have the defective distribution that it has in Lokiliri (see section 3). In Aru, /v/ now occurs before unrounded vowels as well as before rounded vowels.
interdental

/ʂ/  -
/d/  -
/ng/ -

alveolar

/d/  dwa  'to pick'
/s/  swè  'to become fat'
/z/  zwa  'to cross'
/n/  ɔnwè  'new'
/l/  lwe  'to whistle'
/r/  rwè  'to become thin'

retroflex

/t/  ʈwa  'to become sour'
/d/  ɗgwè  'urine'
/ng/  nwè  'to squeeze into'

palato-alveolar

/tʃ/  tʃwe  'to prune'
/dʒ/  ʋdʒwe  'to wash'
/ndʒ/  ndʒwe  'bad'

palatal

/'j'/  -
/'n'/  -
/'y'/  -

velar

/k/  kwè  'tree'
/g/  ɡwè  'big'
/ng/  ngwè  'to go back'
/ŋ/  ɔŋwèŋwènè (kind of ant)

labiovelar

/kp/  -
/gb/  -
Whether there are any constraints on /C/ in /Cy/ combinations is difficult to determine, due to the lexical infrequency of such sequences. A few additional examples are given in (61).

(61) ɔmyā  'to mix'
lỳe  'excrement'
mílyé  'oath'

The combinations glide + vowel in /CwV/ and /CyV/ should not be analyzed as heterosyllabic sequences of equi-tonal high vowel + vowel, since such an analysis would result in violations of three well-established constraints on the phonological structure of verb stems. Firstly, disyllabic verb stems cannot begin with a consonant, hence not */lɔ̀/ 'to count' and */lìlà/ 'to shiver', but /lwa/ and /lyà/ . Secondly, trisyllabic verb stems can only begin with a high, unrounded vowel (unless they are multiplicative stems (see section 7) or have been derived from an adjective (see section 4)), hence not */udʒò̀/ 'to wash' and */ègùè/ 'to get lost', but /udʒwè/ and /ègwè/ . Thirdly, the tone pattern of trisyllabic verb stems can only be LLL, hence not */àmbòò/ 'to hide' and */ɔmìà/ 'to mix', but /àmbwè/ and /ɔmyà/ .

6. Ideophones

Some ideophones deviate from the phonological system outlined in the previous sections. The deviations concern vowels, consonants, and syllable structure. The features mentioned below are probably not exhaustive.

In ideophones, syllables can have the structure /CVC/, i.e. they can end in a consonant:

(62) ɗiŋ  (having large volume)
rùyûk  (stone striking something)
pér-pér (very clean)
țū?-țū? (sound of hammering)

In light of this, the following adverbs, which are aberrant by ending in a glottal stop, may also be considered ideophones:

(63) țū? ~ țūbū? 'all' (countable)
pū? 'all' (uncountable)
țū? 'only'

In addition to the nine vowels of ordinary words, ideophones can have a syllabic [ɾ] after a vowel. In some cases, [ɾ] varies freely with non-syllabic [ɾ] plus a vowel. Cf. the following examples:

(64) țūf (iron or glass hitting something)
dēr-dēr (running with raised neck)
ngôr ~ ngôr (high degree of redness)

While in ordinary words there is no length contrast in the vowels, vowels of ideophones are either short, like those of ordinary words, or long. Examples with long vowels are given in (65).

(65) wūur (movement away from the speaker)
ğūut (movement towards the speaker)

Finally, at least one additional consonant can occur in ideophones, viz. an unvoiced velar fricative [x], as in

(66) xɔxɔxɔ (sound made by a ratel when attacking people)

The examples of ideophones listed above should probably all be classified as adverbs. But there are also a few nouns that deviate phonologically in the same ways. Cf. the nouns in (67), one being related to [dēr-dēr] in (64), the other to [xɔxɔxɔ] in (66).

(67) âdēr 'mongalla gazelle'
xɔxɔlî 'ratel'

Many ideophones do not have any of the aberrant features mentioned above and thus do not differ phonologically from non-ideophones, as in the follow-
ing examples:

(68) bəlú (sound of a stone falling into water)
    rəbə (sound of a calabash breaking into pieces)
    mədə (breathing heavily)

However, many of them are characterized by total reduplication, as in the examples in (69) and (70).

(69) tə-tə (sound of cutting a tree)
    tə-tə (sound of footsteps)
    bu-bu (sound of heavy wind)
    kpə-kpə (sound of a person walking)

(70) wələ-wələ (moving of snake)
    pətə-pətə (nothing being left)
    kwələ-kwələ (sound of small bell)
    kəsə-kəsə (sound of small animal moving in grass)
    fələ-fələ (bubbles coming up)

7. Vowel Elision

In certain cases, a word-final vowel is optionally (but normally) elided before a vowel-initial word. Depending on the (type of) word whose vowel is elided, the tone of the elided vowel is either retained or deleted. If retained, the tone is added to the tone of the adjacent vowel, but only realized phonetically if it is different from the latter. In the following, some of the most common types of elision are illustrated.

One type of elision occurs when a finite verb is followed by a cognate object or by a cognate adverbial. In that case the final vowel of the verb is normally elided, but its tone is always retained:

(71) kə-mbəmbəmbə nə [kəmbəmbəmbə nə] 'he is drinking'

(72) nə ə-pə [nəənə] 'eat!'

(73) kə-əwəəwə ə-wə [kəəwəəwə] 'he is walking'

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(73) kə-əwəəwə ə-wə [kəəwəəwə] 'he is walking'
If the final syllable of the verb is /CwV/ or /CyV/, the glide is elided along with the vowel. See (74)-(76) for /CwV/ and (77)-(78) for /CyV/.

(74) ko-mwa ~mwa
[koːmwa] 'it is getting rotten'
3-rot/IMPF NF-rot/VA

(75) k-ɔwé ~ɔwé
[kɔwɛ] 'it is drying'
3-dry/IMPF dry/VA

(76) k-ud-udwé ud-udwé
[kududwɛ] 'he vomits'
3-MULT-vomit/IMPF MULT-vomit/VA

(77) ɔmya ɔmya
[ɔmomya] 'he mixed them'
mix/3+PF mix/VA

(78) ɔ-lyà ɔ-lyà
[ɔlɔlyà] 'he shivered'
3-shiver/PF NF-shiver/VA

This behaviour of a glide after another consonant clearly shows that /Cw/ and /Cy/ are clusters and not unitary consonants like, for instance, the affricates and the prenasalized stops. Note that this also holds for /?w/, as in (75), i.e. /?w/ is a cluster rather than a unitary consonant, and therefore it does not belong to the class of preglottalized consonants.

The vowel /i/ is often elided in certain monosyllabic function words when they occur in particular syntactic environments. The tone is deleted in the case of /nǐ/, which either links an adjective to a preceding noun (79) or a non-finite verb to its preceding object (80).

(79) tôrô nǐ òzò
[ tôrô nàzɔ] 'a long stick'
stick LINK long

(80) ṭközo nǐ ɛ-ngwí ósú nã'
[ţközo níngwí oɔsú nã] 'it is good to re-
property LINK CAUS-return/VN good COP+S/FOC
return property'

The tone is retained in case of the genitive postposition /r/ , the reflexive particle /r/ , and the particle /r/ that follows a transitive verb in the imperfective aspect. Cf. (81), (82), and (83), respectively.

(81) TnT rí ɛrí
[TnT rɛr] 'snake blood'
snake GEN blood
Vowel elision also affects the locative postposition /a/, which governs a noun phrase (NP), as in the following sentences with a postpositional phrase (PostpP):

(84) ikere kó-kT [PostpP [NP gólo] á] Ikere 3-go/IMPF river LOC 'Ikere goes to the river'

(85) àzí klgê kó-kwi [PostpP [NP àwi rí dzó] á] then Kide 3-enter/IMPF 3S GEN house LOC 'then Kide enters her house'

(86) óndó ëékì k-olá [PostpP [NP ëfo nú àlúbé] á] children those 3-play/IMPF place LINK one LOC 'those children played together (lit. in one place)'

(87) ónì [PostpP [NP dí nú lndá] á] stone 3-link hand LINK good LOC 'the stone is to the right'

The tone of this postposition, which must have developed from the noun /ʔaʔ/ 'stomach', is determined by the last tone of the noun phrase: it is mid after a high tone but high after a low or mid tone. The postposition is encliticized to the last word of the noun phrase whether that word is the head of the noun phrase, as in (84) and (85), or a modifier, as in (86) and (87). The vowel of the postposition is retained after a high vowel, but it undergoes harmonization in that context: it remains /a/ after the -ATR vowels /i/ and /o/, but it is changed to /o/ after the +ATR vowels /i/ and /u/. The high vowel preceding the encliticized vowel is, in turn, realized
phonetically as a semivowel, i.e. it keeps its vocalic quality and its tone, but together with the encliticized vowel it forms a diphthong with the length of a monophthong. (The semivowels cannot be analyzed phonemically as the glides /y/ and /w/ since the latter phonemes do not carry separate tones. Another reason for not analyzing the semivowel [i] as /y/ is that it does not become phonetically rounded before the rounded vowel /o/). The operation of these rules is exemplified in (88) for each of the four high stem-final vowels. Encliticization and harmonization turn the underlying forms into phonemic forms, which are themselves turned into phonetic forms by semivocalization and by optional de-rounding of /o/.

(88) underlying phonemic phonetic

/ʔ/ /æsɪ ā/ /æsɪ-ɑ/ [æsɪɑ] 'on the fire'
/o/ /iɪɑ oá/ /iɪɑ-ɑ/ [iɪɑɑ] 'on the ant-hill'
/i/ /ædɪ ɑ/ /ædɪ-ɑ/ [ædɪɑ] 'in the well'
/u/ /øɡʊ ɑ/ /øɡʊ-ɑ/ [øɡʊɑ] ~ [øɡʊʊ] 'on the back'

After non-high vowels, the vowel of the postposition is elided, but its tone is retained. This is shown by the following examples for each of the five non-high vowels:

(89) underlying phonemic

/e/ /lizyɛ ā/ /lizyɛ/ 'in the dung'
/e/ /tɔrɛ ɑ/ /tɔrɛ-/ 'on the stick'
/a/ /ɔswɑ ɑ/ /ɔswɑ/ 'in the fats'
/o/ /ɛbɔ ø/ /ɛbɔ-/ 'in the basket'
/o/ /dzɔ ø/ /dzɔ-/ 'in the house'

Note that in this case it is the second of the two contiguous vowels that is elided, not the first one as in the other constructions mentioned above.

Sudanic languages with vowel harmony based on the ATR feature. In Moru, another language of the Moru-Madi group, the alternation occurs in verbal prefixes [Andersen 1986a], and in Modo, which belongs to the Bongo group, it occurs in the first person singular possessive suffix /-ma/ ~ /-mo/.
There is evidence that vowel elision also occurs within the boundaries of a word. Consider for instance the formation of multiplicative verb stems from verb stems with more than one syllable, such stems being formed by means of reduplication. The formation of multiplicative stems from disyllabic stems is illustrated by the following examples:

(90) basic stem multiplicative stem
VC(C)V VC-VC(C)V
12 3 4 12 12 3 4

1d'1 '1d-1d' 'to burn'
ɔmbè 'ɔmb-ɔmbè 'to tie'
1gbò '1gb-1gbò 'to bark'
1gà '1g-1gà 'to kill'
1gwè '1g-1gwè 'to burn'
udwè 'ud-udwè 'to vomit'
5?wè '5?-5?wè 'to dry'
ɔmyà 'ɔm-ɔmyà 'to mix'
ɔl'ya 'ɔl-ɔl'ya 'to shiver'

The multiplicative stems in (90) consist of the first two segments of the corresponding basic stem followed by all the segments of that stem. (All the tones of the multiplicative stems are low, whatever the tones of the corresponding basic stems.) Notice, however, that this sequence of segments is exactly the same as the one that results from vowel elision applied to a verb before a cognate object or cognate adverbial. Cf. (71-78) above and the following examples:

(91) a. /ɔmb-ɔmbè ʔd/ MULT-tie/3+PF C
     'he did tie them (one by one)'
b. /ɔmbè ɔmbè/ → [ɔmbɔmbè] tie/3+PF tie/VA
      'he tied it'

(92) a. /1g-1gwè ʔd/ MULT-burn/3+PF C
     'he did burn them (one by one)'
b. /1gwè 1gwè/ → [1g1gwè] burn/3+PF burn/VA
      'he burnt it'
Note in particular that a glide following another consonant in the basic stem is absent from the first part of the corresponding multiplicative stem (92a), just as it is when the basic stem has been exposed to vowel elision (92b). This similarity can be accounted for by positing underlying forms with total reduplication, to which vowel elision is applied:

(93) \(\text{omb-omb} \rightarrow \text{omb-omb} \) 'to tie'
     \(\text{lgw-lgw} \rightarrow \text{lg-lgw} \) 'to burn'

Independent evidence for such underlying forms comes from multiplicative stems formed from stems with more than two syllables.\(^9\) In such stems the second vowel is retained in the first part of the stem, while the initial vowel of the second part of the stem is elided:

(94) basic stem multiplicative stem

\[ \begin{array}{ll}
\text{VC(C)VC(C)VX} & \text{VC(C)V-C(C)VC(C)VX} \\
12 3 45 6 78 & 12 3 4 2 3 45 6 78 \\
\text{llemi} & \text{llemi} \text{ 'to curse'} \\
\text{lgbe-la} & \text{lgbe-lgbe-la} \text{ 'to distribute'} \\
\text{lgara} & \text{lgara} \text{ 'to help'} \\
\text{lruguno} & \text{lruguno} \text{ 'to kneel'} \\
\text{ltomoroda} & \text{ltomoroda} \text{ 'to join'}
\end{array} \]

That is, the stem formation rule reduplicates the first two syllables of the basic stem, whether the latter has two or more than two syllables:

(95) \( V_1C_2(C_3)V_4X \rightarrow V_1C_2(C_3)V_4-\bar{V}_1C_2(C_3)\bar{V}_4X \)

(where \( X \) may be zero)

This analysis implies that vowels can be contiguous within a word in its underlying form and hence that the absence of such sequences from the phonetic

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\(^9\)All non-reduplicated non-derived verb stems with more than two syllables appear to be loanwords which have been adapted to the verbal system of Lubu by addition of an initial /\(\text{l}\)/ \(\sim /\text{l}/\). Compare the basic stems in (94) with the corresponding forms in Bari, which seems to be the most common source language: /\(\text{l}\)um/ 'to insult', /\(\text{gw}\)el-/ 'to distribute', /\(\text{n}\)ar/ 'to do something together with somebody', /\(\text{r}\)ug\(\text{u}\)\(\text{n}\)/ 'to kneel down', /\(\text{t}\)om\(\text{o}\)\(\text{r}\)\(\text{j}\)/ 'to join'.
form of a word (cf. section 5) is due to a surface constraint. However, even in underlying forms, contiguous vowels always belong to different morphemes.

REFERENCES


This paper examines the strategies for relativisation and the Noun Phrase accessibility hierarchy and constraints in Yoruba [Keenan and Comrie 1977]. The various positions relativisable are examined. It was found that contrary to what Keenan and Comrie thought, Yoruba relativises all positions except the Object of Comparative. Attention is also focussed on the status of the coreferential pronoun found in subject relativisation. From the presence of this pronoun it appears as if Yoruba violates the continuous segment principle. However, our analysis shows that the pronoun is a surface structure phenomenon which obscures the underlying strategy for relativisation. The Yoruba data therefore supports the Hierarchy Constraints.

1. Introduction

One important issue which often comes up in the description of relative clauses (RC) in various languages is the relativisation strategy proposed by Keenan and Comrie [1977]. Keenan and Comrie observed that languages vary with respect to the way relative clauses (RC) are formed. They also noted that even within a single language there is often more than one distinct way of forming a RC. The different ways of forming RC is what they refer to as different relative clause forming Strategies. Different strategies differ with regard to which NP positions they can relativize. Their data covers fifty languages. Essentially, their observation distinguishes two main parameters of variation. The first concerns the position of RCs with respect to the main
clause. For this, three distinct types are recognised. They are postnominal, prenominal, and internal. A postnominal RC is one which is positioned immediately following the matrix constituent within the main clause, a prenominal RC is positioned immediately to the left of its head, while an internal RC is embedded internally with the main clause, and it has no matrix constituent.

Their second parameter classifies RC according to whether they are case-coding or non-case coding. A RC is case-coding if it overtly marks the grammatical role of the relative within the RC. This may be achieved either by morphological marking, the use of pronouns, prepositions or postpositions, or by position. They also observed that some syntactic positions are more accessible to relativisation than others. This they called the accessibility hierarchy. First in the hierarchy is subject position, followed by direct objects, indirect objects, obliques, and lastly, objects of comparison.

Keenan and Comrie proposed a number of universal principles which make crucial reference to this hierarchy. The most important of these as far as Yoruba is concerned is what is described as "the continuous segment principle", and I quote:

"For unmarked simple sentences, any relative clause-forming strategy must operate on a continuous segment of the accessibility hierarchy."

This in effect means that a given RC-forming strategy can be used to relativize only continuous segments of the hierarchy. The continuous segment principle has been tested on many languages, including Yoruba. This paper discusses the proposal as it relates to Yoruba data. The focus is on the coreferential subject pronoun in Yoruba subject relatives. But first we consider the range of constituents relativizable in the language.

2. Range of Constituents Relativizable in Yoruba

Yoruba was one of the fifty languages examined by Keenan and Comrie. According to Keenan and Comrie, Yoruba relativises only subject (SU), Direct Object (DO), and Genitive (Gen) positions; the Indirect Object (IO), Oblique (Obl.), and Object of Comparison (Ocomp) are not relativizable. These three positions are therefore marked with asterisks in their paper. However, the
following sentences indicate that Yoruba relativizes all positions:

(1) Ọkùnrì̀n tí ń ṣà ra aṣọ tì dè
man that he bought cloth has come
'the man who bought the cloth has come'

(2) aṣọ tì Ọkùnrì̀n nàà rà dára
cloth that man the bought good
'the cloth that the man bought is nice'

(3) Ọmọ tì Ọkùnrì̀n nàà rà aṣọ fún tì dè
child that man the bought cloth for has come
'the child that the man bought the cloth for has come'

(4) àdá tì mo fì gè igi mú
cutlass that I with cut tree sharp
'the cutlass that I cut the tree with is sharp'

(5) ìnà tì mo gbé gbè kà tì kú
fire that I put soup on has died
'the fire on which I put the soup is dead'

(6) obìnrì̀n tì awọn olè gbé móto rè tì kú
woman that plural thief took car her has died
'the woman that thieves stole her car has died'

(7) obìnrì̀n tì Ọkùnrì̀n nàà ba lọ tì dè
woman that man the with go has arrived
'the woman that the man went with has arrived'

(8) Ọmọ tì Ọkùnrì̀n nàà ga jù tì dè
child that man the tall exceed has arrived
'the child that the man is taller than has arrived'

The examples (1) to (8) illustrate the full range of constituent types that can be relativised: (1) is an example of a subject being relativised; (2) is that of direct object; (3) is an indirect object; (4), (5), and (7) are obliques; (6) is a genitive; (8) is object of comparison. The three positions which have been a subject of dispute are the indirect object, oblique, and object of comparison. Keenan and Comrie for instance do not regard the Yoruba RC like (3), (4), (5), (7), and (8) as instances of IO, Oblique, and OComp con-
structions respectively. Therefore these positions are marked with asterisks in their table of relativisable positions. Their reason is that the words funeral, ba, ka, and ju which precede the relativised NPs are verbs in serial verbal constructions and not prepositions. If their interpretation is correct the implication is that the NPs which are complements to these words would be direct objects. Thus there would be no special IO, Oblique, and OComp constructions in the language. We consider Keenan and Comrie's claim to be valid only in the case of the OComp position (8). The word ju in (8) is in all respects a verb. However, this is not the case with the words funeral, ti, ka, and ba in (3), (4), (5), and (7) respectively.

It is true as some linguists have said, that these words were historically verbs, and it is this which probably influenced Keenan and Comrie in their analysis. However, the concern here is not and should not be with the diachronic status of these words. What is at issue here is the present status of these words, and linguists are now reanalysing these words as prepositions or case markers. An explicit account of the present status of these words can be found in Awobuluyi [1978] and Lawal [1986] amongst others and will not be discussed here.

3. Pronoun Retention and the Continuous Segment Principle

According to the Continuous Segment Principle quoted in section 1 above, a given RC-forming strategy can be used to relativise only continuous segments of the accessibility hierarchy. For example, if a language has two relativisation strategies, a case coding strategy and a non-case coding strategy, and if the case coding strategy is used to relativise only subjects, indirect objects, and Obliques, this would in effect leave a gap, i.e. the direct object position relativised by a different strategy would destroy the continuity.

Case is coded either by means of a personal pronoun or a stranded preposition within the relative clause. Now consider the Yoruba RCs below:

(9) bàbá [tí o ra bátá]
father that he bought shoes
'father who bought shoes'
Starting with (9) we can see there is no missing subject in the RC. The relativized constituent which is subject is represented in the RC in the form of a personal pronoun. In (10) on the other hand the relativized NP which is a direct object is not represented in the RC; the NPrel has been deleted. The same applies to all the other positions except the genitive position (15) where the NPrel is pronominalised. We have decided to leave out example (16) in this analysis because we agree with Keenan and Comrie that it is not a true object of comparison. The NPrel here has the status of a direct object.

Now the indication from this analysis is that Yoruba has two strategies, a case coding strategy (pronominalisation) for subjects and genitives and a non case coding strategy (deletion) for direct objects, Indirect Objects, and Obliques. In the latter, there is no nominal element in the RC that clearly ex-
presses which NP position is being relativized.

This strategy appears to constitute a counterexample to the Hierarchy Constraint. When we subject it to the Continuous Segment Principle the RC forming strategies in Yoruba do not operate on a continuous segment. It shows a gap along the segment of the hierarchy brought on by the use of a different strategy for direct objects, indirect objects, and obliques.

The Yoruba data can also be interpreted in another way, i.e. depending on how we interpret the notion "case coding". If we take case coding to include stranded prepositions as some linguists do, then Yoruba RC strategy can be said to be case coding for all positions except the direct object. The stranded prepositions in this case are fun, fi, ka, and ba. Whichever interpretation we choose, the implications appear to be the same, which is that there is a gap along the segment. With this second interpretation the gap would be brought on by the use of a different strategy for direct objects which is second on the accessibility hierarchy.

We shall in this paper adopt the first approach, which means case coding for subjects and genitives and non-case coding for all other positions viz, direct objects, indirect objects, and obliques.

This violation of the Continuous Segment Principle in Yoruba was noticed earlier by Keenan and Comrie themselves. To explain the "violation" Keenan and Comrie [1977] claimed that the pronoun found in Yoruba subject RC is not a pronoun at all but a case of agreement. This in effect would mean that subject, direct object, indirect object, and oblique positions are all non-case coding. Only the genitive which is lowest on the Yoruba hierarchy would then be case coding, thus preserving the continuity.

4. The Case Against the Pronoun o as an Agreement Marker

We disagree with the claim that the pronoun in subject relatives is an agreement marker. Firstly, there is no evidence that supports such a claim. For instance, Hausa, with which Keenan and Comrie by implication compare Yoruba, is very much unlike Yoruba. Yoruba for example does not retain a full pronoun in simplex sentences with a subject NP as Hausa does. Thus the following are unacceptable in Yoruba:
Yoruba Relativisation

(17) a. *Olú ó wá
Olu he came
(18) a. *bàbá ó lọ
father he went

The correct sentences are as follows:

(17) b. Olú wá
Olu came
(18) b. bàbá lọ
father went

Compare the above with an equivalent sentence in Hausa:

(19) a. Musa ya zo
Musa he came
b. *Musa zo
Musa came

Secondly, there is no evidence of full subject NPs accompanied by Clitic pronouns in Yoruba as justified in Givón [1976]. The pronoun present in Yoruba subject RC is a full pronoun, not a Clitic. This is illustrated with the sentence below:

(20) ó ra bàtà 'he/she bought shoes'
he/she bought shoes
(21) ó n sùn 'he/she is sleeping'
he/she prog sleep

The analysis used for Hausa and ergative languages like Tongan does not work for Yoruba.

Another linguist who also disagrees with Keenan and Comrie is Stalhke [1976]. Stalhke is of the opinion that the element ó found in Yoruba subject RC is not an agreement morpheme as claimed by Keenan and Comrie. Stalhke argues that this ó occurs with both plural and singular subjects in focus constructions. His examples are reproduced as (22a-d) below:

(22) a. ëmi ni ó lọ 'it is I that went'
I emph he/she went
b. 1wọ ni ó lọ 'it is you that went'
you emph he/she went
c. àwa ni ó lọ  'it is we that went'
  we emph he/she went

d. àwọn ni ó lọ  'it is they that went'
  they emph he/she went

Stalhke argues that if ó were an agreement morpheme, this would be difficult to explain. As he says, "It would mean claiming that the third person singular pronoun can agree with any other person/number combination." Such a claim, he points out, cannot be supported from any other area of Yoruba syntax, for example, plural examples are ungrammatical with just number agreement.

Consider the examples below from Stalhke:

(22) e. *èyin ni ó lọ  
  you (Pl) emph they went

f. *àwa ni wón lọ  
  we emph they went

The above are ungrammatical because there is no person agreement. The pronouns must agree both in number and person. Stalhke's conclusion therefore is that ó is not an agreement morpheme.

Although Stalhke's argument is against ó as an agreement marker, it also seems to be an argument against ó as a subject pronoun. Stalhke states, "It would be an odd subject pronoun which remained constant across this set of sentences."

According to Stalhke, ó is neither a subject pronoun nor an agreement morpheme. But what is it? Unfortunately, Stalhke does not seem to have an answer. That ó is a full subject pronoun is not in doubt as it occurs in simple sentences like ó ra bátà fún mɪ 'he bought shoes for me'. It is its status in RC that is in doubt.

Apart from RC there is only one other construction in which a pronoun follows a full subject NP. This is focus construction. This has been used as evidence in favour of analysing ó as an agreement morpheme. However, it should not be surprising that the ó occurs also in focus constructions. Studies have shown that many languages employ the same strategies for both focus formation and RC formation [Schachter 1973, Madugu 1982]. In all the languages ex-
Yoruba relativisation examined by Schachter, the rules for forming RC and focus clauses are alike with regard to such details as the substitution of an appropriate personal pronoun for one of the NPs in the sentence or the insertion of an invariant marker at the beginning of the clause and an optional deletion of the relative pronoun in certain cases.

Yoruba is no exception in this regard. Thus, to form focus clauses in Yoruba the same rules as used for relative clauses are employed, except that the markers inserted at the beginning of the two clauses are different: the focus marker is ni while the relative marker is ti. The following examples illustrate this.

(23) a. ọrẹ mi ńi ó ra bàtà (Subject RC)
friend my emph he bought shoes 'it is my friend that bought shoes'

b. ọrẹ mi ni ó ra bàtà (Subject focus)
friend my emph he bought shoes 'it is my friend that bought shoes'

(24) a. ọrẹ mi ńi mo rí (Object RC)
friend my emph I saw 'it is my friend that I saw'

b. ọrẹ mi ni mo rí (Object focus)
friend my emph I saw 'it is my friend that I saw'

(25) a. ọrẹ mi ńi mo ra bàtà rè (Genitive RC)
friend my emph I bought shoes her 'it is my friend whose shoes I bought'

b. ọrẹ mi ni mo ra bàtà rè (Genitive focus)
friend my emph I bought shoes her 'it is my friend whose shoes I bought'

(26) a. ọrẹ mi ńi mo ga jù (OComp RC)
friend my emph I tall pass 'it is my friend that I am taller than'

b. ọrẹ mi ni mo ga jù (OComp focus)
friend my emph I tall pass 'it is my friend I am taller than'

Just as in the RC, a pronoun is retained when Subject NP and Genitive NP are being focussed, while all other positions do not retain pronouns. These similarities between focus sentences and RC correlate with their semantics: both constructions are said to have a common semantic property which is "foregrounding of one part of a sentence at the expense of the rest" [Schachter 1973]. Evidence based on a comparison with focus sentences in the language does not therefore constitute independent evidence for the pronoun as an agree-
ment marker. It would be odd if the pronoun were to be absent in focus constructions since the same strategy is employed for both constructions. Before we conclude this section we want to draw attention to another type of subject relativization which constitutes additional evidence against the pronoun ọ as a case marker. Contrast the (a) sentences below with the (b) sentences:

(27) a. iwo obinrin ti ọ gbọ ọjọ ọjọ you woman that she hears English 'you woman who understands English'
   b. iwo obinrin ti ọ gbọ ọjọ you woman that you hear English 'you woman who understands English'

(28) a. awa obinrin ti ọ gbọ ọjọ we women that she hear English 'we women who understand English'
   b. awa obinrin ti a gbọ ọjọ we women that we hear English 'we women who understand English'

(29) a. awọn obinrin ti ọ gbọ ọjọ them women that she hear English 'those women who understand English'
   b. awọn obinrin ti ọn gbọ ọjọ them women that they hear English 'those women who understand English'

(30) a. eyin obinrin ti ọ gbọ ọjọ you (pl) women that she hear English 'you (pl) women who understand English'
   b. eyin obinrin ti ọn gbọ ọjọ you (pl) women that you (pl) hear English 'you (pl) women who understand English'

In the (b) sentences we have the full range of pronouns, i.e. we have 1st, 2nd, and 3rd persons as heads of the RC, and the pronouns agree in number and person with their antecedents. This is unlike the (a) sentences where the 3rd
person singular pronoun ́ó is used for all persons and number. The fact that the surface subject in the (a) sentences of (27-30) does not need to show agreement even strengthens the claim that the pronoun ́ó is not an agreement or case marker.

4. The Status of the Pronoun in Subject Relatives

To account for the pronoun ́ó in subject relatives it is necessary to examine the facts of the language. Perlmutter [1970] observed that for various reasons a class of surface structure constraints or input conditions must be available as one of the devices used by grammars to delimit the class of grammatical sentences, in other words, all languages have certain well-formedness conditions which determine which sentences are well formed and which are not. English for instance, is said to have such a constraint, which can be stated, "No non-imperative sentence which does not have a subject in its surface structure is well formed." This is a surface structure constraint about English.

Yoruba like other languages has surface structure constraints. One such constraint is that "no top-most sentence in Yoruba may be verbless." Another is "no tensed sentence or clause may be subjectless" [Lawal 1985]. We must note, however, that this constraint does not apply to negative sentences where the subject is a 3rd person pronoun. In Yoruba when the 3rd person subject pronoun of a sentence comes in contact with the negator ́kó, the pronoun gets elided. However, the sentence would still be understood as containing a subject, even though the subject no longer has an independent existence. The subject pronoun more or less fuses with the negator ́kó. Such sentences cannot in fact be said to be subjectless. The following is an example of this construction:

(31) ́kó pa ́á 'he/she didn't kill it'
    he/she not kill it

The negator ́kó incorporates the subject. Thus the sentence cannot be interpreted as being subjectless. This phenomenon is restricted to the negator ́kó only. Thus (32) is ungrammatical:
We can now account for the pronoun in subject RC. The pronoun is there to satisfy the above Yoruba surface structure constraint and has nothing to do with the underlying strategy for relativization. It simply obscures the underlying strategy of deletion of the coreferential NP, the same strategy as used for direct objects.

5. Conclusions

We have shown firstly, that Yoruba relativizes all NP positions and secondly, that Yoruba obeys the Continuous Segment Principle. The pronoun in subject RC is a surface structure phenomenon which obscures the underlying strategy for relativization.
REFERENCES


Proximity is the key concept for understanding a speaker's choice of Swahili demonstrative forms. The alternative approach in Leonard [1985] that proposes a speaker's concentration of attention as the key concept overlooks significant aspects of text structure. Proximity must not be conceived of, as does Leonard, only in terms of spatial distance between the speaker and a referent. Temporal, narrative, and anaphoric distance must also be considered.

Leonard [1982, 1985] is the first in-depth study of the Swahili deictic system and one of the few studies of Swahili grammar to be done from a discourse perspective. He argues that the choice between H, e.g. hii 'this', H-o, e.g. hiyo 'this/that', and LE, e.g. ile 'that', demonstratives in Swahili basically depends on the "noteworthiness of" or the "relative concentration of attention on" a referent rather than, as in traditional analyses, on the (non-)proximity of the referent to the speaker. The most noteworthy referents, he claims, will tend to be referred to with H forms, less noteworthy referents with H-o forms, and the least noteworthy with LE forms. Since new items catch one's attention more than old, he then argues, one would expect that new items will tend to be marked by H while old items will tend to be marked by LE. He claims that a statistical analysis of four chapters randomly selected from five novels indicates this H-for-new and LE-for-old tendency.

In this paper, I will reexamine three chapters (two different authors)

*I wish to thank Mark Huddleston for his helpful comments on an earlier draft of this paper.*
that Leonard [1985], hereafter referred to as L, used for his statistical analysis and argue that proximity is indeed the key criterion for determining which demonstrative form will be used. Like L, I will limit my analysis to that of the H and LE forms.

1. Varying Discourse Distances

The seventh chapter of Abdulla's [1960] *Mzimu wa Watu wa Kale* (MZ) is entitled "Mfuko Mweusi" ("A Black Purse"). Thus, it is immediately evident what one of the key props in the chapter will be. L's "Concentration of Attention" (COA) hypothesis would predict that mfuko 'purse' will be most frequently referred to by the H demonstrative huu since there will be high COA on the referent. However, his "New v. Old Information" (N/O) hypothesis makes the opposite prediction that mfuko will be most frequently referred to by LE since, after the first reference, it will be "old" information. L pays little attention to the conflicting predictions of these hypotheses.

A purely quantitative analysis of the demonstratives used with mfuko and the chapter's other key prop karatasi 'piece of paper [found in the purse]' reveals no significant difference in the use of the demonstratives:

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>mfuko</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>karatasi</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 1: Demonstratives with key props (MZ, ch.7)

However, closer attention to the organization of the text reveals a categorical difference between the narrator's use of H and LE that is predicted by neither COA nor N/O. The rule is simply this: whenever mfuko or karatasi is referred to by the narrator, he uses the LE form; whenever either of the two is referred to by a character, the character uses the H form:

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrator</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Character speaking</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 2: Narrator v. characters' use of demonstratives (MZ, ch.7)
Explaining this difference in terms of COA, one would have to argue that the narrator has "low concentration" on the props whereas the characters have "high concentration". This is unsatisfactory, especially in light of the title assigned by the narrator to the chapter. N/O is also unsupported since the use of the demonstrative here has nothing to do with whether or not the associated referent is mentioned for the first time.

A better explanation is that the narrator's use of LE corresponds with his lack of participation in the scene and, thus, his referring to the objects from a narrative distance (third person voice rather than first person in which this distance would not be as consistently kept). In contrast, the characters use H to refer to objects in their immediate presence.

This distinction between the narrator's and the characters' use of demonstratives is maintained throughout the chapter. In reference to items other than the purse and the paper, characters use LE only when referring to an event or object of a past speech situation that the narrator separates from the present situation by means of a chapter division. Conversely, the narrator uses H only in (1) and in a structure which signals the immediate temporal proximity of two events (2).

(1) upande huu na huu
   side this and this

(2) CLAUSE + na + huku + CLAUSE\(^1\)
   and here

In (1), the coupling of demonstratives conveys the same idea as the English "this (side) and that". In (2), a construction frequently used by Abdullah, huku is used to signal that the event referred to in the second clause overlaps with, or immediately follows, the event mentioned in the first clause of the sentence.

The above analysis supports the traditional one which distinguishes between

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\(^1\)For example, ...alisema hivyo na huku anawasha toza yake... (MZ,26) '...he said this while lighting his pipe...'
H and LE forms in terms of proximity/non-proximity (P/NP). However, it also shows that P/NP must not, in contrast to L's presentation, be considered only in relation to spatial distances but also in relation to temporal and discourse distances.

With this expanded concept of P/NP, all uses of H and LE in MZ's ninth chapter can also be accounted for. The initial distinction between the demonstratives can be made as in Table 3:

<table>
<thead>
<tr>
<th>Narrator's uses</th>
<th>Characters' uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>LE</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>36</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 3: Apportionment of demonstratives in MZ, ch. 9

To be explained are the narrator's six uses of H and the characters' nine uses of LE.

The characters' uses of LE are readily accounted for in terms of spatial and temporal non-proximity. Eight of the nine LE forms are used to refer to a person with whom the two main characters were speaking earlier but from whom they are now separated as they talk about him. The other LE is used to refer to an action of that person (observed by the characters while with him but talked about now that they are separated from him).

Two of the narrator's six H forms occur in the na huku structure mentioned above. Two others occur in the adverbial phrase hivi sasa 'right now; immediately'; like na huku, this phrase signals close temporal proximity of two events. This leaves only the following two occurrences of H to be explained:

(3) Bali safari hii... (MZ,42)
    'But, this time (lit., this trip)...

(4) Mlango wa kutokea haukuwa mdogo kama wa kwanza walingilia. Upande huu ulikuwa mkubwa... (MZ,39)
    'The door for going out was not small like the first one through which they entered. This side was large.'
In both (3) and (4), the H is used to contrast one referent with another that is spatially and/or temporally removed from the present narrative situation.

Table 3 can now be revised as Table 4 to make the distinction between H and LE, as used by Abdullah, even clearer:

<table>
<thead>
<tr>
<th></th>
<th>Non-Proximity</th>
<th>Proximity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Narrator</td>
<td>Characters</td>
</tr>
<tr>
<td>Distanced</td>
<td>Refer to items outside present speech situation</td>
<td>Indicates spatial/temporal prox. of one referent cf. to another</td>
</tr>
<tr>
<td>from</td>
<td>(3rd pers.)</td>
<td></td>
</tr>
<tr>
<td>characters</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LE</td>
<td>36</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 4: Demonstrative allocation with respect to P/NP (MZ, ch. 9)

In sum, all but one of the ninety-four occurrences of H and LE in MZ's chapters 7 and 9 have been accounted for in terms of spatial, temporal, and narrator vs. character P/NP. We shall now consider a different writer's use of demonstratives and see that yet another type of discourse distance may be involved in determining the choice of demonstrative forms.

2. Anaphoric Distance

L (p. 283) points out that "the supposed 'proximate' is used to refer to a location that is quite distant from the speaker" in (5), a passage from Kezialahabi's Kichwa Maji (KM).

(5) Upande mashariki niliweza kuona nyumba ya Baba iki-tokeza juu ya miti. Nilikumbuka kwamba hapa mto-toto alikuwa akizaliwa. (KM,88)

'In the East I could see father's house sticking out above the trees. I remembered that there a child was being born.' (L's translation)

L argues that H is used to refer to the location where "the pivotal incident₂ huku na huku, mentioned above.

³ Hapa is usually translated 'here' but L translates it 'there' in this instance to reinforce his point about the spatial distance between the speaker's location and the house.
of the whole novel" is occurring and thus the speaker is giving it a high degree of attention (p. 284). Similarly, he quotes a paragraph in which the first reference to a group of cows is with LE but the subsequent two references are with H. He concludes: "... at first the narrator views the cows with no special interest and refers to them with LE... But when he sees them as being directly related to a central concern, he refers to them with H" (p. 285).

However, on the page in KM following the scene concerned with the group of cows, there is a parallel passage where the use of the demonstratives is not consistent with the COA prediction:


Nilichukua kiljiti kilogo sana ambacho kwacho nilimtoa yule nyuki majini.... Kwa huyu mdudu nilikuwa na nguvu ambazo hazwezí kufahamika. (KM,88)

'On the rock I saw a puddle of water. In this water I saw a bee, which had fallen in, swimming.... At first I was happy to see this insect struggling for life.... I saw myself as a little god. I again looked around; children, houses and trees, all were beneath me.

I took a twig which I used to take that/the bee from the water.... For this insect, I had incomprehensible powers.'

The bee, like the group of cows, is focused on by the narrator as he develops his philosophical musings. But, the demonstrative form changes from H to LE to H while the concentration of attention remains constant.5

In all of the above-mentioned passages, however, H is used when the referent of the NP it modifies has been referred to in the preceding sentences of

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4H is used with maji 'water' even though the concentration of attention seems to be on the bee rather than the water. It might be argued that COA is high for both. But such argumentation points to another major weakness of the COA hypothesis: no objective criteria are given for determining the degree of COA on a referent.

5N/O cannot explain the choice of demonstratives since "bee" is already old information when H is used for the first time and H is used again after the switch to LE.
the same paragraph. In (6) and in the passage concerning the cows, LE is used when the referent of the NP has been referred to most recently in a previous paragraph. Throughout the chapter, the demonstratives tend to be distributed in this way, as Table 5 shows.

<table>
<thead>
<tr>
<th>Anaphoric tie within paragraph</th>
<th>Anaphoric tie across paragraph boundaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>35</td>
</tr>
<tr>
<td>LE</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

Table 5: Demonstrative forms related to anaphoric distance (KM, ch. 6)

The notion of proximity/distance is again central to understanding the use of the demonstratives here, but rather than temporal, spatial, or narrator-character distance, the relevant factor here is textual distance, the distance between an anaphor and the item to which it points.

3. Demonstratives and Discourse Style

As well as indicating the relevance of textual proximity to demonstrative form, Table 5 shows that the large majority of anaphoric references in KM's chapter 6 are H. This is contrary to the prediction of N/O that LE will tend to be used if the referent has been previously mentioned. It also indicates that the use of demonstratives in KM is different from their use in the other novels analyzed by L for his statistical correlation between the choice of demonstrative form and whether or not the associated referent was mentioned for the first time (p. 288). In KM's chapter 6, 80% of the anaphoric references are made by H (in KM's first two chapters, the percentage is about the same); but, according to L (p. 288), in four chapters (including KM's ch. 6) from three different novels, only 38% of anaphoric references are H. Subtracting the KM entry from this total, the figure will be 11%. L did not consider the possibility of stylistic differences in the use of demonstratives, which this

\[6\] See Appendix A for a discussion of the exceptions.

\[7\] The concepts of textual distance and anaphoric ties are discussed in detail in Halliday and Hasan [1976].
statistical disparity indicates.

In MZ, as we have seen, the narrator's distance from the characters is more determinant of demonstrative form than anaphoric distance; in reference to the key props of MZ's chapter 7, the narrator always uses LE even though the same prop has been mentioned earlier in the paragraph, e.g. MZ, p. 25. This difference between the MZ and KM uses of the demonstratives may be due to the difference between third person (MZ) and first person (KM) narrative style; a general difference in discourse style of the two different authors; and/or the differing strength of various rules in determining which type of discourse distance (temporal, spatial, narrator vs. character, or anaphoric) is most salient.

4. Physical Distance and Demonstrative Form

L claimed that "throughout modern Swahili novels and plays we regularly encounter referents of H and LE in locations opposite to those indicated by the traditional hypothesis" (p. 283). Although this was a key argument for proposing an alternative hypothesis to account for the Swahili demonstratives, L only supported it anecdotally with two examples (both referred to in Section 2, first paragraph, above) in which factors of textual distance, though relevant, were not considered. L's quantitative statement, however, can be quantitatively tested. To do so, it is best to focus on the exophoric references of quoted speech, in which temporal and spatial factors of the speech situation are most salient, in order to avoid complicating factors such as narrative voice and anaphoric distance that affect the form of endophoric references.

We have already observed that the MZ characters used H only for referents in their immediate speech situation and LE only for those removed from their immediate speech situation (23 H, 13 LE occurrences in chs. 7 and 9). A listing of the thirty-five H/LE demonstratives used in the quoted speech of characters in KM, throughout three chapters, indicates that here, too, there is a 100% correlation between H and spatial/temporal proximity of the referent and between LE and non-proximity (see Appendix B).

5. Conclusion

The above analysis opposes L's claim that P/NP "can only account for a small part of the distribution of [Swahili demonstrative forms] in actual
texts" (p. 281). It also shows that various discourse, as well as spatial and temporal, distances play an important role in the choice of the demonstrative form. Statistical counts based on P/NP account for a much greater amount of material than L's tally based on O/N (p. 288).  

Some issues for further research are discourse restraints on the positioning of the demonstratives (they may occur either before or after the head noun); the discourse function of H-O; whether or not one type of discourse distance is consistently more determinate of the demonstrative form than others; and stylistic differences between authors in their use of the demonstratives.

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8This O/N tally is of questionable value anyway since it does not distinguish between endophoric and exophoric references.
APPENDIX A

Table 5 (Section 2) shows that, in KM's chapter 6, there are two exceptions each to the rule that within-paragraph anaphoric ties are made with H while cross-paragraph ties are made by LE. These exceptions are listed and briefly discussed below.

**Cross-Paragraph tie but H form**

(a) "...Jina "Furaha" ambalo ni neno jingine la adhabu. Hi ni adhabu ambayo...." (p. 94)

'...The name "Happy one" which is another name of punishment.
This is a punishment which....'

(b) Baada ya siku hizi tatu...

'After these three days....'

In (a), the cross-paragraph tie is between the last word of the preceding paragraph and the first one of the new paragraph. There are no LE cross-paragraph references in which the tie is as close as this (in chs. 1 and 2, as well as 6).

In (b), the H appears in the first NP of the paragraph whose aperture parallels those of the preceding two paragraphs:

- Kwa muda wa siku tatu... 'For a period of three days....'
- Baada ya siku tatu... 'After three days....'
- Baada ya siku hizi tatu... 'After these three days....'

Here, the H seems to be used to signal temporal proximity as well as anaphoric relationship. The events to be reported in the third paragraph immediately follow after the three days mentioned in the first paragraph and overlap with the events mentioned in the second paragraph. There are no days intervening between the first period (of mourning) and the second (when villagers offer beer to the family of the deceased).
Within-paragraph tie but LE form

(c) Labda mwanadamu anaweza kusema kwamba kuna mwenye uwezo zaidi kuliko yule tunayemfikiria kuwa Mungu. Lakini kama ni vile tutakwenda nyuma mpaka wapi? (p. 89)

'Maybe even a human can say that there is one having more power than the one whom we consider to be God. But if it is that, how far back will we go?' (the conditional clause could be less literally translated: "But if such is the case" or "But if it is so").

(d) ....nilitazama nyuma. Nillo na girl in trouble/.... Nilitkimbia mara moja kwenda kumwokoa huyu msichana... Nlipofika pale mahali sikuju la kufanya. (p. 90)

'....I looked back. I saw /a girl in trouble/.... I ran right away to go and save this girl... When I arrived at that place, I did not know what to do.'

In KM's ch. 6 (also, chs. 1,2), vile 'like that, so, thus' is used in reference to abstract ideas or generalizations while the H form hv!l is used in reference either to a specific event/item or to an approximate measure of space or time. For example:

Kalia, why have you done this/ hv!l ? (p. 90)
    Referent: attempted rape of a girl

When he finished saying this/ hv!l ... (p. 90)
    Referent: speech reported by direct quote

...about/ hv!l fifty paces... (p. 98)

...matters concerning girls have gotten into you such/ vile that you have forgotten the people of your house. (43)

We humans are created so/ vile that we trust in things of the future more than those of the past. (p. 93)

It may be that this semantic distinction between vile and hv!l is more determinate of the form than anaphoric distance; thus, vile is used in (c).

In (d), the use of the LE form provides a from-behind perspective of the narrator's movement from one place to another. He has the reader watch him as he runs from the rock to go to the new scene of action rather than see him from in front as he comes to the action. Thus, it seems, here, that the deci-
sion to signal the physical spatial relationship of one referent to another takes precedence over the choice to signal anaphoric proximity.

Note the difficulty of analyzing (c) and (d) in terms of COA. In (c), the referent of *vile* is the startling implication of a parable from nature (see (6)) which, when thought about, caused the narrator's head to hurt. In the paragraph containing (d), the narrator's concentration of attention on *pale mahali* 'that place' continually increases up to his arrival there.

I heard someone crying out... I immediately stood up so that I could hear better where the voice came from. When I heard the voice a second time I looked back. I saw the girl.... I saw only the grass being moved.... I ran...to go and save her... When I arrived at *that place*... (p. 90)
APPENDIX B

The following lists the occurrences in KM's chapters 1, 2, and 6 of the H and LE demonstratives (with their corresponding head nouns, if explicit) which are used in quoted speech to refer to a physical location or time period. In the right hand column is the English translation of the context in which the demonstrative appears (the translation of the demonstrative is in italics). The "Proximate/Non-proximate" columns (P, N-P) indicate the correlation between demonstrative form and (non-)proximity.

<table>
<thead>
<tr>
<th>Page</th>
<th>Demonstrative</th>
<th>P</th>
<th>NP</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>humu</td>
<td>H</td>
<td></td>
<td>He comes in here /where the speaker is located/ with a stick! He thinks there's a war in here!</td>
</tr>
<tr>
<td></td>
<td>humu</td>
<td>H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9a</td>
<td>hapa</td>
<td>H</td>
<td></td>
<td>These things did not bring me here /to the office in which we are speaking/ .</td>
</tr>
<tr>
<td></td>
<td>hapa</td>
<td>H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>humu</td>
<td>H</td>
<td></td>
<td>You will be the last one to come in here /where we are speaking/ .</td>
</tr>
<tr>
<td>c</td>
<td>siku hizi</td>
<td>H</td>
<td></td>
<td>Where are you these days?</td>
</tr>
<tr>
<td>10</td>
<td>muda wote huu</td>
<td>H</td>
<td></td>
<td>For all this time /that we have been together in this room/ you hadn't recognized me /until I came up to introduce myself/ .</td>
</tr>
<tr>
<td></td>
<td>siku hizi</td>
<td>H</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>siku hizi</td>
<td>H</td>
<td></td>
<td>Where are you these days?</td>
</tr>
<tr>
<td>12</td>
<td>shimo hili</td>
<td>H</td>
<td></td>
<td>These days I'm working.</td>
</tr>
<tr>
<td>15</td>
<td>siku hizi</td>
<td>H</td>
<td></td>
<td>When they came up to me, I said &quot;This hole /that you see here/ is so deep...&quot;</td>
</tr>
<tr>
<td>25</td>
<td>siku hizi</td>
<td>H</td>
<td></td>
<td>You don't see people these days?</td>
</tr>
<tr>
<td></td>
<td>hapa</td>
<td>H</td>
<td></td>
<td>My heart is not happy these days.</td>
</tr>
<tr>
<td>27</td>
<td>Huku</td>
<td>H</td>
<td></td>
<td>When you brought me here /where I am writing this letter/ ...</td>
</tr>
<tr>
<td>30</td>
<td>mwaka huu</td>
<td>H</td>
<td></td>
<td>You would have been better off staying there. Here, you have brought yourself into danger.</td>
</tr>
<tr>
<td>32</td>
<td>Hili</td>
<td>H</td>
<td></td>
<td>The oranges have ripened; this year /in which we are/ , very many!</td>
</tr>
<tr>
<td></td>
<td>hapa</td>
<td>H</td>
<td></td>
<td>This /letter I have with me/ here, you can read</td>
</tr>
</tbody>
</table>
Context

The young people of these days!

When you were travelling to come here /the area in which we are speaking/ , you did not get to see her?

She is there/place away from, not visible to, speakers/ (X2)

A: She said /she would be at/ that place of yours.... She said don't take long.
B: Thank you... I'll go right now.

...because Mama is keeping a close eye on me these days.

A: You're going which way?
B: By here.

A: I'm going this way/here.

He picked up one of my books from off the table and took out a letter. "This is your letter" /he said/.

Since you don't know the news of the house here /in which we are speaking/ , I'll tell you.

Kazimoto, since you have arrived here, your relative has refused to eat.

You know that we were brought here /where we now live and are speaking/ by the government.

It's possible that even now they are here listening to us.

These days they have ceased...

A: "There!" He showed us three cows.
B: "Let's go /to where they are/ ; we'll help you.

Stand in this area so that they /the cows/ won't go back there /from where we just brought them/.

A homestead was visible ahead of us. "If I kill him here /where we are now/ , that homestead /the people of it/ will hear," I said to myself.
REFERENCES


RESPONSE TO WILT, "DISCOURSE DISTANCES AND THE SWAHILI DEMONSTRATIVES"

Robert Leonard
Friends World College

1. Introduction

Wilt's analysis [in this issue] appears at first to account for significant portions of the Swahili data. But on examination we see that each of the rules he posits can account for only a sharply limited set of data. Each fails to account for a wider range of data. Swahili demonstratives H and LE have traditionally been analyzed to mean "proximity" and "non-proximity", respectively. However, this analysis—both prior to Wilt and in Wilt's hands—leaves much unaccounted for.

The "attention" hypothesis, presented in my 1985 paper\(^1\) and disputed by Wilt, is better able to account for the Swahili data. This hypothesis posits that H and LE have meanings that deal with a speaker's relative concentration of attention on a referent: H signals relatively HIGH Concentration of Attention and LE signals relatively LOW Concentration of Attention. This hypothesis can not only explain all data accounted for by the traditional "proximity" hypothesis, but can also explain data that the traditional hypothesis cannot. For example, the proximity hypothesis can explain data in which H refers to items that are in fact proximate to the speaker. Such items do tend to be referred to with H (and this is presumably what historically led analysts to posit "proximity" as the invariant meaning of H).

Proximate items, however, are but a subset of items that tend to be worthy

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\(^1\)Note that although Wilt lists my 1982 dissertation in his bibliography, he seems to refer only to the short 1985 paper. I refer the reader to the dissertation for a fuller treatment of the attention hypothesis (and the proximity hypothesis). Other recent works that call into question the usefulness of the notion "proximity" in the analysis of deictics are Hanks [1984, 1986].
of higher attention. It is a fairly common occurrence that other items, for example ones that are thematically important, will overshadow the proximates. In such cases H may be used to refer to something that is not proximate, or perhaps whose position cannot even be determined. The operant variable is not proximity but the relative amount of attention the speaker wants the hearer to focus.

The reason proximates are so often referred to with H is because humans are egocentric and tend to view their own environs and experiences as noteworthy and important. Thus proximate items, which have a greater possibility of interaction with the speaker, and a greater frequency of interaction, will indeed tend to be referred to with H. But this higher attention is attached to nearby items not because of their relative closeness but because of the importance that often comes as a consequence of relative closeness. Yet by no means do all proximate items accrue importance. It is crucial to realize that most nearby items are not referred to at all; this alone would make it rather difficult to argue that sheer proximity can cause reference by H.

The difficulties with Wilt's specific suggestions are discussed in the following sections. It is my belief that the attention hypothesis remains superior in explaining the actual usage of H and LE.

2. Wilt Neglects Data that Run Counter to his Hypotheses

2.1. Wilt's physical/temporal proximity hypothesis. Wilt's Appendix B is a table that purports to show that there is an absolute correlation between Proximity and H and Non-proximity and LE in quoted speech in KM chapters 1, 2, and 6. Wilt says (p. 88) that he presents "a listing of the thirty-five H/LE demonstratives used in the quoted speech of characters in KM, throughout three chapters" and that it shows "a 100% correlation between H and spatial/temporal proximity of the referent and between LE and non-proximity". Although the caption (p. 93) states that the table lists examples of H and LE from quoted speech that "refer to a physical location or time period", Wilt lists non-place referents as well as ones that are themselves places or times, e.g. 'this hole', 'this...letter', 'that homestead', as well as 'here', and 'these days'. He organizes these data into a table that shows all examples of H in
the proximate column, all LE in the non-proximate.

However, Wilt neglects to include counterexamples. Following is a para-

graph containing two examples of the H demonstrative of which Wilt includes

only one in his table.

(1) Counterexample not listed by Wilt: H-Sorcerers are distant

(Their importance merits H.)


"'Kazimoto,' Kabenga began talking to me, "maybe H-sorcerers visit upon us at night, today my back hurts me." I didn't reply. "It looks like they are afraid of you," he continued. I didn't reply. "H-days they have stopped causing trouble.'"

Wilt lists 'H-days' and enters its H demonstrative in the "proximate" col-

umn as 'these days'. But inexplicably he does not list 'sorcerers' in his ta-

ble of examples.

Notice the passage makes clear that the sorcerers, referred to with H, are not proximate in either place or time, a clear counterexample to the phy-

sical or temporal proximity hypothesis.

The sorcerers, further, are a very clear counterexample to Wilt's anaphor-
ic proximity rule that states "within-paragraph anaphoric ties are made with H" (p. 90). By that measure, H-sorcerers are not even remotely proximate in

"anaphoric distance" for there is no prior reference in the preceding sen-
tences of the same paragraph. The passage about the sorcerers is itself the begining of the second paragraph of chapter 6. No mention of the sorcerers is made even as "proximately" as in the chapter's first paragraph, nor is men-
tion made even in the preceding chapter. Yet reference is made with H.

These sorcerers are of great concern to the novel's characters throughout the book; they are worthy of the characters' attention whether or not they are physically near and whether their most recent prior mention is made on one side or the other of a paragraph boundary. They are thus referred to with H.

I find two other, less striking, counterexamples that Wilt also neglected
to list. The first, mchezo huu [KM 18] 'H-play' is not occurring at the moment of speaking, but it will presently, and the speaker is urging his audience to pay full attention to the play when it does. The second, mambo haya [KM 21] 'H-events' are not taking place at the moment of speaking, having occurred the previous night. Mambo haya could also refer to 'H-matters' discussed most recently not within the same paragraph but rather in earlier paragraphs. It likely refers to both 'H-events' and 'H-matters', neither of which is "proximate", yet each of which is of central concern both locally and to the overall plotline and thematic structure of the novel.

2.2. Wilt's anaphoric proximity hypothesis. In support of this hypothesis, Wilt attempts to demonstrate two skewings (p. 90): (1) H used for "within-paragraph anaphoric ties", thus H within P in the table below; and (2) LE used when the referent of the NP has been referred to most recently in a previous paragraph, thus LE across P.

Wilt (p. 87) adduces the following skewing, based on data from a single chapter of text:

(2) Source: KM, chap. 6

<table>
<thead>
<tr>
<th>within P</th>
<th>across P</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>35</td>
</tr>
<tr>
<td>LE</td>
<td>2</td>
</tr>
</tbody>
</table>

To support Wilt's claims, the data must of course skew towards the top left cell and the bottom right cell, underlined. The skewings in this one chapter support his hypothesis. But he neglects the other chapters discussed in my paper, e.g. JM, chap. 1, a striking counterexample:


<table>
<thead>
<tr>
<th>within P</th>
<th>across P</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>8</td>
</tr>
<tr>
<td>LE</td>
<td>38</td>
</tr>
</tbody>
</table>

\[2\] See REFERENCES, p. 95, for full titles of sources.
Examination of data from all four chapters discussed in my paper further
does not support Wilt's hypothesis, as the combined figures show:

(4) Sources: KM, chap. 6; JM, chap. 1; MZ, chap. 9; MZ, chap. 7

within P across P

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>63</td>
<td>10</td>
</tr>
<tr>
<td>LE</td>
<td>70</td>
<td>48</td>
</tr>
</tbody>
</table>

So, Wilt sets out to show that anaphoric distance can explain the distri-
bution of H and LE better than the new vs. old strategy of the attention hy-
pothesis. He adduces data from one chapter that seem to support the anaphoric
proximity hypothesis. He neglects the three other chapters that I used in the
very count that he is attempting to discredit. These data do not support ana-
phoric distance at all. Thus, when the larger picture is examined anaphoric
distance is not useful in explaining H and LE. However, all four chapters do
show a correlation of H with new and LE with old [Leonard 1985:288], which
supports the hypothesis that H means HIGH Concentration of Attention (COA) and
LE means LOW Concentration of Attention. Once more we observe that the atten-
tion hypothesis is able to explain more data than the proximity hypothesis.

3. Wilt Makes Unwarranted Claims and Assumptions.

Wilt erroneously assumes that since the title of chapter 7 of MZ is Mfuko
Mweusi 'A Black Purse', any reference to the purse other than its being "most
frequently referred to by H" cannot be adequately explained by the attention
hypothesis. He also erroneously assumes that what he terms my Old/New "hy-
pothesis" would demand that the purse be frequently referred to by LE, "since,
after the first reference, the purse will be 'old' information". Wilt fur-
ther claims that I "pay little attention to the conflicting predictions of
these hypotheses" (p. 82).

Quite the contrary. Such concerns are discussed in the text, and then
condensed in a footnote:

"All other things being equal a speaker will use H for new things and LE
for old. But as we saw in the discussion on proximity, other things are
often not equal—other factors can outweigh the noteworthiness that stems
from newness [or proximity to speaker] or make an old item [or far-away
item] worthy of attention. Examples of the former include the deliber­
ate downplaying of a new item for thematic reasons as well as the intro­
duction of new but purely background items. Examples are.... Thus we do
not expect a 100% correlation between H and new, LE and old, just as we
do not expect (and most certainly do not find) a 100% correlation between
H and proximity, LE and non-proximity. By definition, the invariant mean­
ing of a form [is what] correlates 100% with the form's utterance. "New"
and "old", "proximate" and "non-proximate" are but categorizations of fac­
tors that tend to influence a speaker in his choice of H (HIGH COA) vs.
LE (LOW COA)." [Leonard 1985:289]

Wilt's other assumption that the attention hypothesis would predict more
H than LE on a referent named as a chapter title is much too mechanical and
simplistic a view of the situation. To appreciate what is going on in, for
example, the particular instance of chapter 7 of MZ, we must look at the total
pattern of grammatical attention, including the choice available to the speak­
er not to direct attention at all. We must also look at how the attention-at­
tracting position of the purse accrues to referents associated with it and
not just to the referent named purse alone.

As stated above, HIGH COA means "the hearer should concentrate the high­
est degree of attention on the referent". The use of LOW COA is an instruc­
tion that the hearer direct a lesser amount of attention than if HIGH COA were
signaled. It should be understood that LOW COA still directs appreciably more
attention than if no attention were directed at all. It is not generally not­
ed that most items mentioned in texts receive no grammatically-directed atten­
tion. In the chapter in question (not at all unique in this regard), literal­
ly scores of referents are merely mentioned, once, by a common noun. Far few­
er are referred to by a pronominal reference such as subject marker, object
marker, etc. Far fewer still are ever referred to by demonstratives. This
general distribution is borne out by count after count performed on different
texts. That an item is mentioned by a demonstrative at all is thus, relative
to the myriad other props, quite a singling out for attention.

Further, in the narrative portions of the chapter in question we find 6 H
and 15 LE, a total of 21 demonstratives. Of this total, 4 refer specifically
to the purse, 2 refer to the place the purse is found, 2 to the sides of the
purse, 4 to the document found in the purse, and 1 to what is written on that
document. Thus 13 of 21 instances of grammatically-related attention are directed to the purse, its location, and its contents (3 of 6 H, 10 of 15 LE). Relative to all other props mentioned in this chapter, this is a great deal of attention, quite appropriate for a central prop whose name is indeed the chapter title.

Wilt notes that in the chapter in question quoted speech is more likely to have H and narration more likely to have LE. It is true that in general, quoted speech (and transcribed conversations) will contain relatively more demonstratives and relatively more high-deictic demonstratives than will third person narration. The characters are living through the situations so the items they deal with are more important to them, and they therefore concentrate more attention than does a narrator who is not living through the situations. Although Wilt purports to have found a skewing that establishes discourse distance as a determiner of demonstrative choice, what he has done in reality is to pick up on a few more variables on the importance scale.

4. Wilt Overlooks Subtle Thematic Interplays

Wilt contrasts (p. 86) two almost adjacent passages from KM. One, added in Leonard [1985], shows clearly the correlation between speaker's concern and degree of COA and further shows that this correlation is more important than physical proximity.

The second passage, Wilt claims, does not bear out this correlation. This second passage is complex and subtle in its interplay among demonstrative, lack of demonstrative, and choice of noun. The pivotal distinction here is between nyuki 'bee' and mdudu 'insect'. It would seem that Wilt considers them two words for the same thing. He thus misses the role of the demonstratives and the import of the passage.

Throughout this novel a central issue that obsesses the narrator is the power and knowledge relation between God and human, on the one hand, and human and animal on the other (the very point of the first passage in question). In the second passage, the correlation between speaker's concern and degree of COA becomes clear when one realizes that the relation which is important to the speaker is God : human :: human : insect and not human : bee. Mdudu
'insect' is referred to exclusively with H, HIGH COA. 'H-insect' is portrayed as making the author happy in its struggling for life. Nyuk! 'bee' is referred to twice with LE, LOW COA, and twice with the bare noun. The 'bee', a bare noun with no COA, is an entity that gives up hope (alikata *tamaa*). 'LE-bee', now an inert figure, is pulled from the water. 'To H-insect', the author realizes, "I had a strength that could not be comprehended. Perhaps H-example could help a human in understanding the mystery of God." Then doubt creeps in that there is a God—perhaps the all-powerful is just Time—and reference is made to a non-idealized 'LE-bee'. 'Insect' is a term at a higher level of abstraction and 'bee' is a particular instance of that abstraction.

This brief discussion no more than touches on the complexity of the passage. My intent simply was to outline a bit of the interplay between the grammatical forms and the thematic structure.

5. Conclusion

The preceding discussion has shown that not only does Wilt's hypothesis present considerable problems with data, it also rests on shaky conceptual grounds. I can find no justification for the claim that the different kinds of "proximity" are at all the same other than that they share the word "proximity". It is well-known that a single word can be used to refer to very different ideas. And indeed these are different ideas. It is unclear what motivates positing a single semantic substance that combines such disparate parameters as, on the one hand, "distance from a speaker" and, on the other hand, whether the referent "has been referred to most recently in a previous paragraph" (p. 87).

In the final analysis, proximity—even extended this way—cannot account for much of the data. As I stated in Leonard [1985], the attention hypothesis can explain all data that the proximity hypothesis can account for and it can explain data that the proximity hypothesis cannot. My conclusion then, and now, is that between the competing hypotheses, the one that better fits the linguistic facts is still the attention hypothesis.
REFERENCES
