

## **Morphosyntactic co-variation in Bantu: two case studies\***

**Lutz Marten & Nancy C. Kula**

School of Oriental and African Studies, University of Essex

lm5@soas.ac.uk, nckula@essex.ac.uk

### **1. Introduction**

The morphosyntactic properties of Bantu languages, in particular of South-East Bantu languages, are often described as being fairly uniform across different languages. For example, the vast majority of Southern and Eastern Bantu languages have an elaborated noun class system with about 15-20 formal distinctions, complex verb morphology encoding agreement, temporal-aspectual distinctions as well as valency and meaning-affecting morpho-lexical operations, and display basic, or underlying SVO word-order, which can, however, be varied according to pragmatic or information structure considerations. However, more detailed studies have revealed a high degree of morphosyntactic variation between different languages within this overall structural theme. For example, typological differences with respect to the marking of objects have been described, in terms of the morphological expression of object marking (Beaudoin-Lietz et al. 2004) as well as in terms of the order and co-occurrence restrictions on object markers and NP objects (see Marten and Kula to appear). Another aspect of variation which has been discussed in a number of papers is variation in locative inversion constructions in different Bantu languages, which differ according to what type of predicate can participate in locative inversion, and how locative inversion constructions relate to information structure and locative agreement more generally (e.g. Demuth and Mmusi 1997, Marten 2006, Buell 2007). In this paper, we are discussing two aspects of variation in more detail based on a larger comparative study of morphosyntactic variation in Bantu which compares ten Bantu languages with respect to 19 variables or ‘parameters’ of variation (Marten et al. 2007). In the following section we present a short overview of the design and main findings of this study. Against this background, we then present results related to double object constructions on the one hand, and locative agreement on the other, and show that in our sample implicational relations obtain between different parameters, indicating a single underlying source. In the final section we present some conclusions of the study.

### **2. Parameters of morphosyntactic variation in Bantu**

The background to the data we are going to discuss in the paper is a wider study of morphosyntactic variation in Bantu which compares ten Bantu languages with respect to a number of different sources of variation (Marten et al. 2007). All languages of the study are Southern and East Bantu languages, and although they represent some geographical and typological spread, the sample is not truly balanced as the selection of languages mainly reflects the available data. A summary of the languages of the sample, as well as their main location and principle data sources are given in Table 1.

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Language Name and Guthrie Classification	Main Area of Use	Main Sources
Bemba (M42)	Zambia	Fieldnotes
Chaga (Kivunjo) (E62b)	Tanzania	Fieldnotes, Moshi 1998, Bresnan and Moshi 1990
Chichewa (N31)	Malawi	Fieldnotes, Mchombo 2004
Ha (D66)	Tanzania	Harjula 2004
Lozi (K21)	Zambia	Fieldnotes, Fortune 2001
Nsenga (N41)	Malawi/Zambia	Fieldnotes, Miti 2002
Otjiherero (R31)	Namibia	Fieldnotes, Möhlig et al. 2002
SiSwati (S43)	Swaziland/SA	Fieldnotes
Swahili (G42)	Tanzania/Kenya	Fieldnotes, Ashton 1947
Tswana (S31)	Botswana/SA	Fieldnotes, Cole 1955, McCormack fcmg.

**Table 1: Languages of the study**

For each language in the sample, the study checked 14 parameters, of which two have sub-parameters, resulting in 19 parameters in total. The parameters are concerned with six broad areas of variation: Object marking, double objects, relative clauses, locative inversion, conjunct agreement and conjoint/disjoint verb forms. Like the selection of the languages for the study, the selection of parameters is not systematically developed, but rather reflects topics which have been discussed to some extent in the literature, and, probably because of that, show a bias particularly towards constructions related to agreement and word-order. Table 2 provides a summary of the 19 parameters used in the study.

<b><i>Object markers</i></b>	
1 OM – obj NP	Can the object marker and the lexical object NP co-occur?
2 OM obligatory	Is co-occurrence required in some contexts?
3 OM loc	Are there locative objects markers?
4a One OM	Is object marking restricted to one object marker per verb?
4b Restr 2 OM	Are two object markers possible in restricted contexts?
4c Mult OM	Are two or more object markers freely available?
4d Free order	Is the order of multiple object markers structurally free?
<b><i>Double objects</i></b>	
5 Sym word-order	Can either object be adjacent to the verb?
6 Sym passive	Can either object become subject under passivisation?
7 Sym OM	Can either object be expressed by an object marker?
<b><i>Relatives</i></b>	
8 Agr Rel mark	Does the relative marker agree with the head noun?
9a Res OM obl	Is an object marker required in object relatives?
9b Res OM barred	Is an object marker disallowed in object relatives?
9c Res OM optional	Is an object marker optional in object relatives?
<b><i>Locative inversion</i></b>	
10 LI restr	Is locative inversion thematically restricted to intransitives?
11 Full loc SM	Are there three different locative subject markers?
<b><i>Conjunct agreement</i></b>	
12 Partial Agr	Is partial agreement with conjoined NPs possible?

<i>Conjunct/disjunct</i>	
13 Conj/disj	Is there a (tonal) distinction between conjunct/disjunct forms?
14 Tone case	Is there a (tonal) distinction of nominal ‘cases’?

**Table 2: Summary of parameters of the study**

The parameters are formulated in such a way that they are comparatively easy to ascertain, that is, that the value in the relevant language can be given by reference to published sources or field-material without involving undue subsidiary assumptions about data or analysis. We have deliberately taken a descriptive approach to morphosyntax, couched in more or less traditional grammatical terminology, which may be replaced by a more theoretically informed perspective in due course. We also have adopted binary parameters, that is, those for which a given language can be said to either have a positive value or a negative one. Although this is problematic in some instances, it makes comparison of several languages easier. In cases where no simple yes-no decision could be made, we have included sub-parameters to give more fine-grained variation, as for example in Parameter 4, where we distinguish different, but interdependent object marking strategies. In Marten et al. (2007), we discuss these parameters in more detail, and illustrate the relevant values for the languages in the study with appropriate examples. We also discuss the overall picture emerging for the comparison, and draw out some quantitative results, based on the calculation of shared structure between the languages in terms of morphosyntactic similarities. Against this background, we discuss in the present paper two groups of parameters which as we will show provide instances of systematic co-variance of prima facie unrelated parameters, and which thus point to some underlying relation between the co-varying structures. The two groups of parameters we discuss are those related to double object constructions (Parameters 5 to 7) on the one hand, and those related to locative marking (Parameters 3 and 11) on the other. We discuss these parameters in more detail in the following sections 3 and 4, and present some conclusions in section 5.

### 3. Parameters related to double object constructions

Three parameters of our study are related to double object constructions. They check whether in a double object construction, either object can be adjacent to the verb, whether either object can become the subject in a related passive construction, and whether either object can be expressed by an object marker. The background to these parameters is the proposal that Bantu languages can be divided into symmetrical and asymmetrical languages, depending on whether in double object constructions in the relevant language, both post-verbal NPs behave as primary objects (symmetrical), or whether only one NP does (asymmetrical). This difference has been noted frequently in the literature, and several different analyses, based on different Bantu languages, have been proposed (e.g. Baker 1988, Bresnan and Moshi 1990, Rugemalira 1991, 1993, Mchombo and Firmino 1999). Most recently, Mchombo (2004) has discussed the issue with reference to Chichewa, and proposed the following five tests for establishing whether a language behaves symmetrically asymmetrically: word order, passivizability, cliticization, reciprocalization, and wh-extraction (Mchombo 2004: 80). The assumption is that languages will systematically differ across these tests, such that, for example Chichewa behaves consistently as an asymmetrical language,

and, for example, Chaga, behaves like a symmetrical language (Bresnan and Moshi 1990). However, it has also been observed that it is not always the case that languages show consistently one or the other behaviour for all the relevant tests (Rugemalira 1991, 1993). Furthermore, not all double object constructions behave alike: The choice of predicate as well as the semantic character (or thematic roles) of the two objects can have an effect on the syntactic behaviour of the whole construction. For our study, we have taken the first three of the five tests proposed by Mchombo (2004), namely word-order, passive, and object marking, and compared these three parameters for the ten languages of the study. The reason for using only three, rather than all five tests, are purely technical: Data for the first three tests are easier to glean from the literature, and are better represented in our own database, than data for the last two, and thus we had enough data for the first three tests, but not for the last two. In terms of variation of construction type, we have tried to use applicative constructions with one human beneficiary and one non-human theme object, without particular term focus on either object, consistently throughout the sample, so as to maintain comparability and to avoid additional effects brought about by the use of non-beneficiary or focussed applicatives. The results we obtained for each of the three tests are discussed in more detail in the following sections.

### 3.1. Word order

The first relevant parameter is concerned with word order and checks whether either object of a double object construction can be adjacent to the verb. In some languages, the benefactive object (which tends to be animate) has to be the first object (i.e. it will be closer to the verb), and the theme object follows (except in the presence of an object marker, in which word-order possibilities change). This is the case, for example, in Chaga (1 and 2, from Moshi 1998: 146-148) and Otjiherero (3 and 4). However, in Tswana, both orders of objects are acceptable, although the different orders can probably carry different discourse-pragmatic function (5 and 6).

- |     |   |                                   |                   |                   |          |
|-----|---|-----------------------------------|-------------------|-------------------|----------|
| (1) | Lémúnyí   | n-á-lé-úlr-í-á                    | máná              | sházru            | [Chaga]  |
|     | <i>Lemunyi</i>                                  | FOC-SM1-PAST- <i>buy</i> -APPL-FV | <i>child</i>      | <i>shoes</i>      |          |
|     | 'Lemunyi bought the child shoes'                |                                   |                   |                   |          |
| (2) | *Lémúnyí  | n-á-lé-úlr-í-á                    | sházru            | máná              |          |
|     | <i>Lemunyi</i>                                  | FOC-SM1-PAST- <i>buy</i> -APPL-FV | <i>shoes</i>      | <i>child</i>      |          |
|     | Intd.: 'Lemunyi bought the child shoes'         |                                   |                   |                   |          |
| (3) | Mávé  | tjàng-ér-é                        | òv-à-nâtjé        | òm-bàpírà         | [Herero] |
|     | PRES.SM2  | <i>write</i> -APPL-FV             | <i>2-children</i> | <i>9-letter</i>   |          |
|     | 'They are writing the children a letter'        |                                   |                   |                   |          |
| (4) | *Mave   | tjang-er-e                        | om-bapira         | ova-natje         |          |
|     | PRES.SM2  | <i>write</i> -APPL-FV             | <i>9-letter</i>   | <i>2-children</i> |          |
|     | Intd.: 'They are writing the children a letter' |                                   |                   |                   |          |
| (5) | ke  | ape-ets-e                         | ngwana            | kuku              | [Tswana] |
|     | SM1. PRES                                       | <i>cook</i> -APPL-PERF            | <i>1.child</i>    | <i>9.chicken</i>  |          |
|     | 'I cooked the child the chicken'                |                                   |                   |                   |          |

- (6) ke                   ape-ets-e                   kuku       ngwana  
 SM1. PRES       cook-APPL-PERF       9.chicken 1.child  
 ‘I cooked the chicken for the child’

As mentioned above, the word order possibilities change if semantic or pragmatic conditions vary. For example, while benefactive objects always precede theme objects in Chaga (1 and 2, above), in instrument applicatives both orders of the instrument object and the theme object are possible (7 and 8):

- (7) Msolro n-á-lé-wé-í-á                   kíshú   nyáma  
*man*   FOC-SM1-PAST-*slice*-APPL-FV   *knife*   *meat*  
 ‘The man sliced with a knife the meat’
- (8) Msolro n-á-lé-wé-í-á                   nyáma   kíshú  
*man*   FOC-SM1-PAST-*slice*-APPL-FV   *meat*   *knife*  
 ‘The man sliced the meat with a knife’

Furthermore, even in benefactive applicatives, the word order possibilities change if one of the objects is focused. For example in siSwati, the theme object can precede the benefactive object only if the benefactive object is focussed:

- (9) Ngi-nik-e                   kudla       *Jabulani*  
 SM1SG-give-PAST       15.*food*       1.*Jabulani*  
 ‘I gave *Jabulani* food’ (allowed only with name focus)

Disregarding these cases, the majority of languages in our sample behave asymmetrically with respect to word order, in that the benefactive object has to precede the theme object. Of the languages of our sample, only Tswana and Ha allow constructions where the theme object precedes the benefactive, in addition to the more dominant pattern where the benefactive precedes the theme object. This is summarised in Table 3.

Yes	Either object can be adjacent to the verb	Ha, Tswana
No	Only the benefactive object can be adjacent to the verb	Bemba, Chaga, Chichewa, Lozi, Otjiherero, siSwati, Swahili

**Table 3: Word order in double object constructions**

In terms of word order, then, with the exception of Ha and Tswana, all the languages which we investigated restrict the position immediately after the verb to the benefactive object. Thus with respect to Mchombo’s (2004) first test, only Ha and Tswana are symmetrical languages.

### 3.2. Passivisation

The second parameter relevant to double object constructions is concerned with the possibility of only one or either object becoming subject in a passive construction based on the corresponding double object construction. The first type is exemplified by Chichewa (from Mchombo and Firmino 1999: 218) and Swahili, where only the

benefactive object can be promoted to the subject of the corresponding passive. In contrast, in Lozi and Otjiherero, either the benefactive or the theme object can become subject:

- (10) A-nyaní a-ku-phík-ír-idw-á ma-úngu (ndí á-lenje)  
 2-baboons SM2-PRES-cook-APPL-PASS-FV 6-pumpkins (by 2-hunters)  
 ‘The baboons are being cooked pumpkins for (by the hunters)’ [Chichewa]
- (11) \*Ma-úngu ya-ku-phík-ír-idw-á anyăni (ndí á-lenje)  
 6-pumpkins SM6-PRES-cook-APPL-PASS-FV 2.baboons (by 2-hunters)
- (12) Asha a-li-pik-il-iw-a chakula cha asubuhi na Juma  
 1.Asha SM1-PAST-cook-APPL-PASS-FV 7.food of morning by Juma  
 ‘Asha was cooked breakfast for by Juma’ [Swahili]
- (13) \*chakula cha asubuhi ki-li-pik-il-iw-a Asha na Juma  
 7.food of morning SM7-PAST-cook-APPL-PASS-FV Asha by Juma
- (14) ba-eñi ba-apeh-el-w-a li-tapi ki bo-Lungu [Lozi]  
 2-guests SM2-cook-APPL-PASS-FV 10-fish by 2-Lungu  
 ‘The guests were cooked fish for by Mr Lungu’
- (15) li-tapi zi-apeh-el-w-a ba-eñi ki bo-Lungu  
 10-fish SM10-cook-APPL-PASS-FV 2-guests by 2-Lungu  
 ‘The fish were cooked for the guests by Mr Lungu’
- (16) òvâ-nâtjé má-vé tjàng-ér-w-á òm-bàpírà [Herero]  
 2-children PRES-SM2 write-APPL-PASS-FV 9-letter  
 ‘The children are being written a letter’
- (17) òm-bàpírà má-í tjàng-ér-w-á òvâ-nâtjé  
 9-letter PRES-SM9 write-APPL-PASS-FV 2-children  
 ‘The letter is being written for the children’

The examples above already indicate that the split between symmetrical and asymmetrical languages with respect to passivisability results in different groups of languages than those based on word order. For example, in Otjiherero double object constructions are asymmetrical with respect to word order (3 and 4, above), but symmetrical with respect to passivisation, as (16) and (17) show. The results for all languages in the sample are summarised in Table 4, which shows a different division of languages than Table 3:

Yes	Either object can become subject	Chaga, Lozi, Otjiherero, siSwati, Tswana
No	Only one object can become subject	Bemba, Chichewa, Swahili

**Table 4: Passivisation and double object constructions**



- (24) Ngi-m-nik-e                      kudla    [siSwati]  
 SM1SG-OM1-give-PAST 15.food  
 'I gave him food'
- (25) Ngi-ku-nik-e                      Jabulani  
 SM1SG-OM15-give-PAST 1.Jabulani  
 'I gave it to Jabulani'

The results for all languages in our sample for object marking with double object constructions is given in Table 5:

Yes	Either object can be OM	Chaga, Lozi, Otjiherero, siSwati, Tswana
No	Only one object can be OM	Bemba, Chichewa, Swahili

**Table 5: Object marking and double object constructions**

As a comparison between Table 4 and Table 5 shows, the two parameters divide the languages under investigation into the same groups. The majority of languages pattern together as symmetrical languages, while Bemba, Chichewa and Swahili behave like asymmetrical languages with respect to both passivisation and object marking. This result provides strong supporting evidence for analyses which relate both passivisation and object marking possibilities in applicative double object constructions to a single underlying difference. On the other hand, taking into account all three parameters discussed here, the results show that the variation in word order possibilities in double object constructions is independent of passivisation and object marking, since in addition to Bemba, Chichewa and Swahili, four further languages, namely Chaga, Otjiherero, Lozi, and siSwati pattern as asymmetrical languages with respect to word order. This indicates that word order in double object constructions requires a different, or additional explanation.

The three parameters discussed in this section are all concerned with benefactive applicative constructions, and compare eight languages with respect to three parameters, or tests, of the behaviour of the two objects of the construction. Each parameter divides the group of languages tested into those where both objects show primary object characteristics (symmetrical languages) and those where only one object shows these characteristics (asymmetrical languages). The results of this broad empirical study confirm previous analysis which have shown that different parameters are not independent from each other, but rather show co-variation. However, the study also shows that co-variance is only true for passivisation and object marking, while word order appears to be an independent dimension of variation. In the following section we are looking at two other parameters which show some degree of co-variation.

#### **4. Locative agreement**

Two parameters of the study are related to locative agreement marking: Parameter 3, which is concerned with locative object markers, and Parameter 11, which is concerned with locative subjects markers. However, the two parameters ask slightly different questions: For locative object markers, the parameter checks whether

locative object markers are possible at all. On the other hand, for locative subject markers, the relevant parameter checks whether three distinct locative noun classes are morphologically distinguished, or whether only one or two distinct locative subject markers exist. The reason for this difference is that in the languages of the sample, some languages do not have locative object marking at all, while all languages have locative subject marking. We have not checked whether some languages have a restricted set of object locative markers, but just for whether object marking is possible at all, although the former questions might be addressed in a future study. We discuss the two relevant parameters in turn in the following sections.

#### 4.1. Locative object marking

Bantu languages vary as to whether locative objects can be expressed by a (pre-verbal) object marker or not. There are alternative strategies to express locative object markers pronominally, for example by a post-verbal locative clitics, or by using a locative pronoun. However, we are here only interested in pre-verbal object markers in the canonical object marker slot in the verbal template. The difference between the two types of languages is illustrated by Nsenga and Swahili, where locative object marking is possible, on the one hand, and Lozi, which does not allow locative object markers:

- (26) kuLilongwe n-a-ku-ziw-a [Nsenga]  
 17-Lilongwe SM1SG-PRES-OM17-know-FV  
 ‘Lilongwe I know it (there)’
- (27) ni-na-pa-ju-a [Swahili]  
 SM1SG-PRES-OM16-know-FV  
 ‘I know it (i.e. there)’
- (28) \*na-ku-zib-a (kwa-Lealui) [Lozi]  
 SM1SG.PRES-OM17-know-FV (17-Lealui)  
 ‘I know it (Lealui)’

Like in Nsenga, locative object marking is also not possible in siSwati, Chasu, and Ciruri (Massamba 2000: 115). On the other hand, the majority of the languages in our sample do allow locative object markers, as summarised in Table 6:

Yes	Locative object markers	Bemba, Chaga, Chichewa, Ha, Nsenga, Otjiherero, Swahili, Tswana
No	No locative object markers	Lozi, siSwati

**Table 6: Locative object marking**

In the following section, we will look at locative subject markers.

#### 4.2. Locative subject marking

All languages in our study have locative subject markers. However, not all languages have locative subject markers for all three locative classes (classes 16-18). As has been noted in the literature previously, the presence or absence of a full set of locative

subject markers is independent of the presence or absence of locative noun class markers (e.g. Demuth and Mmusi 1997). The variation can be illustrated by the following examples from Otjiherero, Lozi and Swahili (cf. Ashton 1947):

- (29) pò-ndjúwó      p-á-rár-á                      é-rúngá                      [Herero]  
 16-9.house      SM16-PAST-sleep-FV      5-thief  
 ‘At the house slept a/the thief’
- (30) kò-mù-tí      kw-á-pós-é                      òzó-ndjímá  
 17-3.tree      SM17-PAST-make\_noise-FV      10-baboons  
 ‘In the trees (the) baboons made noise’
- (31) mò-ndùndú      mw-á-váz-éw-á                      ómu-àtjé  
 18-9.mountain      SM18-PAST-find-PASS-FV      1-child  
 ‘On the mountain was found a/the child’
- (32) fa-tafule      ku-ins-i                      li-tapi                      [Lozi]  
 16-table      SM17-be/sit-TNS      5-fish  
 ‘On the table there is a/the fish’
- (33) mwa-ndu      ne-ku-ken-i                      ma-sholi  
 18-house      TNS-SM17-enter-TNS      6-thieves  
 ‘Into the house entered the thieves’
- (34) kwa-kota      ku-opel-a                      li-njoko  
 17-tree      SM17-sing-FV      10-monkeys  
 ‘The monkeys are singing at the tree’
- (35) ha-pa      m-ji-ni                      pa-na                      mi-ti                      [Swahili]  
 DEM-16      3-town-LOC      SM16-COP      4-trees  
 ‘There are trees here in town’
- (36) m-ji-ni      ku-me-kuf-a                      wa-tu                      w-engi  
 3-town-LOC      SM17-PERF-die-FV      2-people      2-many  
 ‘Many people have died in the town’
- (37) mw-itu-ni      m-me-lal-a                      wa-nyama  
 3-woods-LOC      SM18-PERF-sleep-FV      2-animals  
 ‘Animals are asleep in the woods’

The first set of examples show that Otjiherero has distinctive nominal morphology for three different noun classes, and that similarly, the verb show three different agreeing forms of subject markers. In contrast, Lozi has, like Otjiherero, distinct nominal noun class morphology, but the verb shows class 17 subject agreement with the agreement marker *ku-* for all classes. Finally, Swahili shows that there is no distinct nominal morphology on nouns (although there is morphological class distinction in pronominals), but that three different subject markers are found. For the present purposes, we ignore variation on nominal morphology, but distinguish between languages which have a full three-way contrast between locative subject agreement markers, and those which have only one or two distinct locative subject markers. The

10 languages of our sample fall into two groups of equal size: five languages have three distinct locative subject markers, while the remaining five languages have less than three markers. This distribution is summarised in Table 7:

Yes	Class 16-18 locative SM	Bemba, Chichewa, Nsenga, Otjiherero, Swahili
No	Only one or two SM	Chaga, Ha, Lozi, siSwati, Tswana

**Table 7: Locative subject marking**

The two groups of languages identified by the two parameters related to locative agreement marking are rather distinct. This is an interesting result in itself, as it shows that the two systems – subject agreement and object agreement – are independent. This also follows from the fact, notes earlier, that while some languages do not have locative object agreement, all languages have locative subject agreement. However, there is a further relation which can be drawn out from the data. Both languages of our sample which do not have locative object marking, Lozi and siSwati, are in the group of languages which do not have a full set of subject locative markers. The implication based on this is that any language which does not have locative object marking will not have a full set of locative subject markers. It is tempting to think of this relation from a diachronic perspective: loss of locative object marking occurs only if the locative subject marking system has been reduced to encode less than the historically complete three-way distinction. However, it remains to be seen whether this implication remains valid when further languages are taken into account.

## 5. Conclusion

In this paper we have compared a number of Bantu languages in a systematic fashion based on two sets of parameters. The first set of parameters was concerned with applicative double object constructions. We have shown that the often proposed thesis that different surface variation patterns of double object constructions result from one underlying source of variation is partly confirmed by our data. The two parameters concerned with passivisation and object marking of the two objects in applicative constructions identified the same sets of languages, thus indicating that the two sources of variation are not independent. On the other hand, our study shows that variation in word order in double object constructions reveals a different pattern of languages, and thus appears to be independent from passivisation and object marking. The second set of parameters was concerned with locative agreement marking. We compared locative object and locative subject agreement and showed that the two systems are independent. However, an implicational relation was seen in our data, according to which languages without locative object marking will have a reduced set of locative subject markers.

Although the results reported in this paper need to be confirmed by wider studies, including more languages, and probably also refined parameters, we believe they have nevertheless demonstrated the usefulness of the systematic approach to comparing morphosyntactic variation in Bantu adopted in this paper, and how it can empirically complement and interact with more theoretically motivated studies.

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