

COUNTERVAILING MECHANISMS FOR THE IMPOVERISHED ADJECTIVE SYSTEM IN GIKÜYÜ

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1. Introduction*

According to Barlow (1951), there is a 'paucity' of true adjectives in Giküyü. This shortage of adjectives has been well documented across many languages (Doke, 1954, Dixon, 1977, Moshi, 1992, Bresnan and Mchombo, 1995, etc.). Dixon (1977) finds that the most impoverished of Bantu languages have less than ten adjectives while those with the most have about fifty. Dixon's observation raises the question whether the shortage of adjectives in Bantu languages conversely curtails attribution. This paper studies facts regarding how attributive modification is done in Bantu beyond Dixon's (1977) system. I show that reduced relative clauses are used as attributive modifiers. I conclude that relying on a syntactically defined notion of adjectives glosses over or misses out altogether, the vast number of elements used attributively in Giküyü and Bantu more generally. I propose that with the assumptions made in the Lexical-Functional Grammar framework (LFG) of Bresnan (1982, 1995), elements can be associated to the modifier function in the functional-structure without requiring that there exist the category 'adjective' and syntactically defined constituent-structure positions. These assumptions are necessary in order to make sense of Giküyü facts about attributive modification.

2. Issues

The observation that there is a scarcity of true adjectives in Bantu is based on the fact that root adjectives such as those provided in (1) from Giküyü are extremely few. Bare adjective stems, are a highly restricted class of elements in Bantu grammar. Root adjectives conform to Dixon's (1977) proposal that adjectives are 'property concepts' identifiable as human property (1a), age (1b), dimension (1c), physical property (1d), value, and speed.

- (1)
- | | | |
|----|-------|---------------|
| a. | -karī | 'stingy' |
| b. | -cuwa | 'fresh/young' |
| c. | -arī | 'wide' |
| d. | -ūru | 'bad' |

Does this mean that Bantu speakers are restricted in the ability to attributively modify individuals, entities, things, etcetera? In answer to this issue, I present facts about how attributive modification is done, in effect revealing the countervailing mechanisms for the impoverished root adjective system in Bantu. Once the system of attribution has been outlined, I review Dixon's (1977) idea of 'property concepts' to establish whether it can be extended to cover facts about the Bantu system of attributive modification.

Data on attribution indicates that Giküyü uses VP-like (reduced relative clauses) and CP (full

*This paper has benefited from discussions and teaching of Joan Bresnan and Dick Oehrle. Thanks are also due audience to which it was presented at the Mid American Linguistic Conference held on at University of Kansas, Lawrence. And to Wanjikū Mūgane for her valuable comments and editing. The usual disclaimers apply.

relative clauses) elements as attributive modifiers. The fact that the category of attributive modifiers is largely something other than AP necessitates theories that associate each grammatical function with a specific grammatical category to make supplementary assumptions in order to explain the facts presented here. In such theories, nouns are associated with argument functions such as subjects and objects, while verbs are predicates which take arguments. The category 'adjective' is conventionally associated with the modificational function in the syntax and never the VP or CP category. The issue about the mismatch between syntactic category types and grammatical functions needs to be addressed.

3. The facts

The main obstacle to the recognition of Bantu adjectives stems from the attempt to base their study on modes of expressing Indo-European adjectives. Languages such as English, do not reveal the diversity of strategies employed in Bantu system of attribution. The search for adjectives as they exist in languages where the adjective is a major class led Barlow (1951:102-110) to characterize Gikūyū as having a 'paucity' of 'true' adjectives. Barlow sets out to explain modes of expressing English adjectives in Gikūyū, instead of Gikūyū modes of attribution without regards to English. Consequently, he failed to recognize the real Gikūyū adjectives. The [Ncl- -u] form is barely mentioned and the [Ncl- -e] form is missing in Barlow's grammar. Indeed, relying on Indo-European based category type systems impedes the understanding of some crucial aspects of Bantu grammar in general (Mugane, 1996b). In Bantu what passes for the category 'adjective' in languages such as English is found in deverbal words whose syntactic category is either a VP or a CP. There are two types of words which function as adjectives: Root adjectives (2) and deverbal words (3), (4), (5). Root adjectives are made up of the noun class plus the root adjective stem [Ncl-], which is *ga-* plus *-karī* in the case of (2). Deverbal words are distinguished morphologically by the suffixal vowels and each type expresses a distinct semantic notion. Participial deverbal words bear [mū- -u] morphology, patientive types are marked with [mū- -e], and agentive ones with [mū- -i].

Root [Ncl-]

- (2) kagu gakarī
 12dog 12stingy
 'a stingy dog (dim)'

Participial [mū- -u]

- (3) njogoo mak-u
 9rooster 9worry-Nzer
 'a rooster that is worried'

Patientive [mū- -e]

- (4) imo ngarang-e
 10food 10fry-Nzer
 'fried food'

Agentive [mū- -i]

- (5) mwana mwathik-i
 1child 1obey-Nzer
 'an obedient child'

While (2), (3), (4), and (5) are similar in a number of behavioral and distribution properties made apparent by several morphological and syntactical tests, they also differ in interesting ways. In what follows I study their properties by looking at how (2) - (5) behave in morphological processes such as reduplication, gender marking, derivational and inflectional affixation. I also

examine their syntactic distribution with respect to referential independence (the presence or absence of the syntactic head) and verbal modification

3.1 Properties of root adjectives

(i) Root adjectives reduplicate as shown in (6), otherwise reduplication in Gikūyū is only possible with verbs and deverbal words. The process involves a copy of the stem plus the final vowel (Peng 1989)

- (6) mū-karakārī
3stungy
'a little more stungy'

(ii) The noun class 14 ū- does not form adjectives but rather converts adjectives to nouns as in (7)

- (7) ū-karī
14-stungy
'stinginess'

Nouns do not reduplicate in Gikūyū and the fact that (7) is a noun is evidenced by the inadmissibility of reduplication with class 14 prefixation as shown in (7').

- (7') *ū-karakārī
14-stungy
'a little more stinginess'

(iii) Adjectives like verbs but unlike nouns are modified with intensifiers (8)

- (8) mū-karī ūūru
1-stungy terrible
'a terribly stungy one'

(iv) Unlike nouns however, root adjectives cannot themselves be modified further by other adjectives (9)

- (9) *mū-karī mūnene
1-stungy 1big
'a big stungy one'

(v) Nouns generally permit preprefixation on the stems as in (10) but adjectival words do not (10')

- (10) ka-mū-ndū
12-1-person
'a small/little person'

- (10') *ka-mū-karī
12-1-stungy
'diminutively stungy one'

(vi) Just like nouns, adjectives can be used referentially, independent of the syntactic head (11)

- (11) mū-karī
1-stungy
'a stungy one'

3.2 Properties of deverbal attributive words

(i) Attributive deverbal words reduplicate their stems as shown in (12), (13), and (14)

- [mū- -u]
(12) njogoo makamak-u
9rooster 9worned-Nzer
'a rooster that is worned a little more'

- [mū- -e]
(13) mūdū mū-gūthagūth-e
1person 1-hit-Nzer
'a person who has been hit a little more'

- [mū- -i]
(14) mūdū mū-kirakir-i
1person 1-silent-Nzer
'a person who is a little more silent'

(ii) [mū- -u] and [mū- -i] can be converted to nouns by ū-class marking as indicated in (15) and (17) but [mū- -e] stems do not (16)

- [mū- -u]
(15) ū-mak-u
14-worry-Nzer
'the state of worry'

- [mū- -e]
(16) *ū-gūth-e
15-hit-Nzer
'the state of being hit'

- [mū- -i]
(17) ū-kir-i
15-silent-Nzer
'the state of being silent'

(iii) Like root adjectives and verbs, deverbal words can be modified with intensifiers as in (18), (19), and (20)

- [mū- -u]
(18) mak-u ūūru
10worry-Nzer temple
'tembly worried'

- [mū- -e]
(19) mūdū mū-gūth-e mūno
1person 1-hit-Nzer very
'a person who has been hit hard'

[mū- -i]
 (20) mūndū mū-kir-ɪ mūno
 1person 1-silent-Nzer very
 'a person who is very silent'

(iv) Like root adjectives, deverbal words do not permit further adjectival modification as provided in (21), (22), and (23)

[mū- -u]
 (21) *mak-u nene
 10worry-Nzer 10big
 'a big worried one'

[mū- -e]
 (22) *mūndū mū-gūth-e mūnene
 1person 1-hit-Nzer 1big
 'a big person who has been hit'

[mū- -i]
 (23) *mūndū mū-kir-ɪ mūnene
 1person 1-quiet-Nzer 1big
 'a big person who is quiet'

(v) Deverbal words like root adjectives (and unlike nouns) do not allow preprefixation on the stems (24), (25), and (26)

[mū- -u]
 (24) *ka-mū-mak-u
 13-1-worried-Nzer
 'a small worried one'

[mū- -e]
 (25) *ka-mū-gūth-e
 12-1-hit-Nzer
 'a small person who has been hit'

[mū- -i]
 (26) *ka-mū-kir-ɪ
 12-1-silent-Nzer
 'a small person who is silent'

(vi) Like root adjectives, deverbal words can be used referentially, without the head noun, (27), (28), and (29)

[mū- -u]
 (27) mū-mak-u
 1worry-Nzer
 'worried one'

[mū- -e]
 (28) mū-gūth-e
 1-hit-Nzer
 'a person who has been hit'

- [mū- -ɪ]
 (29) mū-kur-ɪ
 1-silent-Nzer
 'a person who is silent'

(vii) Deverbal words permit extension of their stems by derivational affixation such as the reciprocal (R) *-an-*, the applicative (A) *-ir-*, provided in (30), (31), and (32)

- [mū- -u]
 (30) mūdū mū-thīŋj-an-ir-u mbūr
 1person 1slaughter-R-Perf-Nzer 10goat
 'person who has slaughtered goats for other people'

- [mū- -e]
 (31) mūdū mū-gūth-an-ir-e
 1person 1-hit-R-A-Nzer
 'a person on whose behalf some other thing/person has been hit'

- [mū- -ɪ]
 (32) mūdū mū-kur-an-ir-ɪ
 1person 1-silent-R-A-Nzer
 'a person who is silent to some people'

(vii) Participials bearing [mū- -u] morphology do not take tense prefixes as in (33)

- [mū- -u]
 (33) *mūdū mū-ga-thīŋj-ir-u andū mbūr
 1person 1-Fut-slaughter-A-Nzer 2people 10goat
 'person who will have slaughtered a goat for people'

An alternative way of expressing participial forms is to have *-it-e* instead of *-u* as in (34)

- (34) andū ma-thīŋj-it-e mbūr
 2person 2-slaughter-Compl-Nzer 10goat
 'people who have slaughtered goats'

Unlike the forms bearing [Ncl- -u] morphology, [Ncl- --it-e] ones mark past (34')

- (34') andū ma-a-thīŋj-it-e mbūr
 2person 2-Past-slaughter-Compl-Nzer 10goat
 'people who had slaughtered goats'

Patentive and agentive deverbal words do not permit tense prefixation, (35) and (36)

- [mū- -e]
 (35) *mūdū mū-ga-gūth-ir-e
 1person 1-Fut-hit-A-Nzer
 'a person who will have been hit for'

- [mũ- -i]
 (36) *mũndũ mũ-ga-kir-i
 1person 1-Fut-silent-Nzer
 'a person who will be silent to it'

The participial and the patientive forms do not permit the reflexive morpheme *-i-* to be affixed to their stems as indicated by (37) and (38) The agentive form permits *-i-* affixation as in (39)

- [mũ- -u]
 (37) *mũndũ mũ-ĩ-thĩĩnj-ĩr-u mbũri
 1person 1-RefI-slaughter-A-Nzer 10goat
 'person who will has slaughtered a goat for her/himself'

- [mũ- -e]
 (38) *mũndũ mũ-ĩ-gũth-ĩr-e
 1person 1-RefI-hit-A-Nzer
 'a person who has been hit for her/himself'

- [mũ- -i]
 (39) mũndũ mũ-ĩ-kir-ĩr-i
 1person 1-RefI-silent-A-Nzer
 'a person who is silent to her/himself'

As in the case of the reflexive marker, participial (40) and patientive (41) forms do not allow object prefixation but the agentive forms do (42)

- [mũ- -u]
 (40) *mũndũ mũ-mĩ-thĩĩnj-ĩr-u andũ
 1person 1-9O-slaughter-A-Nzer 2people
 'person who will have slaughtered a goat for people'

- [mũ- -e]
 (41) *mũndũ mũ-mĩ-gũth-ĩr-e
 1person 1-9O-hit-A-Nzer
 'a person for whom it has been hit'

- [mũ- -i]
 (42) mũndũ mũ-mĩ-kir-ĩr-i
 1person 1-9-silent-A-Nzer
 'a person who is silent to it'

(vii) Deverbal words are reduced relative clauses Thus in (43), (44), and (45), the (a) expressions are identical in meaning to the (b) ones

- [mũ- -u]
 (43) a mũndũ mũ-thom-u thiomi
 1person 1-study-Nzer 10language
 'a person who has studied languages'
 b mũndũ ũrĩa mũ-thom-u thiomi
 1person 1Rel 1-study-Nzer 10language
 'a person who has studied languages'

- [mū- -e]
(44) a andū ma-thīnj-tīt-e mbūn
2person 2-slaughter-Compl-Nzer 10goat
'people who have slaughtered goats'
- b andū arīa ma-thīnj-tīt-e mbūn
2person 2Rel 2-slaughter-Compl-Nzer 10goat
'people who have slaughtered goats'
- [mū- -i]
(45) a mūdū mū-kīr-ī
1person 1-silent-Nzer
'a person who who is silent'
- b mūdū ūrīa mū-kīr-ī
1person 1Rel 1-silent-Nzer
'a person who is silent'

3.3 Summary

Participial and patientive words have a lot of behavioral and distributional properties that are identical to those of verbs, and some that correspond to those of nouns. Root adjectives, participials, patientives, and agentive words resemble verbs in that their stems can be reduplicated, be modified by adverbs and intensifiers, disallow preprefixation and admit derivational as well as inflectional morphology. They are similar to nouns with regards to the fact that they bear gender marking and not the subject prefix found in Bantu verbal inflection (Bresnan and Mchombo 1987). Like nouns, all attributive words are referentially independent whose top level semantic predicate is nominal, naming things. A summary of the properties is as provided in (46) indicating the similarities and differences across the various types of attributive words compared to nouns and verbs.

(46)

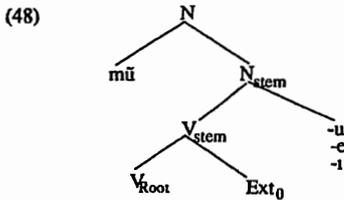
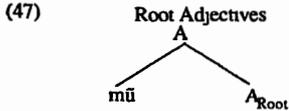
Property	Root	Ncl- -u	Ncl- -e]	[Ncl- -i]	Verb	Noun
Reduplication	√	√	√	√	√	x
take adverbs	√	√	√	√	√	x
take intensifiers	√	√	√	√	√	x
take adjectives	x	x	x	√	x	√
ncl morphology	√	√	√	√	x	√
sp morphology	x	x	x	x	√	x
optional head	√	√	√	√	x	-
<i>Derivational suffixes</i>						
applicative	-	√	√	√	√	-
reciprocal	-	√	√	√	√	-
<i>Prefixal morphology</i>						
object marker	-	x	x	√	√	-
reflexive marker	-	x	x	√	√	-
tense marker	-	x	x	x	√	-
aspect marker	-	x	x	x	√	-

The category "adjective" consists of a small closed class of items in Gikūyū. Deverbal words used attributively have many properties in common with verbs. Suffixal vowels -u, -e, and -i are the

verbal nominalizers, which attach to verb stems in the lexicon and turns the verbs into attributive elements

4. Analysis

Upon outlining the facts about Gikūyū attribution, the issue arises regarding how root adjectives, [mū- . -u], [mū- . -e], and [mū- . -i] can be captured lexically and syntactically. Following Mugane (1996a), I will assume that root adjective word structure is as provided in (47) and deverbal words have the structure provided in (48). Root adjectives are formed by the combination of adjective stems with gender class markers. It is for this reason that root adjective stems do not permit derivational and inflectional affixation. Deverbal nouns are formed by the nominalization of the verb stem (V_{stem}) to form a noun stem (N_{stem}) which then combines with the noun class marker (N_{Cl}) as provided in (48). The verb stem is the locus of derivational and inflectional affixation, thus [mū- . -u], [mū- . -e], and [mū- . -i] all permit morphological extensions (Ext_0). The nominalizing morpheme is the suffixal vowel (Mugane, forthcoming)

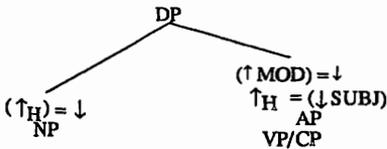


Root adjectives and attributive words differ in their lexical specifications as has been characterized in their lexical entries in (49) for root adjectives, (50) for participial attributive nouns (51) for patientive attributive use of nouns, and (52) for agent nouns. In these specifications, I assume that root adjectives select for a subject argument while deverbal words saturate their arguments depending on the transitivity of the verb stem. Root adjectives do not have the attribute feature ASPECT, while participial bears 'completive' aspect, the patientive bears the 'perfective', and agentive forms have used attributively do. In these specifications, I assume that root adjectives select for a subject argument. The noun class marker introduces an optional PRED 'pro' feature in the lexical process of word formation. The subject may be provided by the head noun or may be provided by the information contributed by the noun class morphology. It is the presence of the optional PRED 'pro' feature that allows for attributive words to be referentially independent of the head noun.

- (49) mūtoi A (↑PRED) = 'wayward <SUBJ>'
 ((↑SUBJ PRED) = 'pro')
 (↑SUBJ GEND) = 1
- (50) mū-thīñj-u N (↑PRED) = 'slaughterer<SUBJ, OBJ>'
 ((↑SUBJ PRED) = 'pro')
 (↑SUBJ GEND) = 1
 (↑ASPECT) = COMPL
- (51) mū-thīñj-e N (↑PRED) = 'slaughterer<SUBJ, OBJ>'
 ((↑SUBJ PRED) = 'pro')
 (↑SUBJ GEND) = 1
 (↑ASPECT) = PERF
- (52) mū-thīñj-ɪ N (↑PRED) = 'slaughterer<SUBJ, OBJ>'
 ((↑SUBJ PRED) = 'pro')
 (↑SUBJ GEND) = 1
 (↑ASPECT) = HAB

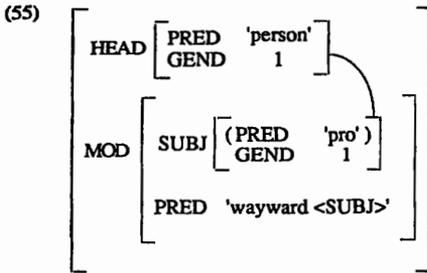
In terms of function, the root adjective, [mū- -u], [mū- -e], and [mū- -ɪ] have a modificational function indicated by the equation (↑MOD) = ↓. Since deverbal words are reduced relative clauses, I take them to be of category VP (and CP when it is a full relative clause). Root adjectives are of the category AP. By the universal principles of structure-function association (Bresnan 1995), constituents adjoined to maximal projections, such as AP and CP in (53), are a non-argument functions. The equation (↑H) = (↓ SUBJ) applies to both root adjectives and deverbal words as part of their constituent structure (c-s) annotations. This annotation says that the value of the head of the mother node is the same as the value of the subject of the AP and CP. This equation implies Modifier-head agreement which makes it unnecessary to write the equation (↑AGR) = ↓ on the c-s, requiring that the head and its modifier agree in gender marking.

(53)



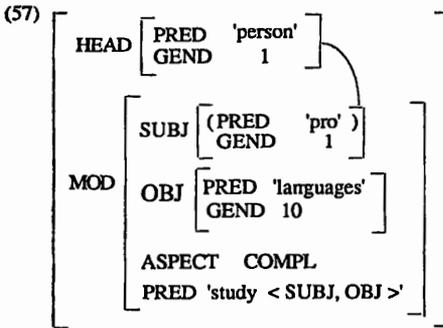
The f-s for root adjectives phrases such as (54) is as provided in (55)

- (54) mūndū mū-toi
 1person 1-wayward-Nzer
 'a person who is wayward'



Participial attributive modifiers such as (56) have a functional structure as in (57). In (57) the curved line indicates the control relation, meaning that the controlling material belongs in both places at once (Sells, 1985).

- (56) mündü mü-thom-u thomı
 1person 1-study-Nzer 10language
 'a person who have studied languages'



The lexical rule that is relevant in the formation of participial verbs which are used attributively in Gikūyū takes the argument associated with the subject of a verb and pairs it with the agent-like argument as indicated in (58).

- (58) (↑PRED) = 'slaughter < (↑SUBJ) (↑OBJ) >
 Agent Theme

The agentive deverbal elements differs from the participial with respect to the aspectual semantics, where in the (57) the value for aspect is HABITUAL.

In summary, root adjectives differ from participial, patientive, and agentive words in that root adjectives are a very small set of elements which only select their noun class in the sub-lexical processes of word formation. Deverbal words are clausal elements which are derived by different lexical rules. The participial involves the association of the subject of the active verb to a participant role, the patientive is derived by a lexical rule identical to the passive rule, and agentives associate the subject of the active verb to an agent role. The system of attribution in Gikūyū requires a uniform treatment of modifier-head relationship with regards to the c-structure and f-structure. I have shown that root adjectives, participial attributive words, patientive words and agentive forms all have a modifier function indicated by the equation (\uparrow MOD) = \downarrow in the syntax. Modifier-head agreement is guaranteed by the equation (\uparrow H) = (\downarrow SUBJ) annotated in the c-structure indicating that the value of the head of the mother node is the same as the value of the subject of the attributive word.

5. Previous Studies

Previous studies have covered different areas of the facts presented in this paper. Carstens (1991), studies the structural placement of adjectives in the noun phrase structure, Sproat (1985) and Kinyalolo (1991) look at the discharging of theta-roles in Chichewa and Kilega synthetic compounds respectively, Moshi (1992) studies the categorial status of Kichaga adjectives and Bresnan and Mchombo (1995) describe the properties of adjectives in Chichewa. The paucity of adjectives noted earlier for Gikūyū by Barlow (1951) has been widely observed across Bantu in subsequent studies.

Dixon (1977) notes this scarcity and observes that Bantu languages have a membership ranging from less than 10 to forty or fifty. Venda (Doke 1954: 166-167) has about twenty, Bemba has less than twenty, Luganda about thirty six, Swahili about fifty. Dixon says that for languages such as English and Dyirbal, which have adjectives as a major class, the semantic content of the class is fairly constant from language to language. He also says that languages with a limited class of adjectives also show similarities in the concepts expressed by adjectives. He says that Igbo (Kwa sub-group of Niger-Congo) with about 8 adjectives (which make four antonym pairs (Welmers and Welmers, 1969, Welmers, 1973)) is very similar in concept to the genetically unrelated Hausa (a Chadic) language. Dixon notes that adjectives are 'property concepts' identifiable as dimension, age, value, human property, physical property, and speed.

Whiteley (1960) distinguishes nouns from adjectives by (i) defining nouns as "independent nominals" and adjectives (including demonstratives, possessives, numerals, & emphatics) as "dependent nominals". (ii) Nouns are short series nominals and adjectives are long series nominals. Whiteley (1960) distinguished nouns from adjectives by calling nouns "short series nominals" and adjectives "long series nominals". He did this to distinguish adjectives from other dependent nominals. He argued that dependent nominals do not belong to any specific grammatical class but depend on the noun which is the controller of morphological marking.

With respect to Zulu, Cope (1963) defined adjectives by their morphological marking. To him, dependent adjectives are those bearing the same prefix as the head noun, and an independent adjective are ones that bears verbal prefix morphology (for other languages, see Sharman 1963, Guthrie 1967/71). Doke (1967), Dixon (1977) distinguish nouns from verbs by person/number agreement, a lack of tense-aspect marking. Moshi (1992) finds such characteristics limiting when confronted with Kivunjo-Chaga facts.

Moshi's (1992) study of Kichaga adjectives observes that such notions as "attributive" and "predicative" are as useful in Bantu, as they are in Indo-European languages. This is due to the fact that these terms are defined syntactically. An adjective is attributive if it precedes the noun it modifies (in, *a poor sultan*) and in the predicate position if it occurs in the post-verbal position (in, *the sultan was poor*). Further, she observes that while it is the case that adjectives in Indo-European languages can head phrases (Bolinger 1967, Siegle, 1980, Croft, 1986) and even (in a broader sense) include determiners, quantifiers, some verbs, prepositional phrases, relative clauses (Quirk et al. 1985, Lyons 1968, 1977), the situation in Bantu is rather different. Moshi finds that the criteria (largely based on English) are problematic because Kivunjo-Chaga adjectives fit both the broad and narrow sense. Moshi, following Whiteley (1960), considers a noun to be an independent nominal depending on whether it belongs to a specific noun class. It cannot appear without the relevant class prefix. Adjectives on the other hand may appear in a variety of noun classes. With regards to the morphological marking (Cope (1963) Kivunjo-Chaga does have a distinction between independent adjectives (62) and dependent ones (63). In both these cases, the adjectives seem to select their class prefix (whereas nouns are restricted to belong to one class) Moshi (1992: 116)

(62)	m-ndu m-leshu	tall person	(class 1)
	m-ana m-ca	good child	(class 1)
	m-fi -mtutu	small arrow	(class 3)
	ma-imba -ma-ili	white corn	(class 6)
	n-ganda ngi-tutu	small banana tree	(class 9)
(63)	m-ndu a-shumbi	a fat person	(class 1)
	m-fi u-ganyi	a big arrow	(class 3)
	ma-imba gha-ganyi	big ears of corn	(class 6)
	n-ganda i-shumbi	thick banana tree	(class 9)

Moshi also says that Kivunjo-Chaga adjectives are in conformity to the semantic classes suggested by Dixon (1977) which are mentioned above.

Root adjectives in Gikūyū fall into the semantically defined property concepts proposed by Dixon (1977), but derived attributive words do not. However, all words used attributively in Gikūyū are based on aspectual notions: STATIVE (root adjectives), COMPLETE (participial nouns), PERFECT (patientive nouns), and HABITUAL (agentive nouns). Dixon's (1977) proposal that a set of 'property concepts' identifiable as dimension, age, value, human property, physical property, and speed characterize the semantics of adjectives can only describe root adjectives in Gikūyū. The kind of data introduced in this paper has not been recognized in all the previous works on adjectives. Gikūyū makes up for the paucity of adjectives by utilizing reduced relative phrases attributively.

6. Conclusion

The issues which inspired the inquiry carried out in this paper are: what are the countervailing mechanisms for the impoverished root adjective system in Bantu? Are Bantu languages restricted in the range of attributive modification? Does Dixon's system explain Gikūyū facts? How is the mismatch between syntactic category and syntactic function to be addressed?

In answer to these questions, I have shown that reduced relative clauses are widely used as

attributive modifiers to make up for the 'paucity' of root adjectives. This being the case, Bantu has a very elaborate system of attribution which falls within the syntax of VP and CP in Bantu. This innovation in the grammar of the language is marked by the fact that verbs used attributively take noun class prefix morphology. With respect to structure-function association, I have shown that attributive words attach to the DP and that they are annotated with the equation $(\uparrow\text{MOD}) = \downarrow$. I have also proposed that for all adjectives and verb phrases used attributively, the value of the head of the mother node is the same as the value of the subject of the attributive word as indicated by the equation $(\uparrow\text{H}) = (\downarrow \text{SUBJ})$ annotated in the c-structure. Within the functional structure there is a control relation between the head and the SUBJ of the modifier indicating that the controlling material belongs in the Head position and the subject of modifier position at once. With the equation $(\uparrow\text{H}) = (\downarrow \text{SUBJ})$ it follows that the AGR value for the head is identical to the AGR value of the subject of the adjective or attributively used verb.

I have also shown that the semantic criteria proposed by Dixon (1977) may work to classify root adjectives but attributive verb phrases are subject to semantic criteria that are based on the aspectual features introduced to the base semantics of the verb by lexical rules. One lexical rule maps the subject of the verb to the participant role and the other one maps the object argument of the base verb to the patient role. When we abstract away from languages where the category adjective is a major class and where elements may be associated to modifier functions without regards to syntactic category and projection, the Bantu facts get a satisfactory explanation. I contend that the inadequate analysis about Bantu adjectives emanates from unsupportable assumptions in both theoretical and empirical terms.

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