

## **The Problem Of Lexical Cohesion And Lexical Structure In Bantu Classes (Part 2)\***

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### **3. THE LIMITS OF LEXICALITY: THE HUMPTY-DUMPTY PARADOX**

Bresnan and Mchombo (1995) propose that lexical words may be adequately tested for lexicality, i.e. what they call “lexical integrity”, by means of five tests: extraction, conjoin ability, gapping, inbound anaphoric islands, and phrasal recursivity. The writers claim that,

"Alternative concord is in fact a special case of phrasal recursivity, and it makes a compelling case for the syntactic analysis of the noun class markers by showing their lack of lexical integrity." (p. 197)

According to this hypothesis about alternative concords, Bresnan and Mchombo (1995), Carstens (1993), and Myers (1987) declare locatives and so-called infinitive/gerunds as the exceptions to lexical integrity in Bantu grammars. No serious attempt is made to investigate the behaviour of nouns in other classes. It appears that the writers have also overlooked the fact that, within Bantu languages themselves, there are limits to lexicality, and exactly what they mean by “the syntactic analysis of noun class markers” is not only elusive but dubious. All the problems of lexicality in Bantu can be resolved if we begin by studying the limits of lexicality in these and other languages. By “limits of lexicality” I mean the classic paradox which I wish to call 'The Humpty-Dumpty Paradox'. This paradox claims a rule of the following form to be valid in the relationship between lexical and syntactic phrases across languages.

The Humpty-Dumpty Paradox Lexicality.

- (i) A lexical item, formed by nominization, functions as a word and may also function as an argument.
- (ii) The lexical item remains a word even when it breaks up under linguistic stress in the direction of its syntactic source.
- (iii) A break up of cohesion is not a break-up of lexicality.
- (iv) Broken (syntactic) pieces of a nominized lexical word may be put together again if the linguistic stress factors which triggered the break up are removed.

The humpty-dumpty paradox would appear to contradict the principles of non-extraction and the condition of lack of phrasal recursivity in lexical structure, as proposed by Bresnan and Mchombo (1995: 194). The borderline between treating syntactic phrases as undergoing morphological derivation "by virtue of their being lexicalized" (Bresnan and Mchombo: 194), and treating cohesive words as undergoing syntactic derivation by virtue of their being 'dishesive', i.e. defused, but, nevertheless, remaining lexical words, is something which the two writers, and others like Myers (1987), and Carstens (1991; 1993) have overlooked in their study of Bantu lexical words centred on Chichewa, Chishona, and Kiswahili. For me, lexicality and phrasality are not questions of the implausibility of importing "German, Latin, French, or Chichewa syntactic rules into the word formation component of English in order to generate these examples" as the writers claim in their criticism of Lieber (1988, 1992), but are questions regarding whether there is any difference between a lexical word X which appears cohesive and the same lexical word X which appears dishesive under motivated grammatical stress, such as passivization, nominalisation, relativization, dislocation due to topicalization, etc. The paradox of humpty-dumpty lies in the fact that in the original rhyme, even though Humpty-Dumpty fell and broke to pieces, he remained Humpty-Dumpty. This paradox of 'broken but the same' is an intriguing problem in linguistics and needs to be addressed, since it affects not just the very manner in which we speak of ontological kinds, but also the status of words in grammars like those of Bantu. Humpty-Dumpty verbs abound in all languages, e.g.. break, shatter, scatter, burst, explode, disperse, diffuse, destroy, etc. These verbs describe states entered by objects, but the objects rebound at the end of their propositions exactly the same. A broken glass is still a glass; a scattered crowd is still a crowd. What should have been an empirical contradiction in terms of truth and inference, turns out to make linguistic sense in spite of all our semantical sensibilia.

I have already isolated two kinds of nominals in Kiswahili: the adhesive and the cohesive. I wish to add a third type, mentioned in passing above and which follows from the Humpty-Dumpty Paradox: the 'DISHESIVE' NOMINAL. A dishesive word is one whose constituents appear to revert towards their word-formation or lexicalization source. For example, when a cohesive nominal argument comes under passivization stress, it becomes dishesive, but the grammar treats the dishesive constituents as defining the same morphological lexical word found in the cohesive nominal if it was formed by nominization from, for example, a predication-sentence. The following scale describes the limits of lexicality in Bantu:

Break up:	Adhesive	→	cohesive	→	dishesive
Make up:	Dishesive	→	cohesive	→	adhesive

The direction of break up of a lexical word, which, after the break up of its constituents, retains the grammatical status of a lexical word in the grammar, is uni-directional, i.e. it goes from left to right. This means that an adhesive lexical word may become more cohesive, e.g.. allow noun modifiers, and finally become dishesive, e.g.. allow reordering of constituent relations, etc. The direction of 'make up' is asymmetric, that is, if a word becomes dishesive, it moves in the direction of becoming cohesive and, then, perhaps, becomes further grammaticalized as an adhesive word.

### 3.1. ILLUSTRATING THE HUMPTY-DUMPTY PARADOX IN KISWAHILI

Let us consider the data (4a), (8), and (9) again<sup>1</sup>. For clarity, I renumber the datum (4a) as (30), (9) as (31) and (8) as (32).

30. *Tuki-mw-ongezea / pato / mkulima au mfanyakazi // i-naweza i-siondoe / matatizo kwake...*  
 (If we increase the income of the farmer or the worker it may not remove his difficulties...)
31. *Kumwongezea pato mkulima au mfanyakazi / ku-naweza ku-siondoe / matatizo / kwake...*  
 A1 + P[P-v1 [P-v2 ]] + A2 [NP1[NP2]]  
 (Increasing-the-income-of-the-farmer-or-worker | may not remove | his difficulties...)
32. *##ku{mw-ongezea-pato-mkulima-au-mfanyakazi}##* Class 15, as in (31).  
 (Increasing-the-income-of-the-farmer-or-worker)

The datum (30) is a finite predication-sentence containing a conditional clause and a main clause. Under nominization, the conditional clause becomes a lexical word and this gives us the external argument of the datum (31). The lexical word which functions as the external argument is cohesive, but not necessarily adhesive, as shown in (32). The lexicality of the nominized item can be shown by the fact that it has a genetic class affix {ku} which is the affix of nouns in the class 15 KU- of Bantu. As a lexical noun word, it must have ability to bind and govern its predicates, as suggested in § 2. This is what we see in (31). The agreement concord on *ku-naweza* and *ku-siondoe*, i.e. V1, V2, is {ku} of class 15 to which the argument noun in (32) belongs. If we compare (31) to (30), we also observe that the subordinate clause '*tukimwongezea pato mkulima au mfanyakazi*' is not an

<sup>1</sup> See NJAS 6(1): 65-66.

argument (external or internal) of the main clause.<sup>2</sup> Now consider the developments below.

### 3.1.1 Dislocation And Extraction In Nominal Words

A. The object constituents of the finite active construction may be topicalized and appear dislocated to the left, as follows:

33. *Mkulima au mfanyakazi, tukimwongezea pato // inaweza isiondoe matatizo kwake.*  
(The farmer or worker, even if we increase his income || it may not remove his difficulties...)

B. The inbound constituent of the nominized word in (32) may also be topicalized. This breaks up the cohesiveness of the lexical word and it becomes dishesive as follows:

34. *Mkulima au mfanyakazi kumwongezea pato kunaweza kusiondoe matatizo kwake...*  
(The-farmer-or-worker...increasing-the-income | may not remove | his difficulties...)

We see in (34) that the single lexical noun in (31 and 32) undergoes extraction and inbound constituent dislocation. The predicate '*tukimwongezea*' is an applicative construct which introduces a 'double object construction'. The OM of the (P+G), i.e. the recipient in the finite construction (30), remains even in the nominized word constituent '*kumwongezea pato...*' in (31) as well as in (34). We see that nominization affects all the syntactic constituents of the subordinate clause in (30). In lexical derivation, in my view, the syntactic structure must be complete at the time of nominization. If this condition is not fulfilled, the derivation will not yield a noun or nominal, but an ungrammatical output. The (P+T) *pato* (income), i.e. the direct object, in (30) remains in the same position under nominization in (31, 32) as well as in (34) where topicalization of (P+G) requires *pato* to be present obligatorily (Croft 1990: 101-106). Furthermore, in the datum (34), even though part of the lexical noun of class 15, as in (32), has been extracted and topicalized, the whole remains a single discontinuous lexical item. What seems amazing, then, is the fact that lexical integrity breaks down if a word is defined narrowly under the criteria provided by Bresnan and Mchombo (1995). The theory of syntactic analysis of noun class markers becomes unconvincing, since inbound constituents of a noun

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<sup>2</sup> The data have been verified by Sh. Abdulaziz Lodhi of the University of Uppsala, a native speaker of Swahili.

can precede the class marker, i.e. stand outside the governing domain of the noun marker as in (34). The applicative source of the nominalised predicate obligatorily requires that an argument (P+G) is present overtly and be the OM taker. The topicalization does not, therefore, overrule lexicality. Evidence of this can be seen in the fact that the concord on the predicate of the construction remains *ku-* in '*kunaweza kusiondoe*' of (34). We have here, then, a clear evidence that a cohesive lexical word can become dishesive under grammatical stress, such as topicalization leading to dislocation. The obligatory external argument agreement concord on '*kunaeza kusiondoe*' makes it impossible in Bantu to argue that we are not dealing with the same lexical item in (31) and (34). This situation is a classic Humpty-Dumpty paradox. In order to put the lexical humpty-dumpty together again, it suffices to remove topicalization. This simple process of recovery is the classic manner by which we understand ordinarily how Humpty-Dumpty, or a glass, a plate, or a window breaks, or shatters, etc., but remains, nevertheless, Humpty-Dumpty, a glass, a plate, a window, etc., without any apparent contradiction. In language too, a lexical word may break up and remain a lexical word. Neither a lexical integrity nor a lexical atomicity theory can handle adequately these lexical items in a grammar. The problem of a syntactic treatment of so-called noun class markers under the Bresnan and Mchombo (1995), Carstens (1991; 1993), and Myers (1987) approaches is that it is bound to falsify the relationship between '*kumwongozea-pato-mkulima-au-mfanyakazi*' and '*mkulima-au-mfanyakazi...kumwongozea-pato*', as well as between these and '*tukimwongozea pato mkulima au mfanyakazi*'. Since, '*mkulima-au-mfanyakazi*' (farmer or worker) is not a modifying item of a so-called independent word, but an inbound constituent of the word, we cannot explain syntactically how the class marker governs such inbound items in a syntactic tree. Remember that these are strictly sub-category and sub-lexical items of a lexid. Furthermore, the lexid contains a conjunction of terms and this must be accounted for by any head movement hypothesis. If the coordinate items are to be moved separately under class government, the exact base position of each conjoined constituent must be determined explicitly. It should also be noted that the conjoined items can come from distinct classes requiring distinct NP and DP frames, such as *mkulima au wafanyakazi* (farmer or workers), etc. A syntactic analysis must show in what fundamental ways the syntax of the noun in (34) differs from the syntax of the predication-sentence in (33). The two are not the same. A synthetic treatment would also apply a toyretical analysis to (31) and (34) by deriving the same word differently, i.e. as both synthetic (a word) and non-synthetic (a phrase). So far, none of the advocates of the syntactic treatment of noun markers, or integrity treatment, based on 'morphological entity', has resolved this paradox.

### 3.1.2 Passivization And Extraction In Nominal Words

Let us consider once more our data (30-32). In linguistics, one test of transitivity is the ability of a transitive clause to undergo passivization. Consider in this regard the following patterns.

A. Passivization of (30).

35. *Mkulima au mfanyakazi akiongezewa pato (na sisi), matatizo kwake yanaweza yasiondolewe...*

(If the income of a farmer or worker is increased by us, his difficulties may not be remove...)

The datum (35) is a normal passive construction. The (P+G) of an applicative construction, it is often claimed in the literature, becomes the subject of the passive in double object constructions in Bantu. (35) is no exception to this rule, as the underlined argument phrase *mkulima au mfanyakazi* shows. In the same way, the internal argument of the main clause, it is said, becomes the subject (*matatizo*, as underlined) of its predicate under passivization. It should be noted that *kwake* (for him) is a lexical anaphora which refers to (P+G).

B. Passivization (31).

36. *Matatizo kwake yanaweza yasiondolewe kwa kumwongezea pato mkulima au mfanyakazi.*

(His difficulties may not be removed by increasing-the-income-of-the-farmer-or worker.)

The datum (36) is a normal passivization in which the (P+T) argument '*matatizo*' of the active (31) now appears to function as subject of the construction, while '*kumwongezea pato mkulima au mfanyakazi*' the external argument is introduced by a prepositional marker *KWA* (by) in place of *NA* (by) as the 'agentive phrase'.<sup>3</sup> But now consider the following pattern of Bantu:

C. Passivization may operate inside nominized nouns as in (37).

37. *Matatizo kwake yanaweza yasiondolewe kwa kuongezewa pato (kwa) mkulima au mfanyakazi.*

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<sup>3</sup> Sh. Lodhi comments that "*Hiyo 'na' ni vague, haionyeshi waziwazi kwamba ni ya agent, kwa hivyo 'kwa' ni bora zaidi*" (this NA is vague, it does not indicate clearly that it belongs to the agent, for this reason KWA is more preferred) - my translation.

(His difficulties may not be removed by the-income-being-increased-or-the-farmer-or-worker.)

In the datum (37), we observe that the subject of the predication-sentence is the same as in (36). The *KWA* introduces the agentive phrase as '*kwa kuongezewa pato mkulima au mfanyakazi*'. What seems to have changed is the fact that the external argument which is a nominized noun '*kumwongezea-pato-mkulima-au-mfanyakazi*' and is now an agentive complement of *KWA*, undergoes itself passivization as if the noun is not a noun and the word not a word. All this takes place while the class 15 marker *KU* is still clearly the noun marker. The *kwa* in parenthesis is the adnominal genitive (of, for) which optionally binds '*mkulima au mfanyakazi*' to the class affix *ku-* in *kuongezewa*. The agent phrase of *-ongezewa* (be increased) is '*na sisi*' (by us), which is realized as zero or is suppressed. This amazing construction is typical of Bantu lexicality. The consequence of passivization inside the inbound constituents of a nominized lexical word is that the lexical word becomes once more dishesive. Here again, the Humpty-Dumpty paradox is very much in evidence. Given the analysis above, it is undeniable that the agentive complement '*kuongezewa-pato-(kwa)-mkulima-au-mfanyakazi*' is a kind of '*passivized*' form of the noun '*kumwongezea-pato-mkulima-au-mfanyakazi*'. The noun is not a so-called infinitive form of any verb. It derives directly from the finite predication-sentence (30). If the claims of modern grammars are to be believed, then the mirror-image relation between active-like nouns and their passive-like derivations must be taken as evidence of sameness of structure at U-structure. Thus, since the active-like lexical word '*kumwongezea-pato-mkulima- au-mfanyakazi*' functions as a single argument and has one theta (contrary to Carstens 1993: 178), and hence one word, its passive-like counterpart, though dishesive, also counts as a single argument, one theta, and a one word construction.

### 3.2 PASSIVIZED NOMINAL WORDS

The kind of nominal passivization described in § 3.1.2 is distinct from nominization of passive predication-sentences. The two processes need to be kept separate. Consider the following passive predication-sentence (38).

38. *Watu wameondokewa na wapenzi wao.*  
(People have been forsaken by their beloved ones.)

The datum (38) has *watu* (people) as subject of the passive verb *-ondokewa* (be abandoned, be left). The so-called agent phrase is introduced by the prepositional conjunction *NA* as '*na wapenzi wao*' (their beloved). The datum can be nominized

into the class 15 *KU* by its marker *ku-* and thus become an argument of another predicate as follows.

- 39a. *Ku-ondokewa kwa watu na wapenzi wao / si / kw-ema.*  
(the-being-forsaken-of-people-by-their-loved-ones is not good)

The datum (39a) shows that the external argument of the copula predicate *SI* (be not) is the nominized form of the predication-sentence in (38). In (39a), the string is a single lexical word and not a predication-sentence or phrase and so may be written as '*Ku{ondokewa-kwa-watu-na-wapenzi-wao}*'. This can be seen in the fact that the predicate *SI* has a predicative adjective *kwema* (good) as a kind of internal argument (hence an adjectival predicate), and this has concord with {*ku*}. The adjective is in concord with the noun argument '*kuondokewa-kwa-watu-na-wapenzi-wao*' of the predication-sentence (39a). As pointed out in Amidu (1980: ch. 2), if a restriction on direct adjective modification occurs for a given noun, the alternative is to use the adjective in a predicative construction introduced by copular *NI*, or its negative *SI*, and the construction would generally be acceptable. This is exactly what we see in datum (39a). Other variants of (39a) are:

- 39b. *Kuondokewa na watu si kwema*  
(Being-forsaken-by-people is not good)  
39c. *Kuondokewa si kwema*  
(Being-forsaken is not good)

The datum (39c) comes from Muyaka Bin Haji al-Ghassaniy of the 19th century (Hichens 1940: 94). This construction led to my (38, 39a, b). The data was verified by Sh. Lodhi. Supposing the argument to be a predicate verb, Sh. Lodhi comments: "*Hii ni mifano mizuri ya passive of stative/static, lakini hiyo stative yenyewe ndiyo imetumika hapa kama kitenzi cha kawaida, nafikiri, na hiyo -ka haihesabiwi kama ni kiishio.*" (This is a good example of the passive of a stative/static, but this stative itself is what has been used here as an ordinary verb, I believe, and this *-ka* is not reckoned to be an extension).

The *-ka* that Lodhi refers to is that in the stative verb form *-ondoka* (leave) from which we get the applicative *-ondokea* (leave from, forsake, and finally the passive of the applicative of the stative *-ondokewa*). The purpose of the quotation is to show that nominized predication-sentences bear a striking resemblance to their finite forms, and could easily be mistaken for verbal forms. However, we see from the agreement with adjective that this passive-like construction is a noun which derives from the direct nominization of a finite construction, as in (38). This type parallels the lexical cohesion and argumenthood of datum (32). If we were to view this nominized noun as a passive structure under the infinitive/gerund hypothesis of



Bresnan and Mchombo, we would have to describe the construction as dishesive in structure rather than cohesive. The dishesive argument is attractive for other reasons: if we compare (39a) with (39c), we observe that the inbound constituents of the argument noun in (39c) are optional. Optionality implies a choice and this again destroys lexical integrity. The constructions in appendix A-C in § 2.2 would qualify as dishesive under this interpretation, as we shall see shortly. One way out of the quandary for both integritists and atomicists is to argue that only *kuondokewa* is a noun, and it heads a noun phrase. For example, it seems evident that '*kwa watu*' is an adnominal phrase based on the connective *-a* of association with concord {*ku*} which is in agreement with its noun *kuondokewa*. Having conceded this much, we find that the agentive phrase cannot be explained away as merely a feature of NPs. It is almost certainly part of the nominization of *kuondokewa*. The evidence is clear on this point. If we accept that the agent phrase is part of the nominization process, then the construction must be dishesive, since the adnominal phrase is a feature of NPs but the agentive phrase must be bound to the passive morphology that generates it as in (39b). We find in (39a), therefore, the typical Humpty-Dumpty paradox of a broken lexical item which, nevertheless, is one single word in view of the morphological constraints of passivization: the agent phrase separated by a noun phrase constituent is a synthetic part of the nominized passive *kuondokewa*. Theoretically, one could move the agent phrase nearer its underlying predicate as in (40),

- \*40. *Ku-ondokewa na wapenzi wao kwa watu / si / kw-ema.*  
(The-being-forsaken-by-their-loved-ones-of-people is not good.)

but the result is not grammatical. Dishesion is, therefore, preferable to cohesion in these cases, as a matter of grammatical necessity. Lexical integrity gives way under grammatical stress even when nominization applies directly to a construction, such as (38), which is already in the passive.

Most of the examples I have given so far come from the class 15, which has erroneously been labelled infinitive/gerund class by traditional and modern Bantuists, in my view. There are other nominized passive constructions which are found in other classes. These refute the claim that infinitive/gerunds and locatives are the only classes which do not respect lexical integrity and require 'syntactic analysis of noun class markers'. Consider (41).

- 41a. *Mchomwa mwiba / hawi / mtembezi.*  
(One-pricked-by-a-thorn cannot be a walker.)  
41b. *Mchomwa na mwiba / hawi / mtembezi.*  
(One-pricked-by-a-thorn cannot be a walker.)

The datum (41a) is a well-known saying in Kiswahili and is more commonly heard than the alternative (41b) even though there is no difference in meaning between them. In (41a, b), *mchomwa mwiba/na mwiba* is the nominized form of a construction of the type (42).

42. *Mtu / huchomwa / na mwiba.*  
(A person can be pricked/is pricked by a thorn.)

The *hu-* in the predicate is the habitual aspect marker. Note that the nominized *noun* *mchomwa mwiba* (*m{chomwa-mwiba}* or *m{chomwa-na-mwiba}*) is a lexical item of class 1 with class affix *{mu}* realized as syllabic [m] before a consonant. The nominization process may delete the agent preposition *NA* as in (41a) leaving the noun *mwiba* (thorn) bare and indistinguishable from any internal argument noun. Here, then, we see the so-called agent noun becoming more obviously a constituent part of the nominized noun. Evidently, the string '*mchomwa mwiba*' must be a single lexical item since, unlike (39c), the passive *mchomwa* (one who is pricked) cannot stand on its own. The datum (43) is, consequently, ungrammatical.

- \*43. *M{chomwa} / hawi / mtembezi*  
(One-who-is-pricked cannot be a walker)

The reason for the ungrammaticality of (43) is due to the fact that the word *mwiba* (thorn) is not an obligatory or gemmate ( i.e. cognate) collocation of *-choma* (to prick, pierce). This means that, unlike the optional constituents in (39a-c), (41) does not allow full optionality for inbound constituents for obvious semantical and syntactical reasons. Lexical cohesion is, however, not obligatory. We get, as a result, a word which is not fully cohesive, and does not seem to be fully dishesive either. In my view, this interface is due to the optionality of the preposition of the agent phrase under passivization. The optionality, therefore, arises from passivization prior to nominization since it is more common for *NA* (by) to be unrealized under passivization morphology. As I argued earlier, nominization often applies to finished syntactic constructions, the maximal ones and their degrees of minimal variants. We see then that cohesion of nominized passives varies from construction to construction. Even so, (41) shows that the so-called agent phrase is an obligatory part of a nominized noun if it is present at the end of the nominization process. The pattern confirms that (39a) is a dishesive noun, i.e. a noun phrase constituent intervenes between the agent phrase and part of the lexical structure of the noun to which it is bound.

I draw attention to the fact that Bresnan and Mchombo (1987: 189ff) in their discussions of 'inbound islands' attempt to explain away the occurrence of so-called pronouns inside Bantu lexical. They claim that, via their work of (1987), they have found a way by which "the morphological operation which joins the object marker

with the verb stem specifies the content of the syntactic object of the verb as a pronominal at the level of functional structure, and the same may be extended to possessives." This statement obviates the crucial questions about lexicality. Firstly, does the lexical noun have an OM or not as a lexical word, and if so what is nominality in a Bantu grammar? Secondly, what kind of lexical word are we dealing with if a so-called OM has syntactical functions inside the word as the specifier of "the content of the syntactic object..." (Bresnan and Mchombo 1987: 191) of a noun? The claim that "the meaning of these words can thus be derived by semantic composition of syntactic functions in f-structure" (p. 191) is unconvincing. When we speak of noun word lexicality, we are dealing with noun word morphology and not with verb morphology. In the primary thesis of their paper, word morphology is synthetic rather than syntactic, hence integrity. For this reason, a semantic composition of syntactic functions in f-structure for a nominal lexical word is a denial of integrity. It is also a contradiction of the lexical integrity principle which they propagate. What Bresnan and Mchombo (1995) fail, perhaps, to appreciate is that deriving something by functional structure does not amount to converting it into non-functional structure, an outcome that would be natural and logical if morphology were independent of syntax. The contradiction in the integrity principle confirms that, theoretically, there is no clear demarcating line between syntax and morphology, at least in Bantu. In my development of LEG, syntax and morphology are mirror-images of the same underlying principles of tactics. If a derivation makes little difference to the syntactic function of a morphological form and its syntactic constituent, then, the process of derivation must be redefined as an integrated function of both morphology and syntax, such that neither level alone is a necessary or sufficient (or both) explication of lexicality in grammars.

I have shown above that nominization operates directly on predication-sentences, leaving only 'cosmetic' alterations in the operandum, exactly in the same way that it operates on adhesive lexical words to generate compound lexical words of varying kinds. I have also shown above, in § 3.1.1, how nominization does not change the semantic relationship that exists between finite clause as in (30) and an argument as in (31). The finite clause exists prior to nominization, but the operation of nominization is a composite operation over the finite clause. It is not fractured in such a way that the linguist may retain his/her f-structure operations inside the noun word. And if we must retain f-structure operations of verb inside the lexical structure of a noun, as the data above seems to suggest, then it is false that there is (a) lexical integrity, and (b) independence between morphological derivations and syntactic structures as suggested by Chomsky (1970) and championed by LFG and TG-GB schools. I have shown that nominization does not prevent passivization inside the nominal word. The passive morphology, rather than the nominization operation, realizes the OM as zero in the noun in the same way as for any finite clause passivization. The crucial task then is to determine what the lexicality of a

nominal word in nominal structure is as opposed to a verbal word in predicate structure. It is only in this way that we can tell if the criterion for integrity is the same across all form classes, or whether it differs according to form classes. In my view, there is a scale of lexicality running from the most adhesive to the most dishesive. This means that predicateness finds expression in nominals and that of nominals finds expression in predicates leading to a symbiotic relationship of lexicality in Bantu. This also suggests that there is a symbiotic relationship between morphology and syntactic structure. Nominization as a word derivation process includes syntactical features as part of its principles of derivation. It is not correct, in my view, to make syntactic description independent of morphology when the grammar itself does not always do so. There is, therefore, no systematic integrity of lexemes based on morphology per se as distinct from the integrity of predication-sentences based on syntactic structures in Bantu grammar.

In the present section too, I have shown how the subject of a passive clause may be conjoined to its nominized head by means of concord item KWA of class 15 (see (39a)). Conjoin ability is possible given a broader interpretation of conjoin ability than that proposed by Bresnan and Mchombo (1995) and modern linguistic theory. But even more intriguing is the optionality of the preposition of the agent phrase within the lexical word. If there are inbound islands within lexical words, then it is indeed strange that all these possible variations occur freely in nominized Bantu lexical words, and in spite of the purported independent level of morphology. Evidently, for me, inbound islands have limited validity as tests of lexicality in Bantu. I also think that it is theoretically inappropriate to consign counterexamples of a hypothesis such as lexical integrity to "a restricted subclass of meaning-changing morphological operations that are found in derivation and compounding" (Bresnan and Mchombo 1995: 192). Either lexical integrity is a valid principle or it is not. The evidence shows that it is not, since it cannot account for a very productive and common set of nominal lexical words in Bantu word formation morphology which occurs in nearly all the classes, namely, the cohesive-dishesive lexical words of the grammar, without ultimately appealing to syntactic functional structures. In view of the evidence, I conclude that in my LEG an integration of morphology and syntax as mirror images of the same type of string construction process, satisfies the criterion of explanatory relevance (Hempel 1966). Morphology and syntax differ only in regard to scale in syntactic form. A micro structure may have the same function as a macro structure and the reverse is also true. In this way, LEG avoids the dilemmas of modern grammars like LFG in the matter of lexicality or wordhood in languages.

#### 4. CONSTITUENT BINDING AND OPTIONALITY IN LEXICAL WORDS

In the preceding section, I alluded to the fact that *mchomwa* in (43) cannot stand on its own, namely, it has no 'locus standi' unless the agent phrase embedded in the nominization is also present as in (41). This feature of dependence has led Bresnan and Mchombo (1995: 224) to make a rather sweeping generalization regarding Kiswahili nouns of this type. Carstens (1991: 63-65) is criticized by Bresnan and Mchombo (1987: 224, note 42) for using what they call "relativization from synthetic compounds in Kiswahili using a genitive resumptive pronoun." Carstens uses a possessive genitive *wake* (his) with *mchimba* (digger/one-who-digs). What Carstens actually does is to attempt to fracture *mchimba kisima* into two separate NPs: *kisima hiki* (this well) which now has a demonstrative modifier, and *mchimba wake* (his digger/his-one-who-digs). *Mchimba* is thus separated from its inbound constituent *kisima* (well). But in trying to make capital out of this construction, which is quite grammatical, in my view, Bresnan and Mchombo (1995) give a misleading picture of nominization processes in Kiswahili. Bresnan and Mchombo (see their note 42) claim that:

"*m-chimba* 'class 1-dig' of the synthetic compound normally does not take a genitive complement of any kind, pronominal or otherwise, and it does not occur in isolation as a noun."

Even though there is some truth in their claim, the following examples show that such sweeping generalizations are toyretical in Kiswahili.

44. *Muumba wetu ametulinda.*  
(Our Creator has protected us.)

*Muumba* takes the possessive genitive first person plural affix and this is very grammatical in Kiswahili. As Sh. Lodhi also states, if the noun is qualified by a definite modifier, it suggests a reference to a person already known. In such a context, one can use the noun by itself. In (44), *muumba* is qualified by the possessive *wetu* (our), but the possessive may be omitted since *muumba*, in this form, always refers to God Almighty and there is only one such God in human experience. The datum (45) below is, therefore, grammatical and the form stands on its own.

45. *Muumba ametulinda.*  
(The Creator has protected us.)

Data similar to (45) abound in Kiswahili, as in (46-47) (see § 2.2, appendix nr. B).

46. *Mla ni mla leo, mla jana kalani?*<sup>4</sup>  
(the eater is the eater of today, the yesterday's eater what did he really eat.)
- 47a. *Kisima hiki alikichimba mchimba.*  
(This well the digger dug it.)
- 47b. *Kisima hiki alikichimba mchimba wetu.*  
(This well our digger dug it.)
- 47c. *Kisima hiki alikichimba mchimba wa kwetu.*  
(This well, our hometown's digger dug it.)

The datum (47) is grammatical and *mchimba* stands on its own or takes modifiers as appropriate. Evidently, the non-native speaker cannot predict such acceptable patterns, and it is dangerous to attempt to do so. As Sh. Lodhi explains, since *Kisima* has a definite modifier 'this', *mchimba* can only refer to the digger of this well and not some other well. In this context, the *kisima hiki* is topicalized and *mchimba* is semantically bound to *kisima hiki*. Topicalization, as we have already seen, triggers dishesiveness in lexical words, and (47) confirms this phenomenon. The evidence above shows that neither collocation nor derivational principles constitute barriers to the use of nouns of the type *mchimba* on their own or with (resumptive) genitives, or with adnominal genitives. Even though the words *mwumbaji* (creator) and *mlaji* (one who eats too much of everything, according to Sh. Lodhi) all exist in the grammar, they have special usages and are subject to contextual specializations (Whiteley and Omar 1974).

We see once more that Bresnan and Mchombo's (1995) claim about the efficacy of their lexical integrity theory is doubtful. Some of their claims are based on patently toyretical descriptions of data about Kiswahili and Bantu nominized nouns and their functions. It is quite evident that the ability of a lexical word to have a 'locus standi' depends on the optionality of its collocations and the grammatical stresses operating on nominized words in the grammar. The verb *-la* (eat) usually implies 'food' or something associated with food-like matters. In the contexts given in (46), there is no need to specify food since this is understood as a gemmate property of an eater. In Kiswahili, *mwumbaji* can imply any creative person. In order to refer to the specific uniqueness of God's creative powers, he is referred to as Muumba. The context leaves little room for doubt. Apart from grammatical stress brought on by passivization, topicalization, nominization, etc., there are choices available to the native speaker which linguists need to take into consideration in formulating their theories about lexicality in Bantu. Linguistic description should be empirical and not prescriptive or impositional.

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<sup>4</sup> I learnt the proverb in (46) as a student under Jan Knappert at the SOAS years ago.

## 5. MODIFIERS, LEXICAL CONSTITUENTS, ORDERING AND OPTIONALITY

One determinant of lexicality, according to Bresnan and Mchombo (1995), is phrasal recursivity discussed briefly in § 2.0. In this section, I revisit the question of 'alternative concords', and demonstrate once more that there are no alternative concords in nominized constructions. Multiple modifiers are restricted to their place in the lexical structure of their words, that is, as belonging to inbound constituents or as belonging to the governor of the inbound constituents. A confusion of governor and governee relationships gives a false impression of alternative concords in lexical words.

In Kiswahili, a predication-sentence or clause which is nominized as a lexical word may retain the autonomy of its constituents as long as the modifiers of the inbound constituents do not exceed or interfere with the governing domain of the modifiers of their matrix governor, the class projection nominizer affix which determines the class of the generated noun. As stated in Amidu (1994a), all nouns must belong to a matrix framework dominated by a class affix and by this affix only, and, consequently, must be subject to all the TLVs of that class in the matter of taking qualifying lexids (or stems) of demonstrative, possessive, predicate, etc. Consider in this regard the following datum (48).

- \*48. *M{taka} | hukosa | yote.*  
(A wanter/one-who-wants loses all.)  
49. *M{taka-yote} | hukosa | yote.*  
(One-who-wants-all loses all.)

The datum (48) has '*mtaka*' (one who wants) as the external argument of the predicate *hukosa* (loses). The *hu-* is the habitual aspect marker. The internal argument is marked simply by a nominal quantic modifier *yote* (all). The noun *mtaka* is the result of the nominization of a finite predicate, such as *anataka* (he wants), *anayetaka* (he who wants), etc. However, *mtaka* has no 'locus standi' on its own and so the construction is ungrammatical. *Mtaka* has no self-evident collocations explicit or implied which may be assumed to be its inbound constituent or possible inbound constituents. This is the cause of the ungrammaticality of (48). The datum (48) also suggests that a predicate item or predication-sentence which undergoes nominization must be either transitive or intransitive and explicitly specified as being of one of these construction types. The predicate *-taka* (want) is transitive and so any nominization of it or its predication-sentence must encode its transitivity. In this regard consider (49) above. We realize that datum (49) is grammatical because the construction from which it was derived contained a transitive constituent in the form of an internal argument. But the interesting thing about (49) is that there is no overt noun argument encoding the transitive structure

of the derived noun. Instead, we only have a quantic modifier as the inbound constituent of the lexical noun *m{taka yote}*, hyphenated as *mtaka-yote* by me (Amidu 1980: ch. 6, and data (10-11) for justification of this practice). The fact of the matter is that since *mtaka* cannot stand on its own, I must assume, as a first hypothesis, that the quantic modifier is an obligatory constituent of the lexical word and not an optional constituent. I have argued elsewhere (Amidu 1980: chs. 2, 4) that, in Kiswahili and Bantu, it is impossible for concordial modifiers to occur on their own unless they are subject to grammatical ellipsis and grammatical anaphora in string constructions. Grammatical ellipsis and anaphora, in this respect, must be understood only as defined by me (1980). What it means is that *yote* as a class item must obligatorily refer to some noun of its class which governs it, even if this noun has been omitted in context. If this claim is correct, we should be able to insert some noun of the class to which *yote* refers in the construction (49) and the result will be grammatical. Thus consider (50).

50. *Mtaka (mambo) yote / hukosa / yote.*  
(One-who-wants-all-things loses all (of them.))

We notice in (50) that a noun *mambo* (affairs) has been inserted as a natural collocating gemmate. This word, according to Sh. Lodhi, is what the saying ordinarily implies via the modifier *yote* (all). As a result of concordial anaphora in (50), the modifier is dependent or anchored to a noun of the class 6, i.e. *mambo* (things). It will be observed that I have put the noun *mambo* in brackets. This is intended to show that it is optional and may be elided. This optionality poses a problem for the lexicality of the word. Remember that *mtaka* cannot stand on its own, and yet it is not obligatory that its internal constituents should all be present in the lexical structure of the composite nominal word. We have, here again, further evidence of the 'phasality' of lexemes in Bantu. On the one hand, nominization requires that the lexical word be maximally of the form *m{taka-mambo-yote}*. On the other hand, the operation of grammatical ellipsis and anaphora if qualifying modifiers are present with a noun allows the cohesiveness of the word to break up and become dishesive. No matter how we analyse (49), it will always be subject to grammatical anaphora, which in turn implies that a constituent is missing inside the lexical structure of the word. *Mtaka* has no lexical integrity on its own, and for this reason my conclusion is motivated.

The problem we are now faced with is that if one modifier can occur with or without its overt governing constituent, then nothing prevents a string of modifiers from occurring on their own in lieu of their governing heads and inside a nominized lexical word. We find data like these everywhere in Bantu grammar. Consider (51-52).



51. *Mtaka haya yote / hukosa / yote.*  
(One-who-wants-all-these loses all (of them.))
52. *Mtaka haya / amekosa / yote.*  
(One-who-wants-these has lost all (of them.))
53. *Mtaka (mambo) haya yote / hukosa / yote.*  
(One-who-wants-all-these-things loses all (of them.))

The datum (51) contains the demonstrative modifier *haya* (these) together with the quantifier *yote* (all). In (52), only the demonstrative occurs and the string is still grammatical. But note that the habitual *hu-* has been replaced by the recent past tense {*me*}, and the external argument concord is now overt. *Hu-* is a barrier to overt subject marking in Kiswahili. Datum (53) is the maximal string in which the head of the inbound constituent is overtly specified.

We notice that all these modifiers are not alternative concords to the governing class projection of the noun word *m{taka-mambo-haya-yote}* since the class 1 affix *MU* → *m* heads the lexid that includes the inbound modifiers. Since modifiers are dependent on their nouns, we may regard them as optional constituents whenever their noun heads are explicit. If this is so, then the lexical word becomes simpler and shorter, e.g.. *m{taka-mambo}* (wanter of things). It should be noted, however, that the expression emphasizes 'all'. Therefore, in this particular case, the omission of the quantifier modifier *yote* would lead to ungrammaticality. This is because *mambo* by itself is generic as referring to things in general and not to all things, or specified objects which are together. The import of the internal argument of the verb *-kosa* (lose, miss) which also requires *yote* (all) imposes a constraint on the external argument of *-kosa*. For this reason, *mambo* must be qualified by some appropriate modifier obligatorily.<sup>5</sup> The obligatory role of *yote*, even as a modifier of the inbound constituent *mambo*, shows how the boundary of what is lexical is conditioned by its contextual functions and is not abstractly determined by a linguistic model.

Another feature of inbound constituents is that if they are conversions from nouns, then their modifiers may also precede them, as in (54).

54. *Mtaka haya mambo / amekosa / yote.*  
(One-who-wants-**these**-hings has lost all (of them))

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<sup>5</sup> I speak of *yote* (all) and other similar constituents as modifiers. The problem is that such labels are not satisfactory. What we really have are modifier items converted into lexid constituents. I, however, retain and defend them as modifiers in this work because they function as optional elements in inbound constituents. In this regard, it is impossible to distinguish lexid modifier functions from lexical modifier functions. There is no such justification for speaking about direct objects inside lexical nouns.

Compare (54) with (53) where the demonstrative follows *mambo*. Another example is (55a, b).

55a. *Mchomwa mwiba huu / hawi / mtembezi.*  
(One-pricked-by-this thorn cannot be a walker.)

55b. *Mchomwa huu mwiba / hawi / mtembezi.*  
(One-pricked-by-this-thorn cannot be a walker.)

The difference between (55a) and (55b) is a matter of emphasis. When the demonstrative precedes its constituent, it implies that the speaker is referring to a very particular type of thorn and not just any common type of thorn. Note that, given (54) and (55b), the intervention of a modifier between the head constituent and its inbound constituent, results, once more, in a break up of lexical cohesion, and the end of syntheticity. Even so, the whole is the lexical word. Thus the same structure is both cohesive as in (55a) and dishesive as in (55b).

Nominized lexical words may have qualifying items of the same kind if the inbound constituent of the class projecting noun is a conversion from a noun. The only condition imposed by the grammar is the sequential derivational constraint (Amidu 1994c). An adaptation of the sequential constraint rule to morpho-syntax means that modifiers of the same type may not follow each other even if they belong to distinct classes. For example,

\*56a. *Mchimba kisima hiki yule/huyu / ameingia / ndani.*  
(This/that digger of this well has fallen into it.)

56b. *Huyu/yule mchimba kisima hiki / ameingia / ndani.*  
(This/that-digger-of-this-well has fallen into it.)

In (56a) *hiki* (this) refers to the inbound constituent *kisima* alone, and *huyu/yule* (this or that) refers to the entire lexical word *m{chimba-kisima-hiki}*. The demonstrative *hiki* and *huyu/yule* (this/that) follow each other sequentially in (56a), and this is ungrammatical. When the demonstrative (*huyu/yule*) of the entire lexical word is fronted, as in (56b), the construction is grammatical. Another constraint on lexical items with inbound constituents is that qualifying modifiers referring to the entire lexical word must either appear first in prenominal position (only demonstratives can do that as in (56b)), or appear at the very end of the modification process of the inbound constituent. An example of the latter is as follows:

57. *M{chimba kisima kisicho na faida} mwenye ndevu nyeupe / ameingia / ndani.*  
(The white-beared-digger-of-the-well-which-is-of-no-use has fallen into it.)

The modifying relational possessive phrase headed by *mwenye* marks the end of the modifiers of the inbound constituent *kisima*. This means that the lexical word is '*mchimba kisima kisicho na faida*'. The modifier affix of *mwenye* is {*mw*} of the class 1 projection of the entire lexical word. The concord on the predicate is also {*a*} of the argument phrase which belongs to the class 1 projection. If there were alternative concords in operation in Bantu grammars as Bresnan and Mchombo (1995), Myers (1987), Carstens (1991) and others claim, we would have the alternative (58) in the grammar.

\*58. *Mchimba kisima chenye rangi nyeupe kisicho na faida | kimebomolewa.*  
(The digger-of-the-white-coloured-well-which-is-of-no-use (it) has been knocked down.)

If *kisima* could trigger subject agreement as (58) suggests, the alternative concord theory would be motivated. Unfortunately, there is not such construction in Kiswahili, and, it seems, in other Bantu languages too. The evidence confirms that if alternative concords were to operate in Bantu grammars, they would also be allomorphic and interchangeable unconditionally. In making this assertion, I do not include cases of ambiguity when one cannot tell whether a modifier refers to an inbound constituent of a word or to the class projection of the entire lexical word. This situation develops when the lexical word and its inbound constituents belong to the same genetic class. An example is (59), which is also a saying in Kiswahili.

59. *Mla mbuzi huyu atalipa ng'ombe.*  
(the eater of this goat/this goat eater will pay with a cow), i.e. a miscreant will be punished ten fold for his action.

*Mbuzi* (goat) belongs to the same class projection as *m*la (eater). To disambiguate cases like (59) can be difficult. In the case of (59), *huyu*, as a demonstrative, can be fronted if it refers to the entire lexical word and not to its inbound constituent *mbuzi*. Happily, therefore, we can get (60).

60. *Huyu mla mbuzi atalipa ng'ombe.*  
(This goat eater will pay with a cow.)

At the end of our study of modification, we realize that lexicality is complex and requires further study. The humpty-dumpty paradox and its concomitant cohesive-dishesive lexical problem remain, being subject neither to integrity nor atomicity principles as a matter of fact.

## 6. CONCLUSION

The above study has attempted to shed light on the other nature of lexical words in Kiswahili and, hopefully, in Bantu in general which linguists tend to overlook. Most of the interesting cases in Kiswahili are also wise-sayings with contextually specialized meanings in addition to their ordinary meanings. The claims above show that lexical items are either adhesive, cohesive or dishesive and are subject to the Humpty-Dumpty paradox. In defining lexicality, it would seem inappropriate to adopt a dogmatic theoretical 'a priori' approach to Bantu lexical structure founded solely on criteria derived from Eurocentric grammatical models. In my view, the cohesive-dishesive lexical word constitutes a major challenge to modern grammatical theories of word structure, DP hypothesis, lexicographic and computational treatment of lexical entries and lexical semantic models geared towards lexicographic and syntactical goals (for some recent attempts at finding solutions to these problems of African language, see Bodomo (1993), Hurskainen (1996), Hellan (1996)). The evidence provided here shows that an absolutist distinction between word level structure (morphological entity) and phrase level structure (syntactic entity) is, perhaps, a myth perpetuated by certain phrase structure models of grammar. In my ongoing development of LEG, the distinction between morphology and syntax is minimalized, the two levels constituting mirror images of a syntactical type described as either micro-syntax or macro-syntax (Amidu 1994b). For this reason, morphological structure can be explained via macro-syntactic patterns, and syntactic structures explained via micro-syntactic patterns. Mapping paths (real or abstract) join like-structures which are motivated, or triggered or generated by common underlying rules. If we view grammatical relations in this way, rather than as exclusive levels, we stand a much better chance of understanding and capturing the interesting features of a) the Bantu lexical word, b) the relationship between nominality and verbaity (predicateness), and especially c) the Humpty-Dumpty paradox of lexical structure and lexical meaning. We shall then be in a position to describe all these as motivated by the criterion of explanatory relevance in languages.

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