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## HEADEDNESS AND THE STRUCTURE OF YORÙBÁ COMPOUND WORDS\*

Oyè Táíwò

### ABSTRACT

In contemporary morphology, morphologically complex words are assumed to have heads. Williams (1981) proposes the right-head rule (RHR), later modified by Selkirk (1982). However, Owolabi (1995a) argues that the head of Yorùbá complex words is the left-hand member contrary to Williams' proposal. He limits the assignment of head to only his Class I prefixes and does not assign heads to nouns which are derived by the attachment of class II prefixes. The work also raises the question as to whether or not all morphologically complex words in the Yorùbá language are headed. This work examines the structure of Yorùbá complex words such as compounds (especially those derived through desententialization), and reduplication, and those derived through the attachment of Owolabi's Class II prefixes. We attempt to assign heads to these complex words; we also re-analyze Owolabi's Class II prefixes and conclude that they actually consist of two morphemes each, following Awobuluyi (1967, 2008). This present work reveals that most of the Yorùbá morphologically complex words have their left-hand members as head. We propose a rule to account for the head in morphology.

Keywords: headedness, the Yorùbá language, prefixes, compounding, reduplication

### 1. INTRODUCTION

Compound words have been defined as words which consist of two words. Selkirk (1982: 13) says 'compounds in English are a type of word

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\* I am grateful for the anonymous referees' comments, which led to the improvement of the paper. I am, however, solely responsible for the content of the paper.

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structure made up of two constituents, each belonging to one of the categories noun, adjective, verb or preposition. The compound itself may belong to the category noun, verb or adjective'. Fabb (2001:66) defines a compound as 'a word which consists of two or more words'. The words in (1) are derived from the combination of two or more words in the Yorùbá language.

- (1) a. [N Adéolá]                      ← [N Adé] + [N olá]  
       'personal name'                      crown                      wealth  
       b. [N Ìsọrí-òrò-orúkọ]                      ← [N Ìsọrí] + [N òrò] + [N orúkọ]  
       'the nominal group'                      group                      word                      name  
       c. [P níhìn ín]                      ← [P ní] + [N ihín]  
       'here'                      at                      here

The nominal compounds in (1a&b) consist of two and three words, respectively. The prepositional compound in (1c) is made up of two words. However, many Yorùbá compounds are derived from the clause as is evident from the examples in (2).

- (2) a. sọrò                      ← sọ + òrò  
       'to speak'                      throw                      word  
       b. kiyèsára                      ← kó iyè sí ara  
       'to be observant'                      put mind to body  
       c. Babaláwo                      ← Baba<sup>1</sup> ní awo  
       'herbalist'                      old man/father has cult  
       'The old man has a cult'.  
       d. Adéwálé                      ← Adé wá sí ilé  
       personal name                      Ade come prep. house  
       'Ade came to the house'/'Ade came home'.

The compound words *sọrò* 'to speak', *kiyèsára*, 'to be observant' *babaláwo* 'herbalist' and *Adéwálé* (personal name) are derived from full clauses. In their derivations, some phonological processes such as vowel elision, deletion, contraction, tonal displacement/replacement, etc., are employed. For example, in the derivation of *sọrò* 'to speak', the vowel of *sọ* 'to throw' is elided

<sup>1</sup> The word *Baba* 'old man/father' which bears two mid tones has the variant *Bàbá* with low and high tones.

with its mid tone and in *kíyèsára*, ‘to be observant’, the vowels of *kó* ‘to put’ and that of *sí* (prep) are elided, but their high tone remains, and this high tone displaces the adjacent mid tone of *iyè* ‘mind’ and *ara* ‘body’. Apart from the elision of the nasal vowel of *ní* in (2c), the alveolar nasal [n] that remains is replaced by the lateral approximant [l]. The high tone of the elided nasal vowel displaces the mid tone of the first syllable of *awo* ‘cult’, the adjacent word in the derivation of *babaláwo* ‘herbalist’. While the first two are verbal compounds, the remaining two are nominal compounds. The paper is organized in this way: Section 1.1 discusses the theoretical background of the work. Here we adopt the Pulleyblank & Akinlabi (1988) version of the weak lexicalist hypothesis (WLH) for the derivation of the compounds words and Chomsky (1995) bare phrase structure for the diagrammatic sketch of the derived compounds. We also give the typology of these compounds. In Section 2, we discuss the concept of head in morphology, and status of *{oní/oni}* and re-analyse them as two morphemes, contrary to the analysis in Owolabi (1995a). The remaining part of the section discusses the head in morphologically complex words such as various compound words and reduplicated words. Section 3 is the conclusion.

## 1.1 Theoretical Background

The weak lexicalist hypothesis (WLH) accepts that some words are syntactically derived while others are not (Adeniyi 2007:36). The morphology and syntax constitute semi-independent components, where the principles of the morphology govern categories of level  $X^0$ . No ordering is imposed between the components hence, apart from the standard situation whereby the morphology provides inputs for the syntax; it is also possible for the syntax to derive a word-level category. We adopt the model in (3) following Pulleyblank & Akinlabi (1988).

(3) Morphology 1&2



Syntax

Pulleyblank & Akinlabi (1988:158)

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In considering the possible interactions between morphology and syntax, (3) posits two morphological components – Morphology 1 and Morphology 2. This is illustrated thus. The word *adé* (personal name)/‘crown’ is derived by the combination of an agentive nominal prefix and *dé* ‘cover’.

(4) a- + dé → adé  
agentive prefix cover personal name/ ‘crown’  
*Morphology 1*

This word, *adé*, is the subject of the basic clause (the sentence) in (5).

(5) Adé wá sí ilé  
Adé come prep. house  
‘Adé came to the house’/ ‘Adé came home’.

In (5), *Morphology 1* is the input to the syntax,

(6) Morphology 1 → Syntax

where words are strung together to form a basic clause. It is possible to derive a word from the words in the clause in (5).

(7) Adé wá sí ilé → Adéwálé (personal name)  
Adé come prep. house  
‘Adé came to the house’/ ‘Adé came home’.

In the derivation of *Adéwálé*, (personal name) in (7) above, where a clause is the input to the word, the preposition *sí* is deleted while the V1 of *ilé* ‘house’ is elided before contraction takes place.

(8) Syntax → Morphology 2

The examples in (5) and (7) establish the fact that a non-lexical category can derive a lexical one. The model in (3) is one where all morphological processes-derivation (including phrasal derivation) and inflection-are located within a single grammatical component (Pulleyblank & Akinlabi 1988:158-160). With a single morphological

component in which the syntactic input is needed in the formation of some words, the model is possibly modified to allow recursion from syntax into the morphology. They conclude that ‘the syntactic component determines the wellformedness of syntactic representations, while the morphology does the same for morphological representations. Where the morphology and syntax interact,... each component governs the appropriate aspects of the relevant construction’ (Pulleyblank & Akinlabi 1988:160).

In the analysis of these compounds, we employ the bare phrase structure of generative syntax. In this model, ‘a category that does not project any further is a maximal projection XP, and one that is not a projection at all is a minimal projection  $X^{\min}$ ; any other is an  $X^1$ ...’ (Chomsky 1995:242). This model is employed in the diagrammatic sketch of the structures of the compounds. This is because many of the compound words in Yorùbá can be termed ‘postsyntactic compounds’ (Fabb 2001:68). They are derived from phrases. For example, the verbs in (2a&b), repeated below, are derived from phrases.

- |                   |   |       |      |         |
|-------------------|---|-------|------|---------|
| (2) a. sòrò       | ← | sò    | +    | òrò     |
| ‘to speak’        |   | throw |      | word    |
| b. kiyèsára       | ← | kó    | iyè  | sí ara  |
| ‘to be observant’ |   | put   | mind | to body |

The syntactic component of the model in (3) will determine the well-formedness of syntactic representations before such a postsyntactic compound is derived.

## 2. HEADEDNESS

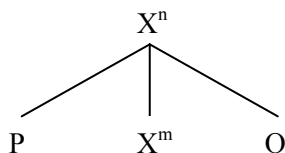
In contemporary morphology, morphologically complex words are assumed to have heads (see Williams 1981, Selkirk 1982, Owolabi 1995a, Fabb 2001, Ogunkeye 2002, among others). Williams (1981:248) proposes the right-hand head rule (RHR) for morphology.

### (9) Right-hand Head Rule (RHR)

In morphology, we define the head of a morphologically complex word to be the right-hand member of that word.

As the rule in (9) reveals, in word structure, the head is defined in terms of the position of a constituent, not in terms of a relation between categories based on their respective types (i.e., levels) and feature complexes. Selkirk (1982:20) says that ‘the righthand head rule (RHR) is not adequate to characterize the headedness of English word structure, if verb- particle sequences are leftheaded components and if... the head of an inflected word is not the inflectional affix, which in English is on the right’. She gives a revised version of the RHR to ‘cover both these and the right-headed cases’. Her revision is given in (10).

(10) . Right-hand Head Rule (revised)



In a word-internal configuration, where X stands for a syntactic feature complex and where Q contains no category with the feature complex X,  $X^m$  is the head of  $X^n$ . By this definition, the rightmost category in  $X^n$  will be the head.

Despite her revision, Selkirk still concludes that ‘RHR is not universal; it must be stated as part of the grammar of English, a parameter which is set for the language, just like the headfirst/headlast parameter in syntax’. She reports that Lieber (1980) noticed the predominance of the leftheaded type in Vietnamese.

## 2. 1 The Head in Yorùbá Complex Words

Owolabi (1995a) reports that the head of Yorùbá complex nouns is the left-hand member. Ogunkeye (2002) reaffirms this. However, Owolabi (1995a) limits the assignment of head to only class I prefixes<sup>2</sup>. He says that ‘by regarding class I prefixes as heads, the complex nouns of which these prefixes are part demonstrate a striking structural

<sup>2</sup> Owolabi (1995a:92-97) broadly subdivides all prefixes in Yorùbá into two classes which he refers to as Class I prefixes and Class II prefixes. Class I prefixes are à-, è-, è-, ì-, ò-, ò-, ù-, a-, e-, e-, i-, o-, o-, àì-, ò-, oń-, and àti-; while Class II prefixes are just two: oni-, and oni-. However, as we shall show in this paper, Class II prefixes do not exist in the language.

similarity to phrases which are also leftheaded in Yorùbá'. (Owolabi 1995a:106). The work does not assign any head to nouns derived by the attachment of class II prefixes. Witness further his comments on this:

...the recognition of class I prefixes as heads immediately raises at least two major problems, one specific and the other general. The specific problem concerns the status of Class II prefixes in the complex nouns which they are part of.... Class II prefixes are category maintaining... (they) do not assign the category label N to the entire word which they are part of. Rather, the syntactic category of the roots to which these prefixes attach and the syntactic category of the complex nouns formed with the prefixes are exactly the same, namely noun.... The general problem... is about whether or not all morphologically complex words in the Yorùbá language are (to be) headed. (Owolabi 1995a:106)

Let us consider first 'the general problem', which has to do with the headedness of all morphologically complex words in the Yorùbá language. In the literature, morphologically complex words (e.g., compounds) are divided into two groups: those with a head and those without a head. Compounds which have a head are called endocentric compounds while those without a head are termed exocentric compounds (Selkirk 1982:13; Fabb 2001: 66-67). Fabb (2001: 67) identifies another type of compound 'where there is some reason to think of both words (in a compound) as equally sharing head-like characteristics'. This type is referred to as co-ordinate compounds.

Following the grouping of compounds, the 'general problem' raised in Owolabi (1995a) is partly resolved. Morphologically complex words (i.e., compounds) may or may not have heads. Yorùbá compounds belong to the three types identified above, namely:

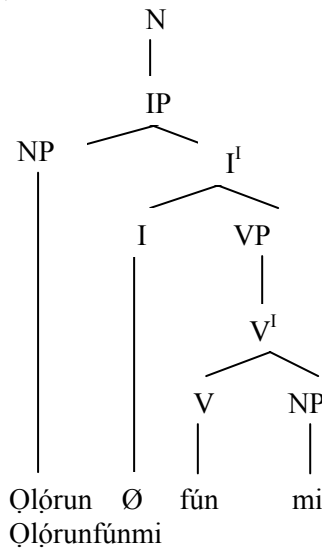
- endocentric compounds,
- exocentric compounds, and
- co-ordinate compounds.

However, as our analysis will soon reveal, most of these complex words are endocentric in nature. For example, the following compound words are endocentric compounds.

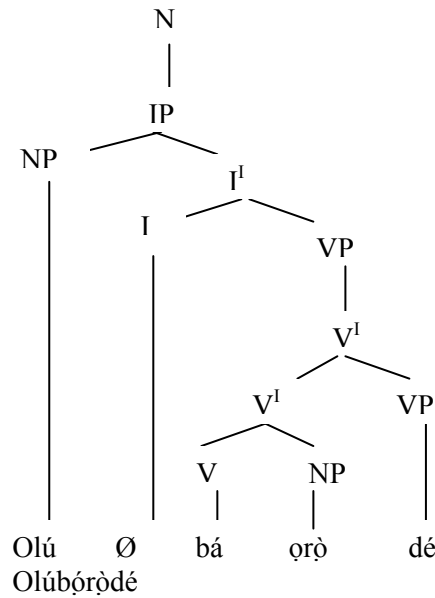




(14) a.



b.



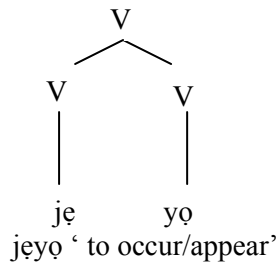
As revealed in the examples in (13) and their structures in (14), both *Olórufúnmi* and *Olúbòròdé* (personal names) are derived when sentences in (14) are used as nouns. None of the components of the structures in (14) can be regarded as the head; therefore, these nominal compounds are exocentric compounds.

Examples of co-ordinate compounds are compound verbs derived through the amalgamation of two verbs (Taiwo 2008). Some of them and their structures are given below.

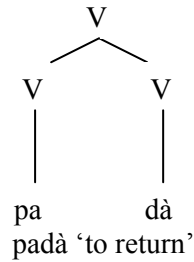
- (15) a. jẹyọ 'occur'/'appear' ← jẹ (?) yọ 'out'  
 b. padà 'return' ← pa (kill?) dà (to change?)  
 c. bùkún 'bless' ← bù 'to cut' kún 'to add'

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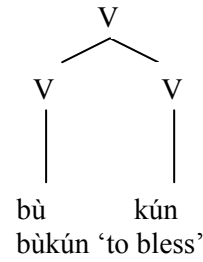
(16) a.



b.



c.



In the V + V compounds in (16), the two amalgamated verbs equally share head-like characteristics of the word. First, the two are verbs and secondly, they both contribute to the meaning of the derived word. We cannot assign the head to only one of them. These compounds are co-ordinate compounds. We shall discuss the head of reduplicated words in Section 2.2.2 below.

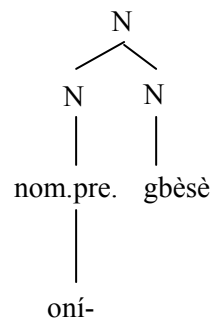
## 2. 2 The Status of {oní/oni}

Now to the 'specific problem', this has to do with the status of 'class II prefixes' whose syntactic category is the same as that of the complex nouns of which they are a part. Consider the examples below taken from Owolabi (1995a: 94).

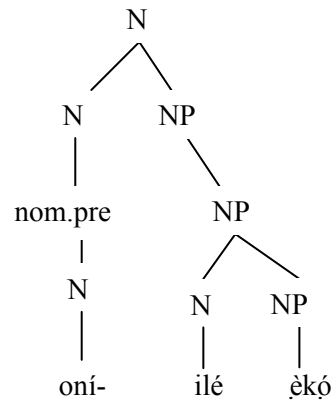
- (17) a. oní- + gbèsè 'debt' → onígbèsè 'debtor'  
 b. oní- + ilé 'house' èkó 'school' → oníléèkó (oníléèkó)  
 'school owner'

We give the structural representations of the words in (17) below.

(18) a.



b



From the structures in (18), it is clear that the  $\{oni\}$  can be attached to either a word (in 18a) or a phrase (in 18b) to derive a single word. If *oní-*, a class II prefix, has this feature, there is no doubt that it is the head of the derived word. It has, in effect, changed the categorial status of *ilé èkó* from a noun phrase to a noun (18b).

Selkirk (1982:19) observes that for a constituent to be the head it must satisfy these two conditions ‘in the general case in syntactic structure’.

(19) Constituent head condition

A constituent  $C_i$  is said to be the head of a constituent  $C_j$  if it satisfies two conditions:

- i. it must bear the same syntactic category features as  $C_j$
- ii. and its type or level must be “one lower” in the  $X^1$  hierarchy than that of  $C_j$

In the structures in (18), *oní-* bears the same syntactic category feature as the mother N and its level is lower in the hierarchy than the N which dominates it. Because it satisfies both conditions, it is the head in (18). Fabb (2001:66-67) observes that ‘a head (of a morphologically complex word) has similar characteristics to the head of a phrase: it represents the core meaning of the constituent, and it is of the same word class’. It is established that Owolabi’s Class II prefixes in Yorùbá belong to the same syntactic category as that of the complex nouns of which

they are a part (Owolabi 1995a:94), hence, the second part of Fabb's observation, which is actually the first condition in Selkirk (1982), is met. As regards the meaning of the derived noun, we know that {*oní*} in (18) causes a meaning change in the words in which it is attached. For example, the meaning of *gbèsè* 'debt' is different from that of *onígbèsè* 'debtor', so also *ilèèkó* 'school' differs from *onílèèkó* 'school owner'. The difference in meaning in these words is attributed to *oní*. A constituent that causes a change in meaning is the one that determines the meaning of the derived word, it represents the core of the derived word, and hence, it is the head of the derived word. The specific problem is also resolved.

The choice of *oní* as head tallies with the observation of Owolabi (1995a) as to the choice of class I prefixes as heads. By regarding 'class II prefixes' as heads, the complex nouns of which these prefixes are a part demonstrate a striking structural similarity to phrases which are also leftheaded in Yorùbá.

## 2. 3 A Re-analysis of Owolabi's Class II Prefixes {*oní/oní*}

Awobuluyi (1967:2) analyses {*oní/oní*} as two morphemes: *o-*, an agentive prefix and the verb *ní/ni* 'to own/have/possess'. Awobuluyi (2008:10, 32) re-affirms this analysis with words such as *oníkúlápò* and *aníkúlápò* 'someone who has death in his pocket' which he rightly analyses as follows:

- (20) a. *o-* + *ní* + *i-* + *kú* + *ní* + *àpò* → *oníkúlápò*  
 b. *a-* + *ní* + *i-* + *kú* + *ní* + *àpò* → *aníkúlápò*

This analysis confirms that {*oní*} in *oníkúlápò* consists of two morphemes just like {*aní*} in *aníkúlápò* which is not controversial.

The unitary school (Bamgbose (1990), Owolabi (1995a), Taiwo (2006), among others) maintains that {*oní/oní*} cannot be further divided. Owolabi (1995a:109) wonders how {*oní*} in words such as *onítíbí* 'this person/the one who owes this', *onítòhún* 'that person', *eléyù* 'this one', *eléwo* 'which one', *ológbèèèni* 'the Mr man' and *onídòwú* would be analyzed if {*oní*} consisted of two morphemes. However, a substitution test by which we replace {*o-*} of {*oní*} with the negative nominal prefix {*àì-*} confirms that {*oní*} consists of two morphemes. In the examples

below, {o-} and {àì-} contrast, hence the change in meaning of the word when one is used to replace the other.

- (21) a. onísu ← o- + ní + ísu ‘yam owner’  
 b. àinísu ← àì- + ní + ísu ‘lack of yam’
- (22) a. ọlọgbón ← o- + ní + ọ- + gbón ‘the wise one’  
 b. àìlọgbón ← àì- + ní + ọ- + gbón ‘lack of wisdom’
- (23) a. onítíbí ← o- + ní + tí + ibí ‘this person / the one who owes this one’  
 b. àinítíbí ← àì- + ní + tí + ibí ‘lack of/without this one’
- (24) a. eléyíí ← o- + ní + èyí ‘this one’  
 b. àìléyíí ← àì- + ní + èyí ‘lack of this one’

The analysis above reveals that {oní} and {àiní} have the same structure. It is well-known that {àiní} cannot be regarded as one morpheme, it consists of {àì-}<sup>3</sup> and {ní}, therefore, {oní}, too should also be analyzed as two morphemes {o-} and {ní}. With the above analysis, the claim that {oní} is a class-maintaining prefix is discarded, and we also discard with the idea of a Class II prefix which houses {oní} and {oní}. We re-analyze and give the structures of onígàbèsè ‘debtor’ and onílélékó (onílélékó) ‘school owner’ below.

- (25) a.   
 b.

<sup>3</sup> Some scholars such as Awobuluyi (2005, 2008), Awoyale (1975) among others, are of the view that {àì-} consists of two morphemes while others such as Owolabi (1995a), Taiwo (2006, 2007) see it as one morpheme. We regard {àì-} as one morpheme here following Taiwo (2007).

Our analysis reveals that the agentive prefix {o-} is the head of both *onígbèsè* ‘debtor’ and *onílèèkò* (*onílèèkò*) ‘school owner’ in that it heads and changes the class of the verb to which it is attached to that of a noun as a class-changing morpheme. The noun {oní} ‘owner/someone who xes something’ is now attached to another noun in a noun-noun construction to derive another noun as in

- oní + gbèsè → onígbèsè ‘debtor’
- and
- oní + ilé èkò → onílèèkò (*onílèèkò*) ‘school owner’.

## 2. 4 Structure of Other Complex Words in the Yorùbá Language

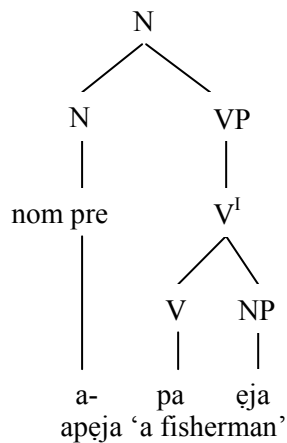
We shall now discuss the other part of the ‘general problem’ raised in Owolabi (1995a) which is the issue of the head in morphologically complex words in the Yorùbá language. Morphologically complex words include reduplicated words and compound words. We shall first examine the head in compound words immediately in Section 2.5 while that of reduplicated words will be discussed in Section 2.6

## 2. 5 The Head in Yorùbá Compounds

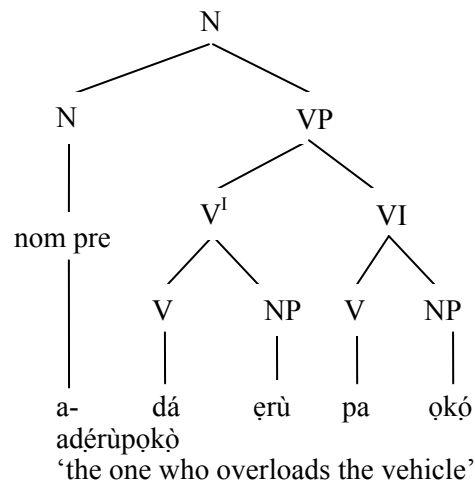
Taiwo (2006:73–135) gives a detailed description of how nominal compounds are derived in the Yorùbá language. Many of these compounds are endocentric with overt heads. In the examples below, the nominal prefix {a-} heads the compounds derived from verb phrases.

- (26) a. a- + pa ‘to kill’ + ẹja ‘fish’ → aṣẹja ‘a fisherman’  
 b. a- + dá + ẹrù (ẹ-+rù) + pa + ọkò → adérùpọkò  
     ‘make’ ‘load’      ‘kill’ ‘vehicle’      ‘the one who loads the vehicle’

(27) a.



b.



As we already discussed above, nominal compounds derived from sentences through desententialization in Yorùbá are exocentric. Examples of this type are given in (13) with their structures in (14) above.

Verbal compounds in Yorùbá can either be endocentric or co-ordinate compounds<sup>4</sup>. The example in (11b) and its structure in (12b) is an instance of an endocentric compound verb while the examples in (15) with the structures in (16) are instances of co-ordinate verbal compounds.

## 2. 6 Percolation

Percolation is a general well-formedness condition on syntactic representation. It ensures that a constituent and its head have the same feature complex. Selkirk (1982:76) defines percolation thus:

<sup>4</sup> See Taiwo (2008) for a detailed theoretical description of compound verbs in the Yorùbá language.

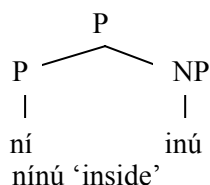


(28) Percolations

- a. If a head has a feature specification  $[\alpha Fi]$ ,  $\alpha \neq \mu$ , its mother node must be specified  $[\alpha Fi]$ , and vice versa.
- b. If a nonhead has a feature specification  $[\beta Fj]$ , and the head has the feature specification  $[\mu Fj]$ , then the mother node must have the feature specification  $[\beta Fj]$ .

As defined in (28), percolation ensures that the properties of the head of a word are inherited by the word as a whole. In other words, the lexical category and other features of the head are carried over to the whole word. That is why the nominal compound *apeja* ‘a fisherman’ in (27a) inherits the nominal properties of the head nominal prefix {a-} and the prepositional compound *nínú* ‘inside’ inherits the prepositional properties of *ní* as we have in (12c) above repeated below.

(12) c.



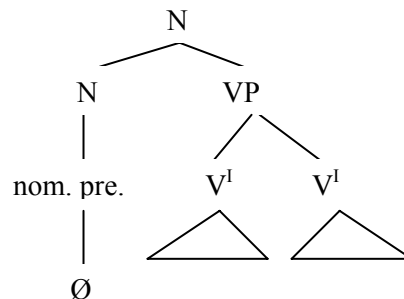
There are some compound words in Yorùbá that belong to a different syntactic category from that of the words from which they are derived that are without an overt morpheme that is responsible for the change in category. Consider the following examples.

- (29) a.  $[\text{VP}[\text{V bá}][\text{NP mi}]]$   $[\text{VP}[\text{V dé}][\text{NP ilé}]] \rightarrow [\text{NBámidélé}]$   
 accompany me reach house (personal name)  
 “Accompany me home”.
- b.  $[\text{VP}[\text{V bá}][\text{NP mi}]]$   $[\text{VP}[\text{V gbé}][\text{NP olá}]] \rightarrow [\text{NBámigbólá}]$   
 help me carry wealth (personal name)  
 “Help me to carry wealth”.

The nominal compounds in (29) are derived from two verb phrases, yet there is no overt nominal prefix unlike the situation in (26) and (27) above where a nominal prefix nominalizes the two VPs. A process of this nature has been referred to as conversion where a syntactic category is ‘converted’ to another one without any ‘physical presence’ of a

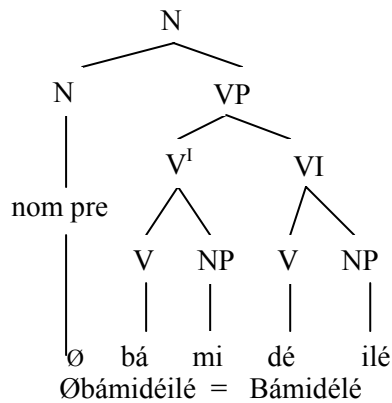
‘converter’. However, this is inconsistent with the concept of head and feature percolation. We have observed elsewhere (Taiwo 2006) that the compound nouns in (29) and similar ones have a non-overt nominal prefix. Following Taiwo (2006), that the head of the words in (29) and of others like them are actually a noun is consistent with our analysis. In other words, the class-changing nominal affix attached to the merged verb phrase is not morphologically realized. Though the derived nouns in (29) do not have a nominal morpheme that converts them from their verbal category to a nominal category, we observe that they have structures similar to the derived nominals in (27). A nominal prefix is the element that is responsible for the change of the two VPs to become nouns in (27). That is why such a prefix is the head of these structures. It is quite clear that the same nominal prefix is at work in the examples in (29). The fact that it is not morphologically realized does not debar its existence. We therefore, treat the nominal compounds in (29) exactly like those in (27), the only difference being that those in (27) have overt nominalizers while those in (29) have non-overt nominalizers. The structure of a nominal compound derived from two verb phrases with a non-overt nominal prefix is given in (30).

(30)

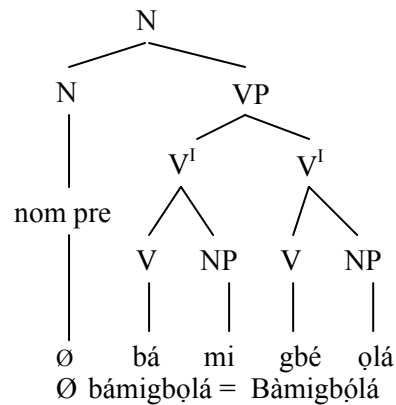


In (30), the nominal prefix is represented as null ( $\emptyset$ ) because it is not morphologically realized. Following the structure in (30), the structures of certain of the compound nouns in (29) are diagrammatically represented in (31) below.

(31) a.



b.



The tree diagrams in (31) clearly show that nouns derived from two verb phrases have nominal heads. These nominal heads are class-changing affixes that change the two verbs phrases to nouns. The nominal heads are not, however, morphologically realized; hence, they are represented as Ø in the structures.

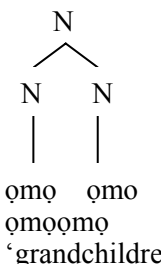
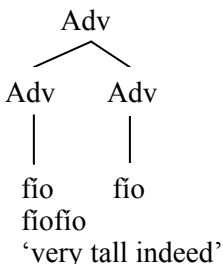
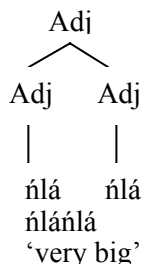
## 2. 7 The Head in Yorùbá Reduplicated Words

Reduplication is a morphological operation which has been analyzed as a species of affixation of a prosodic template to a stem followed by copying of that stem and its associate to the template. McCarthy (1984:25) defines reduplication as ‘a special case of ordinary affixational morphology, where the affixes are phonologically underspecified, receiving their full phonetic expression by copying adjacent segments.’ The process is essentially that of the affixation of a morpheme template (in the shape of a CV-skeleton) to a stem. The simplest type is a simple copying of an entire root. In more complex cases, reduplication is only partial (Katamba 1993:183).

Taiwo (2006:148-165) gives a detailed description of how reduplicated words are derived in the Yorùbá language. In the copying of an entire root/stem, the word class of the reduplicated word may be different from that of the root/stem; it may also belong to the same word-class as the root/stem. In the examples below, the reduplicated words are class-maintaining.

- (32) a. ọmọ (N) ‘child’ → ọmọọmọ (N) ‘grandchild(ren)’  
 b. fíọ (Adv) ‘very tall’ → fíọfíọ (Adv) ‘very tall indeed’  
 c. òlá (Adj) ‘big’ → òláòlá (Adj) ‘very big’

Reduplicated words in (32) behave like co-ordinate compounds because both the stem/root and the reduplicant equally share head-like characteristics. We propose the structures below for the reduplicated words in (32) and similar ones.

- (33) a.   
 b.   
 c. 

However, there are instances where the copying of entire root/stem changes the class of the derived word from that of the root/stem. Some examples are given below.

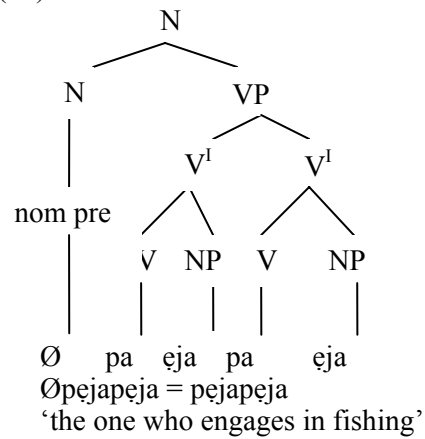
- (34) a. peja (VP) ‘kill fish’ → pejapeja (N) ‘the ones who engages in fishing’  
 b. wolé (VP) ‘look house’ → woléwolé (N) ‘the sanitary inspector’  
 c. dára (V) ‘be good’ → dárádára (Adj) ‘very good’  
 d. fẹ́lẹ́ (V) ‘be thin’ → fẹ́lẹ́fẹ́lẹ́ (Adj) ‘very thin’

Here, just like the situation where two verb phrases become a noun without an overt nominal prefix, as we saw in (30) above, we propose a covert head for the derived words in (34). Therefore, the head of *pejapeja* (N) ‘the one who engages in fishing’ and *woléwolé* (N) ‘the sanitary inspector’ is a nominal prefix, while the head of *dárádára* (Adj) ‘very good’ and of *fẹ́lẹ́fẹ́lẹ́* (Adj) ‘very thin’ is the non-overt adjectival prefix. With this proposal, the structures of the reduplicated words in (34) and similar ones will be like the ones in (35).

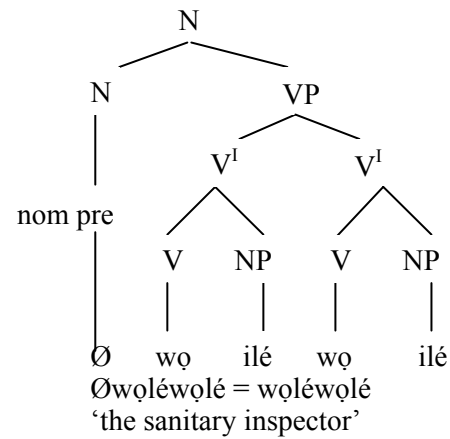
# airiti

Oyè Táíwò

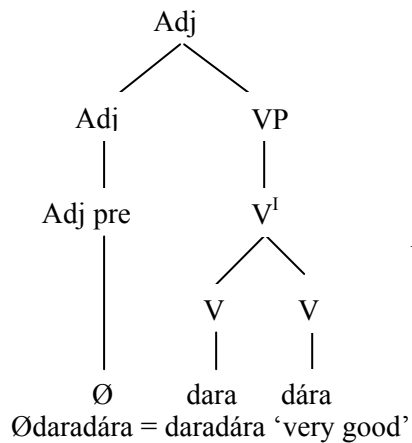
(35) a.



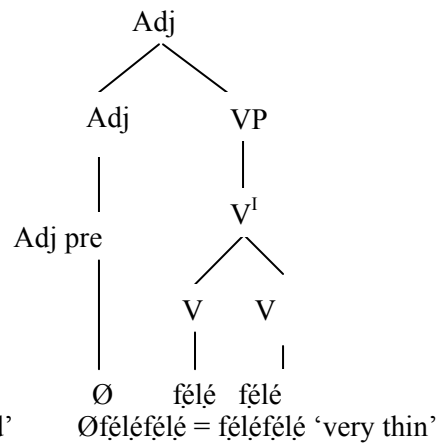
b.



c.



d.



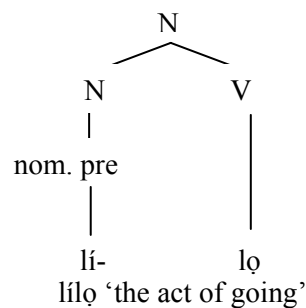
A part of the root can be copied and attached to the root as a prefix or suffix in the process of deriving a new word. The word so derived can belong to the same word-class as the root or belong to a different word-class. In the examples below, the reduplicant copied are prefixed to the root.

- (36) a. lọ (V) ‘to go’ → lílọ (N) ‘the act of going’  
 b. gbọ (V) ‘to hear’ → gbígbọ (N) ‘the act of hearing’  
 c. ga (V) ‘to be tall’ → gíga (Adj) ‘tall’  
 d. gbóná (V<sup>5</sup>) ‘to be hot’ → gbígbóná (Adj) ‘hot’
- (37) a. gbọṣṣọ (Adj) ‘long’ → gbọgbọṣṣọ (Adj) ‘long indeed’  
 b. geere (Adv) → gegeere (Adv)

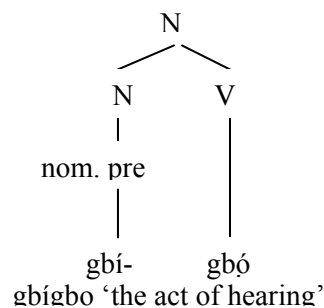
In the examples in (36), the initial consonants of the roots are copied and attached to the root; thereafter, the vowel /i/ is inserted between the copied consonants and the roots to avoid consonant cluster because the syllable structure of the Yorùbá language does not allow for such a phenomenon. Awobuluyi (2008:221) refers to these copied consonants as consonantal prefixes, and he says that all Yorùbá consonants can be so copied.

Note that when the reduplicant (the consonantal prefix) is attached to the root, the derived word belongs to a different word-class from that of the root. Therefore, the reduplicant is class-changing and, following Owolabi (1995a), is the head of the derived word. We reflect this in the tree diagrams below.

(38) a.

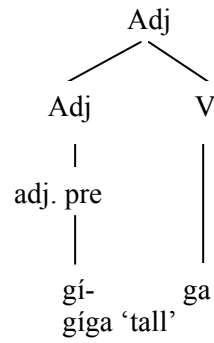


b.

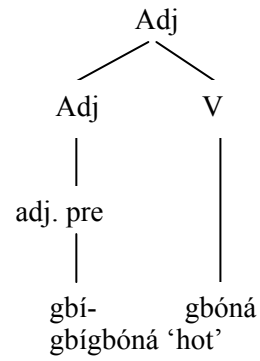


<sup>5</sup> We take the verb *gbóná* ‘to be hot’ to be a compound verb following Taiwo (2008).

c.

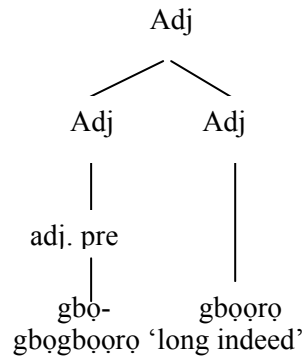


d.

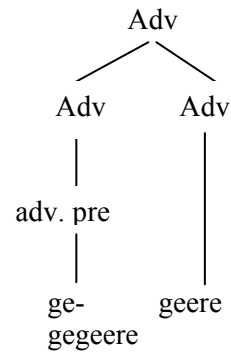


In the examples in (37), the first syllables of the root words are copied and prefixed to these roots to derive new words which belong to the same word-class as the roots. The reduplicants are class-maintaining. Despite this, we take them as heads of the derived words because they provide additional meaning to the roots to which they are prefixed. We give the structures of these words below.

(39) a.



b.



The recognition of the copied prefixes as heads in (38) and (39) above and of the null heads in (35) demonstrate a striking structural

similarity to endocentric compounds in the Yorùbá language which are also left-headed.

However, the copied syllable can be suffixed to the root; this can be the first or the last syllable. One important feature of words so derived is that they belong to the same word-class as the root. In the examples in (40), the first syllables of the roots are copied and suffixed to these roots while in (41), the last syllables are employed.

- (40) a. gbọọrọ (Adj) ‘long’ → gbọọrọgbọ (Adj) ‘long’  
       b. geere (Adv) → geerege (Adv)  
       c. tààrà (Adv) ‘straight’ → tààràtà (Adv) ‘straight’
- (41) a. gbọọrọ (Adj) ‘long’ → gbọọrọrọ (Adj) ‘long’  
       b. geere (Adv) → geerere (Adv)  
       c. tààrà (Adv) ‘straight’ → tààràrà (Adv) ‘straight’

### 3. CONCLUSION

This work has tried to resolve the problem of heads in morphologically complex words in the Yorùbá language. It revealed that all these words have heads in that they are endocentric. A part of them bears the same syntactic category features with the words and is one level lower in the X-bar hierarchy; being of the same word class, it actually represents the core meaning of the constituent. The head of these morphologically complex words is consistently analyzed as their left-hand member. Hence, noun-noun constructions, nominal compounds, including those derived without overt nominalizers, verbal compounds, prepositional compounds and class-changing reduplications (both partial and total) are all left-headed.

With this observation, the right-hand headed rule (RHR) of Williams (1981) and Selkirk’s (1982) revision of same cannot be generalized to include languages such as Yorùbá where the head is the left-hand member. We propose the rule in (42) for the head of morphologically complex words.



(42) Head in morphology

The head of a morphologically complex word must be that part of the word which belongs to the same syntactic category as it; it represents the core meaning of the complex word and is one level lower in the  $X^1$  hierarchy.

In some morphologically complex words, both parts contribute to the meaning of the derived words in that they equally share head-like characteristics. These types are referred to as co-ordinate compounds. Only nominal compounds derived from sentences through desententialization are analyzed as exocentric. These compounds are without a head.

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## *Headedness and Yorùbá Compound Words*

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