# 'Morphemes' and 'Vocabulary Items' Distinction in Distributed Morphology: Evidence from Hausa

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**Abstract:** Traditionally, 'morphemes' are consisting complex morphophonological properties and syntactic-semantic properties. However, in realizational theories such as Distributed Morphology, which is a syntactic approach to word formation, morphemes are abstract bundle of features without phonological properties, e.g. pl, fem, masc, categorizers (Embick, 2015) etc. Nevertheless, when language assigns phonological properties to those features (namely late insertion), they serve as vocabulary items instead of morphemes. This was confirmed by Marantz (2000:15), who proposed that '…we see, overtly, the vocabulary items, not the morphemes.' Moreover, morphemes are generative and there is no any bound morpheme, all are free (Hankamer & Mikkelsen, 2018). Vocabulary items are not generative but expandable and visibly they can either be free or bound. So this paper intends to elaborate these issues together with evidence from Hausa. The entire paper is divided into following subsections: Introduction, Distributed Morphology, morphemes and vocabulary items in Hausa and their differences, followed by Conclusion remarks.
**Keywords:** Distributed Morphology, morphemes, vocabulary items, Hausa

## 1. Introduction

Hausa is one of the important African languages with eighty to one hundred million native speakers and another one hundred million non-native speakers, and the latter demonstrate varying degrees of competence in this language. Hausa communities are found in Niger, Ghana, Cameroon, Chad, Benin Republic, Burkina Faso, Togo, Sudan (Yusuf, 2011; Bello, 2017). It is also classified as a member of west Chadic languages, which is a subgroup of the Afro-asiatic language family (Amfani, 2016).

Meanwhile, Distributed Morphology (henceforth DM) is a syntactic approach to language word formation. So it is indeed an approach which brings syntax down within word and morphemes (Myers, 2007). In nutshell, morphology in DM is postsyntactic (Nevins, 2016). According to Noyer (2006) in DM, grammar is divided into two parts: (a)

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Repositories of listed information, which includes: morpheme list, vocabulary, and encyclopedia. (b) Single generating engine, consisting both syntactic properties and postsyntactic mechanisms. Also, DM is a piece-based, realizational approach to morphology of language. This vividly shows that DM adopts separation hypothesis, which advocates the demarcation between morphological properties and syntactico-semantic properties. And morphemes in DM are abstract bundles of features. This indicates that morphemes can be either simplex or complex of abstract features and also be generative, which later on, receive phonological properties as vocabulary items. Morphemes in DM, unlike in traditional division terms that are 'free' or 'bound', are also divided into two but as functional head morphemes '< - >' and 'root morphemes '√'. After receiving phonological properties in this turn, these morphemes become 'vocabulary items' basically, and this process is called 'late insertion'. Vocabulary items are also divided into two categories: functional vocabulary items (FVIs) and lexical vocabulary items (LVIs).

Finally, this paper intends to discuss these issues using the data from Hausa which are collected from both primary and secondary sources. The paper is divided into following subsections: Introduction, DM, Morphemes and vocabulary items distinction in Hausa, and it ends with Conclusion remarks.

## 2. Distributed Morphology

The definition of 'morphology' as regard to the trend of the current morphological research is based on two assumptions. Early assumption considered morphology as independent generative component. In this context the definition is either morpheme-based or word-based. Nida (1949:1) defined morphology as follows:

*'Morphology is the study of morphemes and their arrangements in forming words.'*

This definition is a clear example of morpheme-based definition. But Matthews (1991:9) said:

*'Morphology is, briefly the branch of grammar that deals with internal structure of words.'*

This definition is word-based. Though, they differ in what considered as unit of morphological analysis, but both contended the unity of morphology.

While in DM, this assumption is not on the right track, because morphology and syntax are the same. According to Harley (2010:35) '…syntax and morphology are two names for the same thing'. Therefore, the definition of morphology in this context can be defined according to Embick & Noyer (2001:558) as follows:

*'We use morphology here as cover term for a series of operations that occur on the PF branch following the point at which the syntactic derivations splits between PF an LF.'*

So in this assumption, morphology is postsyntactic in DM, unlike in traditional view. Therefore, the picture of the grammar in DM could be schematically represented as shown

below:

Syntax

Morphology                    LF

PF
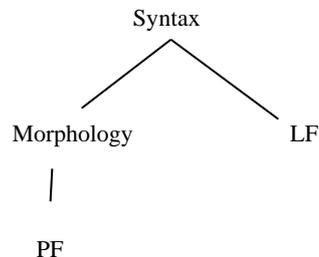
(Galani, 2005:43)

So what is DM? According to Embick & Marantz (2008:8):

*'Distributed Morphology is a syntactic, piece based, realizational approach to morphology in which the at least some late insertion of phonological material into terminal nodes.'*

The next question is that, what is distributed in DM? Also Halle & Marantz (1993:111-112) proposed that:

*'Distributed Morphology is to highlight the fact that the machinery of what traditionally has been called morphology is not concentrated in a single component of the grammar, but rather is distributed among several different components.'*

Noyer (2006) shaded more light on things that are distributed in DM. He called them 'distinct repositories contain listed information', which include:

i. Morphemes list: abstract features which contain no phonological features, consisting 'root' or 'functional categories'.

ii. Vocabulary list: This list relates those morphemes with phonological exponent as vocabulary items of language.

iii. Encyclopedia list: This list interprets the idiomatic and extralinguistic meaning of those vocabulary items.

Moreover, the main post-syntactic operations in DM include: fusion, fission, impoverishment and morphological merger.

a. Fusion: According to Fabregas (2005:28-35), fusion is described as 'when two elements have been merged in PF branch, it is possible that they are fused together in only one position of exponence $m^0$'.

b. Fission: 'fission occurs when a single terminal node is split into two (or possibly more) positions of exponence'.

c. Impoverishment: 'through impoverishment, grammar deletes features from bundle of a syntactic terminal node'.

d. Morphological merger: 'morphological merger or just plain is the general operation that puts morphemes together to construct words in the DM framework'.

In addition, the key features in DM include:

a. Late insertion: According to Noyer (2006:734), 'Late insertion permits phonological exponents to be supplied to a linguistic expression late in its derivation, after syntactic movement has occurred'.

b. Underspecification: According to Siddiqi (2006:21), 'Distributed Morphology uses underspecification in the insertion of vocabulary items into a terminal node of the syntax. The insertion of V.I is governed by subset principle, which allows for a V.I with certain specifications to be inserted into any node that satisfies those specifications, regardless of whether or not it exceeds'.

c. Syntactic hierarchical structure all way down: 'One of the strengths of the Distributed Morphology framework is the parallel between syntactic structure and morphological structure. Since the grammar of DM manipulates only syntactic features, the complex structure of a word is created in same way as is the complex structure of sentence.' (Siddiqi, 2006:19-20)

In another word, Williams (2004:11-17) further supplied us with 'trio of distinguishing features of Distributed Morphology' from text of Harley & Noyer (1999) which includes:

a. Piece based: '…refers to the notion that syntax of words takes morphemes as basic, rather than morphological operations.'

b. Competition: 'Every grammatical model in these days has some notion of competition——two forms vie for a certain role, and, on general grounds, one wins, excluding the other from that role.'

c. Impoverishment: This always handles the manipulations of features, such as deletion of a feature or changing of a feature (which in other places are referred as 'rule of referral').

However, Embick (2015:21) pointed out four pillars of DM, which serve as the limits or boundaries of it. And by violating one of them renders the analysis something else instead of DM:

a. Syntactic: 'The theory is non-lexicalist; there is no pre-syntactic lexicon in which words are derived or stored. The only generative component in the grammar is syntax. Thus, words have no privileged architectural status.'

b. Morphemes: The approach is piece-based. The fundamental units of morphology are discrete pieces arranged in hierarchical structures.

c. (Some) Late insertion: For certain morphemes assumed here, at least the functional morphemes' phonological material is supplied only on the PF branch, via operation of vocabulary insertion.

d. Full Decomposition: No complex objects are stored in memory, rather every complex object must be derived by the grammar every time it is employed.

### 3. Morphemes and vocabulary items distinction in Hausa

This section concentrates on two main issues: 'morphemes' and 'vocabulary items'. And all examples are from Hausa.

### 3.1 Morphemes

The term 'morpheme' was coined by Jan Boudouin de Courteny (1845-1929). And it is one of the most debatable terms in morphology. That is why Marantz (2013:905) described it as: 'The 'morpheme' is a slippery notion within linguistic theory'. Furthermore, Al-Hassan (2016) explained in detail that the inconsistent and irregular use of 'morpheme' and 'morph' spread all over the descriptive and theoretical literature of morphology. Originally, 'morpheme' is an abstract item, while 'morph' is a concrete item for its visible phonological material. But unfortunately, this classic distinction is not maintained, rather, it was discarded in substantial morphology texts. In addition, Beard (1995) explained in detail on the three hypotheses of 'morpheme' in different morphological analyses. Which in summary are named as follows:

a. Boudoin's 'Single morpheme hypothesis': In this hypothesis 'roots' and 'affixes' have the same status in the theory as 'morphemes'.

b. Bloomfield's 'sign base morpheme hypothesis': As morphemes, they dualistic signs, since they have both (phonological) form and meaning.

c. Bloomfield's lexical morpheme hypothesis: The morphemes, affixes and roots are alike, stored in lexicon.

Carstairs-McCarthy (2005:20) summarizes the attitudes of morphologists towards 'morpheme' as follows:

a. The term 'morpheme' continues to be used, but some or all morphemes are explicitly not regarded as Saussurean signs.

b. The term 'morpheme' continues to be used as a convenient cover term for roots and affixes, but without much theoretical weight being attached to it.

c. The term 'morpheme' is no longer used.

In support of the last position, Anderson (1992) devoted the whole chapter 3 to condemn the Bloomfieldian understanding of morpheme, which led him to expelled 'morpheme' entirely out of grammar. But in contrary to this view, Marantz (2013) emphasized the idea of 'No Escape from morphemes in morphological processing'.

After a brief overview of 'morpheme' in linguistic morphology, let us ask this question, what is morpheme in DM? According to Harley & Noyer (2003:5), 'In DM, the term morpheme properly refers to a syntactic (morphological) terminal node and its content, not to the phonological expression of that terminal, which is provided as part of a vocabulary item'.

Embick (2015:14) defined morpheme as: '…morphemes are primitive elements of

syntactic derivation.' Also, Ingason (2016:14) stated the same: 'The atoms of syntax are morphemes.'

Finally, I can say morphemes are possible bundle of feature(s) which is(are) generative consisting syntactic-semantic features originally drawn from the set made available by universal grammar (or universal features inventory (UFI)) that are ready to receive phonological properties.

Halle (1990) divided morphemes into two kinds: 'concrete' morphemes and 'abstract' morphemes. Later on Harley & Noyer (1999) suggested an alternative type. That is 'F-morphemes' and 'l-morphemes'. And these types correspond to the conventional division between 'functional' and 'lexical' categories or closed-class and open-class categories. This also shows that, the traditional division of 'free' and 'bound' are not recognized in DM. In nutshell, morphemes in DM are divided into two categories: functional head morphemes (<  >) and roots ($\sqrt{}$)[①].

The main raw features that realizes morphemes in Hausa include the following: categorizer heads (noun, verb, adjective, adverb), gender (Masculine, feminine, common) and person (1st, 2nd, 3rd).

These are common main features that are also commonly bundled together in Hausa to form particular morpheme, especially for open set words. Already, there were universal features inventory (UFI). And what a particular language selects from the pool of 'Universal Features Inventory' for the purpose of its communication are called 'active features' of that language, while the abandoned features are called 'non-active features'. In some cases, what is an active feature in particular language can be a non-active feature in another language. Nor language contains every feature of 'UFI'. (Embick, 2015)

So in case of Hausa, masculine gender, singular number, noun head categorizer feature can be bundled together as a single functional morpheme, such as < masc, sing, no>. Also, feminine gender, singular number, and adjective head categorizer can be bundled together as a single 'morpheme, such as < fem, sing, adj$^0$>'. But in case of deriving noun plural or adjective plural etc, gender feature must to be impoverished, deleted or delinked, since in Hausa 'plural' has no gender feature (unlike in other languages such as 'Arabic') (Greenberg, 1963). In case of deriving 'verb' or 'adverb' only a single feature of either 'verb head categorizer' or 'adverb head categorizer' is bundled as a single 'morpheme'. So this obviously indicates that in Hausa, a given 'morpheme' can be either 'complex' or 'simplex'. And from the above explanation, there is a possibility of 'bundling features', yet not any feature can be bundled together as a single morpheme. It is allowed in Hausa to

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① This symbol in bracket indicates 'functional head morphemes', while '$\sqrt{}$' indicates 'root' of open set words. And both are abstract generative morphemes.

bundle 'gender, number, with noun head categorizer or with adjective head categorizer, but it is impossible to bundle gender and number with verb head categorizer or adverb head categorizer.

Moreover, in this context, both 'roots' and 'functional morphemes' must undergo 'late insertion' principle. Root morphemes always remain as the domain of the extra grammatical information with a categorical feature. While functional category morphemes contribute with the flavour of grammatical information to roots. Both are primitives of word and sentence formation.

## 3.2 Vocabulary items (VI)

Vocabulary items in DM denote the phonological material or form of those morphemes. So vocabulary items are morphemes that receive phonological form by particular language. This is why only morphemes are generative but vocabulary items are not yet they are expandable (Marantz, 1997). This clearly shows that DM adopted 'Separation hypothesis[①]'. Vocabulary items in DM are divided into two types:

a. Functional vocabulary items (FVIs): These type of vocabulary items consists of only functional vocabulary items, which are traditionally inserted base on competition.

b. Lexical vocabulary items (LVIs): These type of vocabulary items also only consists of roots, which are traditionally inserted in DM base on choice. (De Belder, 2011; De Belder & Craenenbroeck, 2011, 2014)

The word gídáá ('house') contains two vocabulary items: /gid-/, a lexical vocabulary item and also the realization of root abstract morpheme $<\sqrt{\text{GID-}}>$; /-aa/, a functional vocabulary item which realizes complex morpheme, consisting the following bundle of features, namely noun categorizer head ($n^0$), masculine gender (masc), singular number (sing) '$<n^o$, masc, sing$>$'. The word wátàà ('month') consists of two vocabulary items: Lexical vocabulary item /wat-/, the representation of abstract root morpheme $<\sqrt{\text{WAT-}}>$, and functional vocabulary item /-aa/, and the exponent of complex morpheme comprises the bundle of features, including noun categorizer head ($n^0$), masculine gender (masc), singular number (sing) '$<n^o$, masc, sing$>$'. The word fáráá ('white') consists of two vocabulary items: /far-/ as lexical vocabulary item and the realization of a-categorial root abstract morpheme $<\sqrt{\text{FAR-}}>$, as well as functional vocabulary item /-aa/ that represents the following complex morpheme, which consists of the following bundle of features: adjective categorizer head ($adj^0$), feminine gender (fem), singular gender (sing) $< adj^0$, fem, sing$>$. The last two words kwàncé ('lying') & buge ('unconscious') both contain two vocabulary items: acategorial abstract root morphemes $<\sqrt{\text{KWANC}}>-$, $<\sqrt{\text{BUG-}}>$ and two

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functional vocabulary items /-e/, /-e/, both are exponents of simplex morpheme of adverb categorizer head (adv°) <adv°>. So in nutshell, each and every word of the above examples consists of physical vocabulary items and underlying morphemes, which mostly are not in one-to-one relation (particularly functional morphemes).

Table 1. Morphemes

| <√> | <-> |
|---|---|
| <√GID-> | <-$n^0$,masc, sing> |
| <WAT-> | <$n^0$,masc, sing> |
| <FAR-> | <-$adj^0$,fem, sing> |
| <KWANC-> | <-$adv^0$> |
| <BUG-> | <-$adv^0$> |

Table 2. Vocabulary Items

| LVI | FVI |
|---|---|
| /gid-/ | /-aa/ |
| /wat-/ | /-aa/ |
| /far-/ | /-aa/ |
| /kwanc-/ | /-e/[①] |

## 3.3 Where morphemes and vocabulary items differ in?

a. Marantz (2000:15) said '… we see, overtly, the vocabulary items, not the morphemes.' So unlike Vocabulary, which is concrete items with phonological materials, morphemes in DM are abstract bundle of features.

b. Vocabulary items are not generative but expandable, while morphemes are generative features.

c. All morphemes are free with no bounds. Yet bounds and freedom are the physical properties of vocabulary items.


## 4. Conclusion

This paper discusses 'morphemes' and 'Vocabulary items' distinction in DM in Hausa. It begins with a brief but concise explanation of the DM Theory. Then to the subject matter, where the current debates on the morpheme are explored. Details on the 'morpheme' and 'vocabulary item' with examples from Hausa are also given. The paper is a general revision of the traditional morpheme analysis in Hausa.

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[①] Square and capitalized always in Distributed Morphology indicates abstract root, a-categorial, linked to particular concept, while roots in lower case indicates concrete not abstract root in a particular language.

## Symbols and abbreviations

| | |
|---|---|
| < > | enclosed bracket to indicate particular bundle of feature(s) |
| √ | abstract root feature in Distributed Morphology |
| √GID- | abstract a-categorial root linked to particular concept |
| adj$^0$ | adjectivalizer head |
| adv$^0$ | adverbalizer head |
| DM | Distributed Morphology |
| fem | feminine |
| FVI | functional vocabulary item |
| LVI | lexical vocabulary item |
| m$^0$ | morphological string |
| masc | masculine |
| n$^0$ | Nominalizer head |
| pl | plural |
| sing | Singular |
| UFI | Universal Features Inventory |

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