



Journal of Arts & Humanities

Volume 09, Issue 12, 2020: 01-12

Article Received: 31-10-2020

Accepted: 10-11-2020

Available Online: 21-12-2020

ISSN: 2167-9045 (Print), 2167-9053 (Online)

DOI: <https://doi.org/10.18533/jah.v9i12.2007>

On the Multivariate Dimensions of Morphological Studies in English

Joseph Udodata¹, Victoria Enefiok Etim²

ABSTRACT

This paper contends that the morphology of English is rather complex and has multivariate dimensions. Morphological studies should begin at the typologization of the language as analytic (isolating) or synthetic (inflectional) or agglutinating (affixing). There is need too to try and marry the various theories propounded by linguists on morphology. For example some authors maintain that single morphemes, their meanings and grammatical functions are put together and stored in the lexicon of that language while others are of the opinion that morphological units evolve through the process of affixation. Since no theory is sacrosanct, a grammatical morphology in which the morpheme synergizes with the other aspects of grammar including the lexicon, phonology, syntax and semantics is advocated. The word as the basic unit of morphology especially in its phonology, orthographic system and syllabic structure is recognised. Morphemic alternant including allophonic and allomorphic variants as aspects of the phonological morpheme are identified. There is an attempt to distinguish between the morph and the morpheme in our discussion of morphology as a process in the systemic and systematic processes of language. This broadening of the study of morphology corroborates the fact of grammar as an interrelationship of parts in the language system. The study made use of relevant texts, journals and the internet sources to collect data for the review.

Keywords: Grammar, language typology, lexicon, morphemic Alternant, morphology.

This is an open access article under [Creative Commons Attribution 4.0 License](#).

1. Introduction

The word is the core of every linguistic analysis including phonological, syntactic and semantic analyses. As Booij (2005) observes, morphology is the grammar of words. The notion of the word is complex, with far-reaching ramifications. Arkadiev and Klamer (2016) corroborate this idea and explain issues relating to the phonological word, the morphosyntactic word and word forms. Structural analysts identify word forms using structural criteria but “most of these criteria are language – specific, and often they yield conflicting results even in the same language” (Arkadiev and Klamer, 2016:3).

¹ Department of Language and Literary Studies, Ritman University, Ikot Ekpene, Akwa Ibom State, c/o P.O.Box 94 Abak, Akwa Ibom State, Nigeria. Email: joseph.udodata@ritmanuniversity.edu.ng

² Department of Linguistics and Nigerian Languages, University of Calabar, Calabar, Cross River State, Nigeria. Email: ukemetim36@gmail.com

Udondata (2004) explains the word in terms of its phonological and orthographic properties. Authors such as Palmer (1981), Yule (1996) and Radford et al (1999) discuss the word as a lexemic unit.

As a lexemic unit, the word is primarily a lexical item (it is capable of yielding meaning). It is embedded in the lexicon of a particular language. It is a lexical entry especially in lexicographic matters. For example, the lexemic unit ‘sing’ is capable of yielding such word forms as, ‘sings’, ‘singing’, ‘sang’, and ‘sung’. Each of these is capable of yielding grammatical meaning. In this sense, the word, as a meaning potential, collaborates between syntax and semantics, as demonstrated in the diagram below:

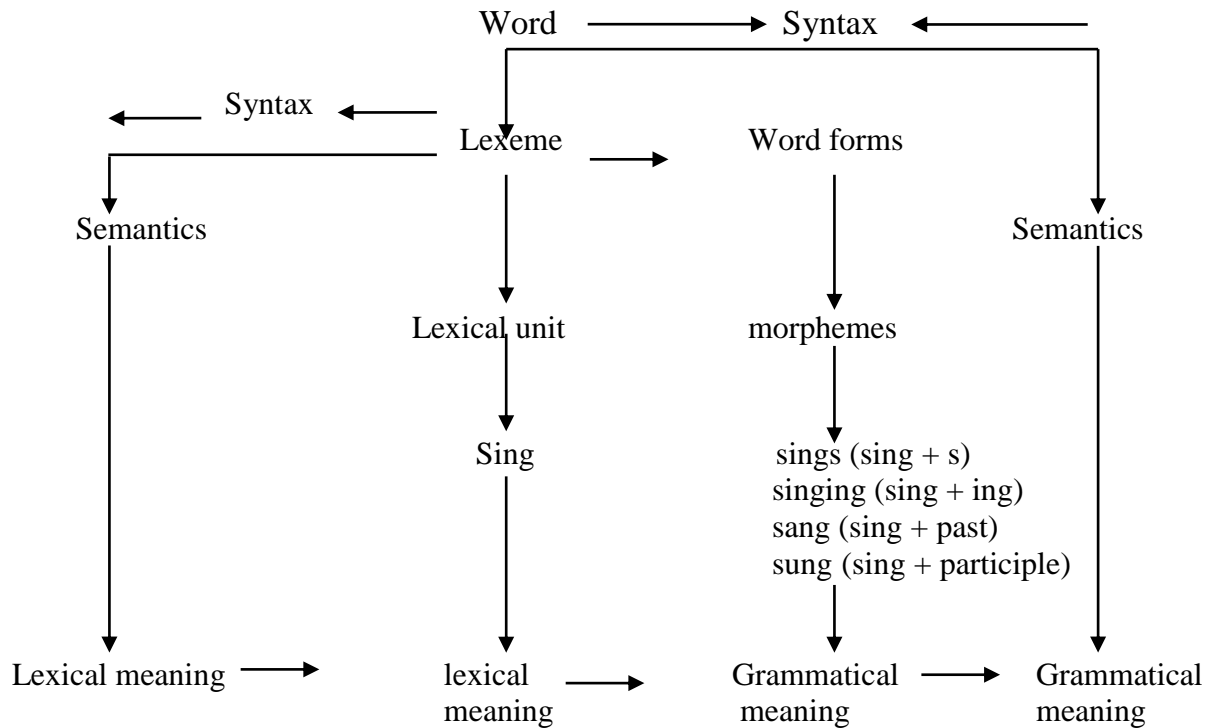


Diagram 1: The multivariate dimension of morphology.

The word is “the smallest constituent structure” (Brown and Miller, 1980:16). According to Matthews (1997:232), an important aspect of the word in the analysis of morphemes is the morph and he defines this as “The smallest sequence of phonological units into which words are split in the analysis of morphemes”. Using the word “unstretched” as an example, the author identifies three morphs: “Thus the form [ʌnstretʃt] [unstretched] will be divided into the morphs [ʌn], realizing a negative morpheme; [stretʃ] realizing the root morpheme ‘stretch’, and / t /, realizing the past tense morpheme” (Matthews, 1977:232). Kari (2015:41) describes morph as the physical manifestation of morphemes that can be heard when pronounced or seen when written. Morphemes are abstract unlike morphs that can be seen and heard. Another morphological concept is the allomorph. Haspelmath and Sims (2010:22) says that when a single affix has more than one shape, it is referred to as allomorph. Kari (2015) adds that when a morpheme is realised by more than one morph, the morphs are grouped together and collectively referred to as allomorphs of that morpheme. An allomorph is therefore one of the variants of a given morpheme. An important aspect of this analysis is the interface between the morpheme and phonology. Brown and Miller (1980:161) accept the fact that morphology relates to and plays an important role in the phonological process:

... morphology is connected to a phonological study of language insofar as it involves a study of the phonological shapes of words. In this sense morphology cannot be regarded as an independent study, but rather as a bridge between syntax and phonology.

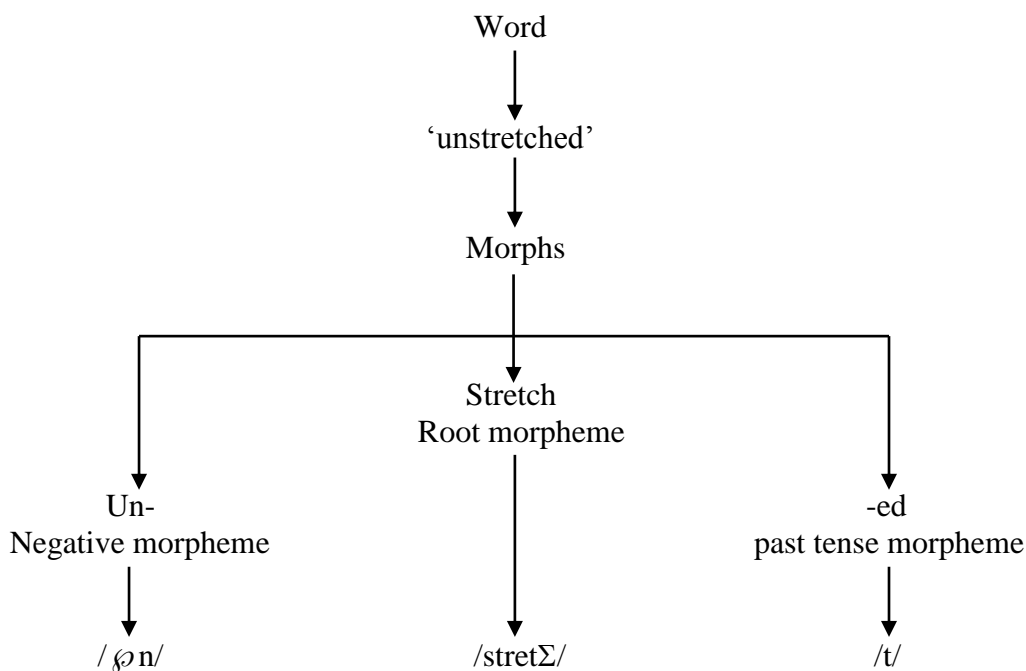


Diagram 2: Word - Morph – Phonology - Interface

Connected with morphs is the case of the zero morph cited by Brinton (2000:76) with an example of the past tense of the word ‘let’ which can be represented as ‘let’ + past. ‘Let’ is the morph which realizes the root morpheme while a zero morph realizes the past morpheme.

Morphology therefore is central to and connects syntax, phonology and semantics, thereby confirming language as a system of continuous subsystems.

As the diagram above indicates, the word interfaces with morphology, phonology, syntax and semantics. The word is the core of grammar. The paper explores the different stance as well as the interconnection of morphology with other linguistic components. The thrust of the study therefore is to draw emphasis on the fact that morphology with its different dimensions has a very unique role to play in the usage and analysis of English.

The study is descriptively carried out. The facts and corpora for the work were collected from relevant texts, journals and the internet sources and subjected to a careful review.



Diagram 3: Word-Morphology-Phonology - syntax - semantics - Interface

2. Theoretical considerations

Many theories abound on the study of morphology. This study examines the views of Halle (1973) and Aronoff (1976).

Halle (1973) holds the view that in any language, individual morphemes, their meanings and grammatical functions are combined and stored in the lexicon of that language. This approach considers the lexicon as a store house where many morphemes can be accommodated (Spencer, 1994). In this sense, the lexicon is the core of the grammar of every language.

The study undertaken by Fromkin and Rodman (1988) on the lexicon is quite comprehensive and is summarized to include knowledge of the words of a language by its speakers, pronunciation of these words in their contexts, meanings of these words, how to combine these words in phrases and sentences, and of the syntactic categories of these words; “All of this knowledge is contained in the component of the grammar called the lexicon” (Fromkin and Rodman, 1988:183). Kim and Sells (2007:17) consider the lexicon as “a list of categorized words” which forms “part of the grammar of a language”. This idea of the lexicon as the core of grammar is corroborated by Brinton (2000) which

defines the lexicon as “a kind of dictionary which lists the morphemes of a language, along with phonological information, semantic information (selectional restrictions), inherent sub-categorization (the lexical category), and strict sub-categorization (the syntactic environments in which the word can occur)”. This also is the opinion of Lyons (1987:125).

From this analysis, we can consider the lexicon as an aspect of language which embodies all the information on the structural properties of the lexical items in that language. It projects vocabulary, including lexemes as part of the grammar of the language and maps out rules for their usage. A few examples can explain our point:

Lexical category	-	Nouns and Verbs			
Lexemic units	words				
Boy	-boy,	boys,	boy's	boys'	
	↓	↓	↓	↓	
Grammar	-singular	- plural	- singular	- plural	
	-noun	- noun	- noun	- noun	
			- possession	- possession	

i) The boy killed the snake
 ↓
 - subject (Nominative case)
 - Nominal group

ii) The snake killed the boy
 ↓
 - Object (accusative case)
 - Nominal group

iii) Collocation with determiners

	Singular	Plural
- Articles:	a boy the boy	two boys the boys
- Demonstratives:	this boy that boy	these boys those boys
- Possessives:	the boy's book	the boys' book
- Adjectives:	tall boy	tall boys
- Degree:	tall boy	taller boys tallest boy
- Numerals:		
cardinals:	one boy	two boys
ordinals:	the first boy	
- wh words:	which boy?	which boys?

iv) Verbs:

break	breaks,	breaking,	broke,	broken
	↓	↓	↓	↓
Grammar	Present	continuous	past	perfect

It is the lexicon that gives information concerning the permissible combination of the roots of words, their prefixes and suffixes. It also provides information on forms of words as well as their references.

Aronoff (1976) is of the opinion that morphological units evolve as a result of the process of affixation. It is this process that generates various morphemes in the grammar of a language. In this sense, affixation is considered as a formal structuring of the morphemes of a language and it is the construct of the linguist.

Quirk and Greenbaum (1973:430) identify three major processes of word-formation in English: affixation, conversion and compounding. According to these authors, there are two types of affixation. Prefixation is the affixational process of “adding a prefix to the base, with or without a change of word-class” and suffixation is the process of “adding a suffix to the base, with or without a change of word-class”.

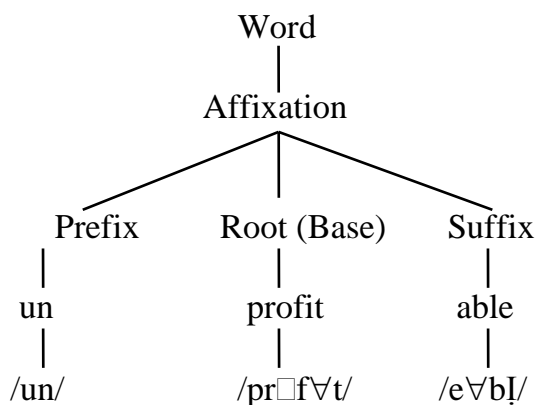


Diagram 4: The basic affixation tree

The prefix ‘un’ in ‘unprofitable’ is a grammatical signal of negation. It means “the opposite” of ‘profitable’. It may also signal reversion in a word like “undo”, to mean ‘reversing the action’ of ‘doing’. An affix is an attachment to the root of the word. It does not carry the core meaning of the word. It is the root, ‘the most basic morpheme in a word’ (Radford et al, 1999:163) that carries the core meaning of the word.

Etim and Udondata (2019:26) defines affixation as “a word formation process that involves the addition of a phoneme or group of phonemes to a root or stem to modify, extend or change the meaning or the function of the word”. Affixation, therefore, is an important aspect of the morphology of language and is fundamental to its development.

3. Language typology and the study of Morphology

Language scholars must not underestimate the role of language typology in the enhancement of morphological studies. There is much in the literature to support the usefulness of studies in language typology. Sapir (1921) used it in his analysis of language. Moreover, the Prague linguists relied on it for phonological analysis and Greenberg (1954 and 1963) are exemplary cases on this area. Malmkjaer and Anderson (1991) have identified four language types. These are:

i) Isolating (analytic) languages: These languages have “a one-to-one correspondence between words and morphemes” (Malmkjaer and Anderson, 1991:273). Every morpheme is an independent word. However, there may be few exceptional cases of bound morphemes as is the case in Vietnamese, Chinese and some South-East Asian languages.

ii) Agglutinating (affixing) languages: Such a language “attaches separable affixes to roots” (Malmkjaer and Anderson, 1991:273). The affixation results in several morphemes combined into one word. Examples of such languages are Turkish, Finnish, Hungarian, Annang etc.

iii) Inflectional (flectional or fusional) languages: In these languages, “morphemes are represented by affixes ... but it is difficult to assign morphemes precisely to different parts of the affixes” (Malmkjaer and Anderson, 1991:273). These languages have an elaborate system of suffixes. They have regularity based on classes and paradigms. A morpheme can have more than one function in a process known as cumulation. Nominal paradigms are subject to declension while verbal paradigms are subject to conjugation. Examples in this group are Latin, Italian, Russian and English.

iv) Polysynthetic (incorporating) languages: These languages make use of affixation and often incorporate nouns and verbs (Malmkjaer and Anderson 1991). Eskimo and some American-Indian languages fall into this group.

Graddol et al (1987) have identified some typologies as guides in the study of morphology. It is generally agreed that typological studies reveal the morphological characteristics of different languages. These studies also “show the limit within which languages can vary, and in so doing provide statements about the nature of language” (Malmkjaer and Anderson, 1991:272). According to Greenberg (1963:54-55), “The construct of ‘type’ is interposed between the individual language in all its uniqueness and unconditional or invariant features to be found in all languages”. Typological studies are meant to facilitate the classification of languages for analytic descriptions; and in this way, guide the expectations of researchers. Above all, Arkadiev and Klamer (2016:2-3) observe that typological studies help in discovering the relationship between form and meaning in the structure of languages:

The primary goal of morphological typology and theory is to analyze the ways languages establish relations between forms and meanings when they build words, and to discover the principles underlying the cross-linguistic variation in this domain.

Baerman and Corbett (2007) agree that typological studies impinge on morphological studies but warn that these studies admittedly face many challenges as there are no clear-cut typologies, and no language ever pitches camp with only one of them.

Malmkjaer and Anderson (1991:314) are of the opinion that morphology is concerned with the forms of words, the study of the internal structure of words. Morphology is also concerned with the study of the meaningful parts of words in a language (Akmajan et al 2004). Such definitions recognise the morpheme as the basic unit of syntax. Matthews (1997:233) is of the view that morphology is,

“The study of the grammatical structure of words and the categories realized by them. Thus a morphological analysis will divide ‘girls’ into ‘girl’ and ‘-s’ which realizes ‘plural’; ‘singer’ into ‘sing’ and ‘-er’ which marks it as a noun denoting an agent”.

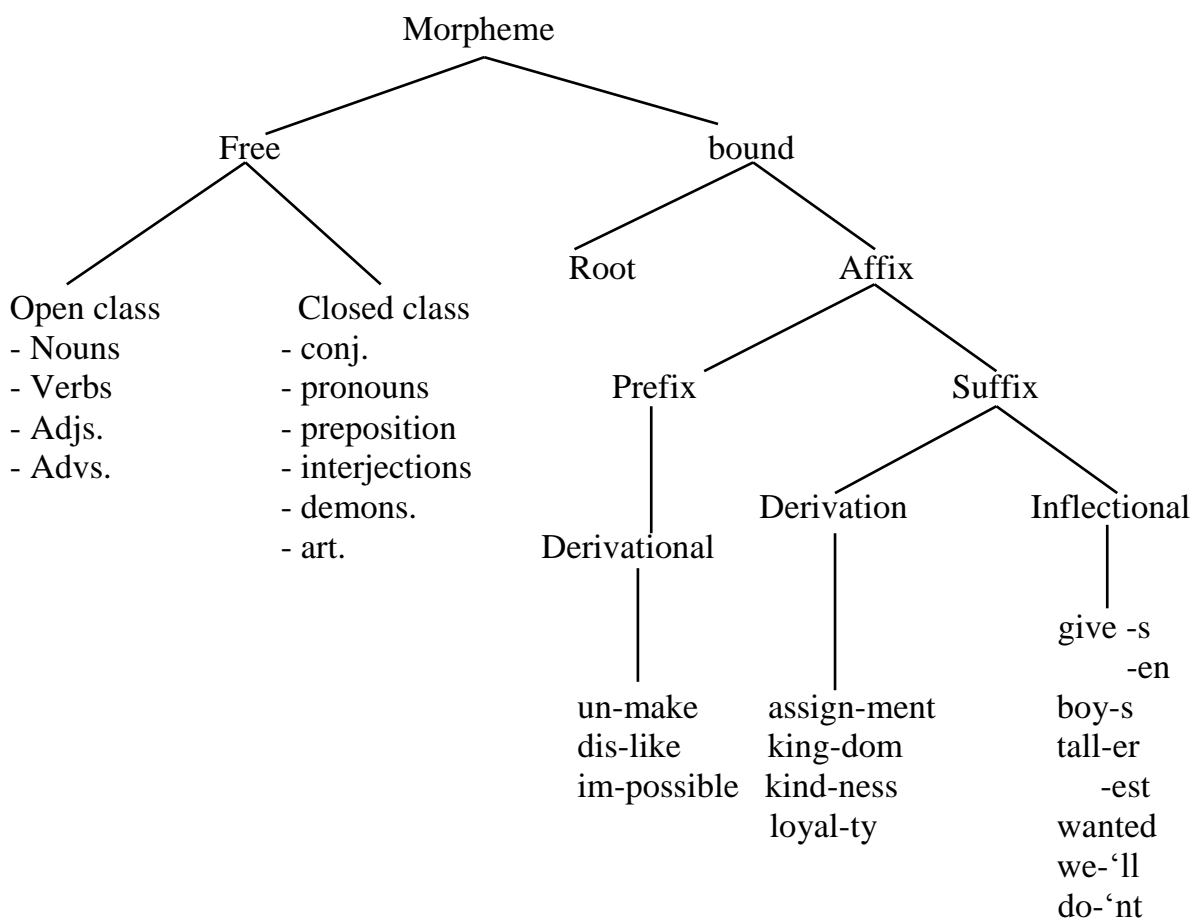


Diagram 5: The Morpheme Chart

Morphology is an aspect of lexicology, a branch of linguistics which studies the nature of words and is fundamentally concerned with word classification, word formation and word meaning. With respect to word classification. Yule (1996:76) identifies lexical morphemes (open class words) and functional morphemes (closed class words).

Morphology is a rather complex study which is applied to those aspects of the morphological system of language that accounts for variations in the phonetic manifestations of morphemes. Brown and Miller (1980:161) corroborate this idea in their observation that morphology.

... is connected to a phonological study of a language insofar as it involves a study of the phonological shapes of words. In this sense morphology cannot be regarded as an independent study, but rather as a bridge between syntax and phonology.

4. Diachronic morphology

Diachronic morphology traces the roots of words to their etymology (Brinton, 2000). For example, Francis (1963:135) traces the roots of the modern English word “pound” to the Latin word “pondo” meaning “weight” and the old English word “pund”. Brinton (2000:77) makes reference to bound roots and in this case traces the following roots of English words to Latin:

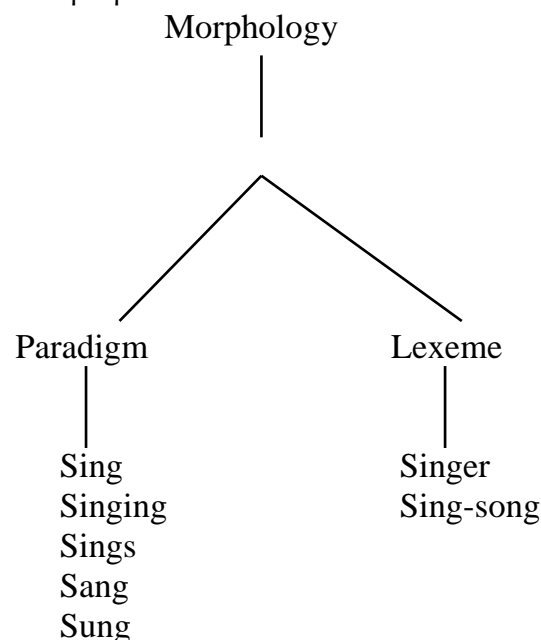
(i) -vert originates from the Latin word ‘vetere’ meaning ‘to turn’ - found in such words as convert, revert, subvert, intravert, pervert etc.

(ii) -mit originates from the Latin word ‘mittere’ meaning ‘to send’ - found in such words as transmit, commit, remit, admit, omit, submit.

-vert and –mit are roots which cannot stand alone as independent words. They are bound roots.

5. Concatenative morphology

Concatenation is the linguistic process of attaching units to form (Matthews, 1997:67). Concatenation is a kind of linear morphology mainly rooted in affixation. Prefixes and suffixes are attached to the roots of words. Derivational and inflectional morphology are subsets in the concatenative system. It is paradigm-deducing as well as lexeme-deducing. Concatenation has lexico-semantic and morpho-syntactic properties.



Derivational morphology creates new lexemes while inflectional morphology signals grammatical agreement (Radford et al, 1999). These are common morphological types and are concatenative in their structure.

Etim (2014) has undertaken an elaborate work in affixational processes including prefixation and suffixation.

6. Nonconcatenative morphology

Etim (2014) has identified infixation, interfixation (with examples in Igbo and Yoruba), circumfixation (with examples in Esan and Eleme), suprafixation (citing examples from stress in English and tone in Igbo, Efik and Ibibio). Udondata (2006:36) has cited cases of tone changes in Annang that signal new word forms with differences in meaning as in *úfik* (oppression) and *úfik* (odour) as well as *ùmàn* (female – animal) and *ùmàn* (delivery – child).

De Reuse (2009) has identified the Productive Non-Inflectional Concatenation (PNC) as a kind of morphology different from inflection and derivation. Trommer (2012) groups infixation, vocalic and consonantal alternations, truncation and non-segmental exponence such as stress and tone changes among non-concatenative morphology.

This is the ramification which studies in morphology have assumed. But in spite of or because of this broad scope, there are still fuzzy points and a number of unanswered questions. For example if we define infixation as the insertion of a morpheme in the middle of a word, Brinton (2000:77) needs clearance on whether such words which change their root vowels are cases of infixation or replacement.

7. Morphology and productivity

It is observed that generally, open class words are amendable to morphological productivity than close item words.

Open class:

Nouns: - boy, boys, boys', boy's

Verb: - sing, singing, sings, sang, sung

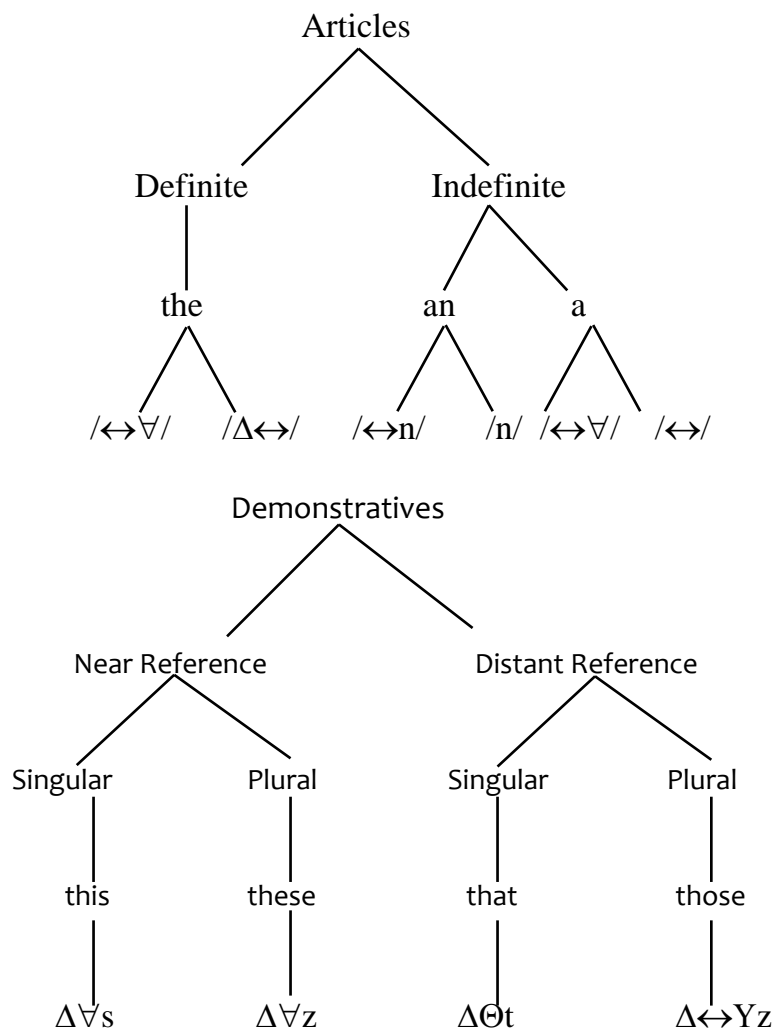
Adjective: tall, taller, tallest,

Adverbs: loud, louder, loudest

Closed Class:

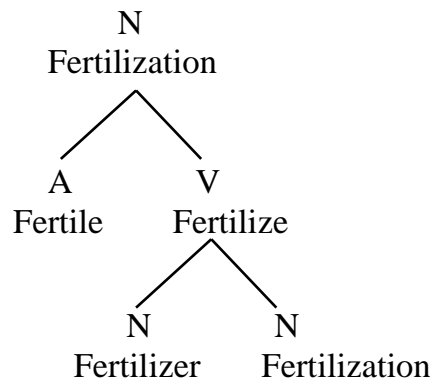
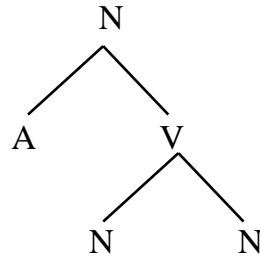
Articles: a, an, the,

demonstratives: this, that, these, those



Morphology is a process in the systemic and systematic processes of language. Halliday (1964) considers grammar as a network of interlocking systems. Malmkjear and Anderson (1991:447) rightly observe that “the notion of network of systems obviously indicates that there are interrelations between the various systems”. This means that morphology has interrelations with phonology, the lexicon, syntax and semantics. Moreover, morphology is systematically organized as shown below:

Fertile → fertilize → fertilizer → fertilization
 ↓ ↓ ↓ ↓
 Adjective verb noun noun



8. Morphemic alternants

The English plural morpheme ‘-s’ is realised by plural nouns and the third person singular of verbs and can generate three different phonetic forms /s, z, ∅z/. These three realizations are known as “allomorphic alternants” or variants (Malmkjaer and Anderson, 1991:316). An alternation occurs when a morpheme exhibits variation in its phonological realization. The various realizations are called alternants. The variation may be conditioned by phonological, morphological or syntactic environments of the morpheme. The various conditions can be summarized thus:

- i) If the preceding sound is voiceless, the plural marker takes the phonetic form /s/ as in “cats” /kɒts/. Others are ‘cuts’, ‘locks’, ‘packs’, ‘saps’, ‘myths’, etc.
- ii) If the preceding sound is voiced, the plural marker takes the phonetic form /z/ as in ‘begs’ /begz/. Other words in this category include ‘calls’, ‘bags’, ‘robs’, ‘gloves’, ‘rams’, ‘dolls’, ‘toes’, etc.
- iii) If the preceding sound is a sibilant /s, z, Z, tʃ, dʒ/, the plural marker takes the phonetic form /∅z/ as in ‘badges’ /bɒdʒ∅z/. Other words in this group are ‘buzzes’, ‘mashes’, ‘mirages’, ‘roses’, ‘bridges’, etc.

The past tense morpheme ‘-ed’ is realized by the past tense of verbs and demonstrates three different allomorphic variants. These are /d, ∅d, t/. The following are examples.

- i) If the preceding sound is a voiced consonant, the ‘-ed’ morpheme takes /d/ as its allomorph as in ‘begged’ /begd/.
- ii) If the final sound is an alveolar stop, the ‘-ed’ morpheme takes /∅d/ allomorph as in ‘wanted’ /wɒnt∅d/ and ‘needed’ /ni:d∅d/.

- iii) The allomorph of the ‘-ed’ morpheme is /t/ if the sound preceding it is a voiceless consonant as can be seen in the following instances: ‘laughed’ /lai:ft/, ‘jumped’ /dZ ɸ mpt/, ‘kicked’ /k∇kt/, ‘slumped’ /sl ɸ mpt/, ‘worked’ /wɛ:kt/.

The English definite article, ‘the’ realizes two allomorphs. If the sound that follows the definite article is a vowel, the definite article is realized as /Δ∇/ as in ‘the orange’ /Δ∇ ɸ r∇ndZ/. But if it is followed by a consonant sound, ‘the’ is realized as /Δ↔/ as in ‘the cat’ /Δ↔ kθt/.

Assimilation is a process in the process of morphological alternation. It takes place “when a speech sound undergoes a change in articulation in connected speech, becoming more like another immediately or otherwise adjacent sound” (Malmkjaer and Anderson, 1991:27). Change of phonetic form in connected speech, vowel and consonant harmony are instances of assimilation and have morphological implications. This is corroborated by Radford et al (1999:5) who observe that “... many words change their phonetic form ... in connected speech, such sound changes being determined by the nature of neighbouring sounds within a word, phrase or sentence”. Fudge (1987:87) cites the following assimilation processes as instances of morphological alternations:

Divine	[d∇va∇n]	-	divinity [d∇v∇n∇t∇], [a∇] ± [∇]
Serene	[s↔ri:n]	-	serenity [s↔ren↔t∇d], [i:] ± [e]
Sane	[se∇n]	-	sanity [sθan∇t∇], [e∇] ± [θ]

Allophones also demonstrate appreciable morphological alternation in English. Brinton (2000:48) defines an allophone as “a predictable variant of a phoneme”. Allophones are similar variants of a particular sound; and though similar, they are not identical but are conditioned by the phonetic environments they find themselves. Fudge (1987:86) is of the view that allophones are cases of phoneme involvement in morphological alternation, citing the cases of the ‘dark’ or palstalized [ɪ] in ‘feel’ [fi:l] and the ‘uvular’ or velaric [ɪ] in ‘feeling’ [fi:lɪŋ] as examples. All these instances demonstrate morphological significance.

9. Conclusion

Studies on the typology of languages have been ignored in our era and this has affected the relationship between morphological theory and language typology. Typological studies impinge, in no small measure, on morphological studies (Corbett, 2007) and as Ardiev and Klamer (2016) observe, typological analysis reveal a number of cross-linguistic patterns which are relevant to morphological studies. Morphological studies have assumed a dimension that baffles many linguists. It is on this note that Spencer (1994:71) opines that

“Morphology stands at the interface between the lexicon, phonology and syntax and many of the most significant questions concern the way that morphological representations interact with representations at other linguistic levels. At the same time, important questions have been raised about the nature of morphological units and morphological processes”.

Morphology is related to language description and linguistic theory. And since no one theory can satisfy its multifaceted demands, morphological studies require a holistic approach – an amalgam of different approaches.

It was Chomsky that introduced morphology into generative syntax (Spencer, 1994) and morphology has since been exploring means of establishing a relationship between form and meaning (Bybee, 1985). In Chomskyan grammar the lexicon is part of the intuition of native speakers of the language, and it is innate. Language in this sense has to do with that part of the mind or brain which enables human beings to speak language (Carnie, 2001). One of the universal properties of language is that human beings are born with the capacity to speak language (Radford et al, 1999).

It is therefore argued that there is an inherent system in the lexicon that maps linguistic units into morphological structures. This idea had long been recognized by the Swiss linguist, Ferdinand de Saussure, that language is a system of signs and “the meaning of each sign is produced by the relationship among signs in the system” (Ritzer, 2011:602). By implication, Halle is saying that morphological units are unconscious products of the mind. This is confirmed by Akmajian et al (2001) who admit that there are certain morphological principles which form part of Language Acquisition Device (LAD).

We can therefore conveniently refer to Halle's ideas about the lexicon in relation to morphology as Deep Structure Morphology (DSM) while the ideas of Aronoff can be baptized as Surface Structure Morphology (SSM). The two are complementary. Halle's Deep Structure morphology recognizes Chomsky's ideas that syntax is made up of the base and the transformational components. The base component consists of the lexicon and the categorical component. The duty of the lexicon is to list lexical items and provide morphological, syntactic, phonological and semantic information (Lyons 1987:124 – 125).

Udondata (2019:4) observe that "the organic relationship between surface and deep structure is such that one cannot be discussed in seclusion of the other. A major concern of syntax is to explain how the relationships in structures are combined to form the meanings of sentences". We recognise the role of the lexicon in the intuition of native speakers as the basis for morphology. At the same time we recognize the role of affixation in the surface mapping of words into various morphological structures. It is affixation that interprets what the lexicon stores in the base component of grammar and analyzes them into their phonetic units.

References

- Akmajian, A.; Demers, R. S., Farmer, A. K., Harnish, R. M. (2004). *Linguistics: An Introduction to Language and Communication*. New Delhi: Prentice Hall.
- Akadiev, P. and Klamer M. (2016). *Morphological Theory and Typology* in Jenny Audring and Francesca Masini (eds.) *Oxford Handbook of Morphological Theory*. Oxford: Oxford University Press.
- Aronoff, M. (1976). *Word Formation in Generative Grammar*, Cambridge: MIT Press.
- Booij, G. (2005). *The Grammar of Word: An Introduction to Linguistic Morphology*, Oxford: Oxford University Press.
- Brinton, L. J. (2000). *The Structure of Modern English: A Linguistic Introduction*, Philadelphia: John Benjamins.
- Brown, E. K. and Miller, J. E. (1980). *A Linguistic Introduction to Sentence structure*, London, Hutchinson.
- Baerman, M. and Corbett, G. G. (2007). *Linguistic Typology: Morphology in Linguistic Typology*, 11, 115 – 117.
- Bybee, J. L. (1985). *Morphology: A study of the relation between meaning and form*, Philadelphia, John Benjamins.
- Carnie, A. (2001). *Syntax*, Oxford Blackwell Publishers.
- Corbett, G. G. (2007). *Canonical typology, suppletion and possible words*, in *language*, 83, 8-42.
- Darbyshire, A. E. (1967). *A Description of English*, London, Edward Arnold.
- De Reuse, W. J. (2009). *Polysynthesis as a typological feature: an attempt at the characterization from Eskimo and Athabaskan perspectives*. In: Marc-Antoine Mahieu and Nicole Tersis (ed.). Philadelphia, John Benjamins. 19 – 34.
- Etim, V, E. (2014). *Morphological Operations in Annang*, M. A. Thesis of the University of Calabar. Unpublished work.
- Etim, V, E., and Udondata, J. (2019). *Morphological Operations in Annang*, in Peter Patrick (ed.), *British Journal of Linguistics*, UK: European Centre for Research Training and Development, 7(2), 53-67.
- Francis, W. N. (1963). *The English Language*, London, The English Universities Press.
- Fromkin, V. and Rodman, R. (1988). *An Introduction to Language*, London, Harcourt Brace Jovanovich.
- Fudge, E. C. (1987). *Phonology in John Lyons (ed.)*. *New Horizons in Linguistics I*, New York, Penguin, 67– 95.
- Graddol, D; Chesire, J; and Swann, J. (1987). *Describing Language*, Philadelphia, Open University Press.
- Greenberg, J. H. (1963). *Some universals of grammar with particular reference to the order of meaningful elements*. In: Joseph H. Greenberg (ed.), *Universals of Human Language*. Cambridge (MA): MIT Press, 73-113.
- Halle, M. (1973). *Prolegomena to a theory of morphology in Linguistic Inquiry*, 4, 3 -16
- Halliday, M. A. K. (1964). *Syntax and the consumer*. In Staut, C.I.J.M. (ed). *Report of the fifteenth Annual (first international) Round Table Meeting on Linguistics and Language*. Washington, DC: Georgetown University Press. 11-24

- Haspelmath, M. and Sims, A. D. (2010). *Understanding Morphology*. London: Hachette UK Company.
- Kari, E. E. (2015). *Morphology: An introduction to the study of word structure*. Port Harcourt: University of Port Harcourt Press Ltd.
- Kim, J. and Sells, P. (2007). *Syntax: An Introduction*, Stanford: Centre for the Studied of Language and Information
- Lyons, J. (1987). *New Horizons in Linguistics I*, New York: Penguin.
- Malmkjaer, K; and Andersen, J. M. (1991). *The Linguistics Encyclopedia*, London, Routledge
- Matthews, P. H. (1997). *Oxford Concise Dictionary of Linguistics*, Oxford: Oxford University Press.
- Palmer, F. R (1981). *Semantics*, Cambridge, Cambridge University Press.
- Quirk, R. and Greenbaum, S. (1973). *A University Grammar of English*, London, Longman.
- Radford, A; Atkinson, M; Britain, D; Clahsen, H; and Spencer, A. (1999). *Linguistics: An introduction*, Cambridge, Cambridge University Press.
- Ritzer, G. (2011). *Sociological Theory*, New York, McGraw-Hill.
- Spencer, A. (1994). *Morphological Theory and English*, in *Links and Letters* 1, 71 – 84.
- Sapir, E. (1921). *Language*, New York, Harcourt and Brace.
- Trommer, J. (ed.) (2012). *The Morphology and Phonology of Exponence*, Oxford: Oxford University Press.
- Udondata, J.P. (2004). “Phonological Variation and Global Intelligibility in English” in David Eka (Ed.), *Journal of Nigerian English and Literature*, Uyo, Department of English.
- Udondata, J. (2006). *A Grammar of Annang Language*, Ikot Ekpene, Joe Graph Publications.
- Udondata, J. (2019). *The Profundity of Depth in Deep Structure Analysis in English* in *Ritman University Journal of Humanities*, 1 (1), 1-19.
- Yule, G. (1996). *The Study of Language*, Cambridge, Cambridge University Press.