

PARASYNTHESIS IN DEGEMA: SIMULTANEOUS AFFIXATION OR SUFFIXATION AND CONCOMITANT PREFIXATION?¹

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ABSTRACT

This paper discusses parasynthesis, also known as circumfixation, in Degema. It highlights the fact that circumfixes are controversial not only because of the possibility to analyze them as discontinuous units consisting of prefix-like and suffix-like formatives that apply to the stem simultaneously or as units formed in two stages beginning with suffixation and ending with prefixation but also because they are considered rare or non-existent in the world's languages, and are ruled out as impossible in some theories even in principle. Circumfixation in Degema is examined against the traditional view of parasynthesis and in the light of Generative Grammar. The paper notes that circumfixation is a very common and productive way of forming agentive and gerundive nominals and state nouns in Degema, despite claims of its rarity. It also notes that a traditional or theoretical analysis notwithstanding, there is a high degree of morpho-semantic bonding between both parts of the circumfix used in forming deverbal nouns in the language – a bonding that prohibits the optionality of any of the parts of the circumfix in spite of their non-contiguity. Degema provides evidence that the two parts of the circumfix constitute a single morphological unit and express a single meaning, which cannot be realized if the two parts are regarded as cases of “normal” prefixes and suffixes. Furthermore, the paper demonstrates that circumfixation is not impossible as a word formation process, like prefixation, suffixation and infixation. In the light of Generative Grammar, the paper concludes that circumfixation in Degema is a case of suffixation and concomitant prefixation rather than one of simultaneous affixation.

Key-words: Parasynthesis, circumfixation, Binary Branching Hypothesis, Deverbal Nominals, Degema

¹ Degema is spoken in southeastern Nigeria by two autonomous communities – Usokun-Degema and Degema Town (Atala) in Degema Local Government Area of Rivers State. It is a Delta Edoid Language (Elugbe 1989) classified under West Benue-Congo (Blench 1989) within the Niger-Congo phylum. Degema speakers number approximately 22,000 (according to the 1991 population census figures). Each of the Degema-speaking communities speaks a variety of Degema that is highly mutually intelligible with the other and is known by the variety of Degema it speaks. The Usokun-Degema people speak the Usokun variety while the Degema Town (Atala) people speak the Atala variety. Degema data in this paper are based on the Usokun variety.

0. INTRODUCTION

There are different word-formation strategies that have been discussed in the literature on morphology. The commonest of them is affixation, which is by far the principal means of building words in the languages of the world. The literature identifies various types of affixes based on their positional relationship to the base to which they attach themselves and on the basis of the function they perform. Of these types of affixes, prefixes and suffixes are by far the commonest among the world's languages (Štekauer et al. 2012). Prefixes and suffixes are considered more natural from the perspective of Natural Morphology than infixes, interfixes or circumfixes, which are considered “less natural” or even “unnatural” (Štekauer et al. 2012: 197f). Of these affixes, circumfixes are controversial not only because “it is possible to analyze them as consisting of a prefix and a suffix that apply to the stem simultaneously” (Aronoff and Kirsten 2005: 3) or as units formed in two stages beginning with suffixation and ending with prefixation (Scalise 1986) but also because they are considered rare or non-existent (Carstairs-MacCarthy 2006: 86). Spencer (1991: 13) remarks that “in some theories circumfixes are ruled out as impossible even in principle”. As an introduction to our discussion of circumfixation, we discuss affixation, drawing examples from a variety of languages. Subsequently, we provide background information on the traditional view of circumfixation and a discussion of circumfixation in Degema in the light of the traditional view. Finally, we present background theoretical information on circumfixation and a discussion of circumfixation in Degema in the light of the Binary Branching Hypothesis (BBH)².

1. AFFIXATION

Affixation is the process of attaching a bound morpheme, usually an affix, to a base to create wordforms. It is one of the principal means of building words in human language. This process of building words is very common in prototypical agglutinating languages, such as Japanese, Kiswahili and Turkish (cf. Katamba and Stonham 2006, Lieber 2010), in fusional languages, such as Latin and Russian (cf. Katamba and Stonham 2006, Spencer 1991), and polysynthetic languages, such as Chukchee, and Inuktitut (cf. Spencer 1991, Steinbergs 1997).

² The following abbreviations are used in this paper: 3SgSCL = third person singular subject clitic, CERT = certainty, FACT = factative clitic, FUT = future, N = noun, NPM = non-past morpheme, Pre = prefix, Suf = suffix, V = verb stem, X = base.

1.1. Types of Affixes

There are different types of affixes. They are usually classified into two main types on the basis of their positional relationship to the base and on the basis of the function they perform.

1.1.1. Positional Types of Affixes

On the basis of their position in relation to the base, affixes are classified as prefixes, suffixes, infixes, interfixes and circumfixes. Of these affixes, prefixes and suffixes are the commonest in the languages of the world.³ Let it be mentioned that infixes and interfixes are not attested in Degema. The following discussion presents briefly the positional relationship of affixes to the base, with illustrative data from Degema.

Prefixes

Prefixes occur before the base, as in the Degema examples in (1) and (2):

- | | | | |
|-----|---------------------------|----------|----------|
| (1) | ε-nám ⁴ | ‘animal’ | (Degema) |
| (2) | u-tóm | ‘head’ | (Degema) |

The forms **ε-** and **u-** occurring before the bound stem **-nám** and **-tóm** are prefixes.

Suffixes

Suffixes occur after the base, as in the Degema examples in (3) and (4):

- | | | | | | |
|-----|------------|------------|----------------|---------------------|----------|
| (3) | fó | ‘be white’ | fó-εsé | ‘cause to be white’ | (Degema) |
| (4) | gím | ‘pin’ | gím-ené | ‘pin oneself’ | (Degema) |

The forms **-εσε** and **-ene** occurring after the bases **fó** ‘be white’ and **gím** ‘pin’ are suffixes. In Degema, affixes, such as prefixes and suffixes, harmonize with nominal and verbal bases in Advanced Tongue Root (ATR). In other words, the vowels of affixes are +ATR when those of nominal and verbal bases are +ATR, and -ATR when those of nominal and verbal bases are -

³ For an excellent discussion of the distribution of affixes in the world’s languages, see Štekauer et al. (2012). They note that suffixation is more widespread in the world’s languages than prefixation (Štekauer et al. 2012: 141f).

⁴ Degema has two basic tones, high tone, marked (´), and low tone, which is unmarked for the sake of economy. There is also a tonal phenomenon known as downstep, which is the result of a high tone becoming phonetically lower than a preceding high tone. The downstepped tone is the tone that anchors on the syllable after the down arrow, as represented in this work. Our transcription of Degema data uses International Phonetic Alphabet symbols.

ATR. The function of Degema prefixes in (1) and (2) is inflectional whereas the one in (3) and (4) is derivational.

Circumfixes

Circumfixes are discontinuous morphemes consisting of two parts⁵. One part of the affix occurs before the base while the other part occurs after the base. The two parts of the affix, however, constitute a single unit and express a single meaning (cf. Lieber 2010: 78). Circumfixes are attested in Degema (Elugbe 1984, Elugbe 1989, Kari 2004, Kari 2008), as well as in other Nigerian and non-Nigerian languages such as Eleme (Alesi 1998), Esan (Ejele 1996), Oduval (Kari 2009), Malay (Allerton 1979), Italian (Scalise 1986) and German (Haspelmath 2002). Examples (5), (6) and (7) illustrate circumfixes in Degema:

(5)	kpéβ	‘sow’	o-kpé[↓]β-ám	‘sower’
(6)	dí	‘eat’	ɔ-dí-[↓]ám	‘eater’
(7)	dér	‘cook’	o-dér-[↓]ám	‘cooker’

In examples (5), (6) and (7) the forms **o-...-ám** and **ɔ-...-ám** are nominalizing circumfixes in Degema.

1.1.2. Functional Types of Affixes

Functionally, affixes are broadly classified as inflectional and derivational. Inflectional affixes usually do not change word class. They also usually do not result in the creation of new words rather they produce variations of the same word.⁶ Inflectional affixes exist to mark grammatical

⁵ Circumfixes, also called ambifixes, are usually thought of as consisting of a prefix and a suffix (cf. Booij 2005:29) or as a unit consisting of the simultaneous presence of two morphemes (cf. Lieber 2010:78).

⁶ Although generally, inflection is believed not to change word class, it is worthy to mention that “change in word class” is not a universal criterion for distinguishing it from derivation. Stump (2001: 19) observes that in Breton (France), the attachment of some inflectional affixes to certain bases affects the lexical category of the bases so that the adjectival base **bas** ‘shallow’ becomes the nominal **basenn** ‘shoal’ as a result of the attachment of the inflectional suffix **-enn**. Furthermore, he observes that the attachment of the suffix **-enn** to a collective noun such as **buzugenn** ‘worms’ yields the corresponding singulative form **buzug** ‘worm’. There are also instances where the distinction between inflection and derivation is blurred, as there exist certain affixes in Degema that serve an inflectional and derivational function at the same time in some words. For instance, in Degema, the attachment of the prefix **ɔ-** to the verb base **teβtéβ** ‘be short’ to derive the word **ɔ-teβtéβ** ‘one that is short’ not only marks singularity, which is inflectional, but also changes the lexical category of the word from verbal to nominal (cf. **ɪ-teβtéβ** ‘ones that are short’) – a function that is clearly derivational. Under these circumstances, it is not at all clear which part of the prefix is inflectional and which part is derivation. It is therefore difficult to make a clear-cut universal distinction between inflection and derivation, and in some cases, not even within a single language, as facts from Breton and Degema show. In spite of the practical difficulties in distinguishing between inflection and derivation, the distinction between these notions is still valid, as there are areas where the distinction is clear (see Kari 2003).

categories, such as number (8), person (9), tense (10), aspect (11), comparative and superlative (12), mood (13), case (14), as illustrated by the following examples:

- | | | | | | | |
|------|-------------|---------|---|-------------------------|-----------------------|--------------------|
| (8) | o-kó | ‘canoe’ | ~ | a-kó | ‘canoes’ | (Degema) |
| (9) | lick | lick-s | | | | English |
| (10) | kill | ~ | | kill-ed | | (English) |
| (11) | send | ~ | | send-ing | | (English) |
| (12) | high | ~ | | high-er | ~ | high-est (English) |
| (13) | tùé | ‘come’ | ~ | tə-tùù-ní | ‘will certainly come’ | |
| | | | | FUT-come-CERT | | |
| | | | | (Oduál) (Kari 2009: 60) | | |

- | | | | | | |
|------|------------|---------|---|--------------------------|-------------------------|
| (14) | ótú | ‘house’ | ~ | t-ó⁺tú | ‘at/to/from house/home’ |
|------|------------|---------|---|--------------------------|-------------------------|

(Oduál: Kari 2009: 16)

Derivational affixes are used to create new words. They are further classified into category-changing and category-preserving. Category-changing derivational affixes result in the creation of new words, which do not belong to the syntactic classes of words from which they were created, while category-preserving derivational affixes are those that result in the creation of new words that belong to the syntactic classes of words from which they were created. This latter category of affixes is sometimes called extensional affixes because they only modify the lexical meaning of the base without changing its lexical category. The derivational affixes in (15) and (16) are category-changing whereas those in (17) and (18) are category-preserving:

- | | | | | | |
|------|------------|---------------|---|------------------|-----------------|
| (15) | tǎm | ‘send’ (verb) | ~ | o-tǎm-ǎǎy | ‘sender’ (noun) |
|------|------------|---------------|---|------------------|-----------------|

(Oduál: Kari 2009: 42)

- | | | | | | |
|------|------------------|-------------------|---|-------------------|------------------|
| (16) | atarasi-i | ‘new’ (adjective) | ~ | atarasi-sa | ‘newness’ (noun) |
|------|------------------|-------------------|---|-------------------|------------------|

(Japanese: Haspelmath 2002: 69)

- | | | | | | |
|------|-----------|-------------------------------------|---|--------------|------------------------|
| (17) | wǒ | ‘fall/fail in an enterprise’ (verb) | ~ | wò-sǎ | ‘cause to fail’ (verb) |
|------|-----------|-------------------------------------|---|--------------|------------------------|

(Bafut: Mutaka & Tamanji 2000: 177)

- | | | | | | |
|------|--------------|---------------|---|-----------------|--------------------------|
| (18) | -rata | ‘love’ (verb) | ~ | -rat-ana | ‘love each other’ (verb) |
|------|--------------|---------------|---|-----------------|--------------------------|

(Setswana: Cole 1955: 46)

In the foregoing, we have discussed affixation, exemplifying it with data from a variety of languages. In the following sections, we shall discuss circumfixation.

2. CIRCUMFIXATION

Circumfixation, traditionally known as parasyntesis, is defined as a process whereby a word form is derived by means of the simultaneous attachment of prefix-like and suffix-like formatives to a single base to give the form [Pre + X + Suf] (Scalise 1986: 147). According to Scalise (1986: 147), “simultaneous attachment refers to the fact that neither the sequence [Pre + X] nor the sequence [X + Suf] exists alone; it is assumed that the two affixes must thus be added at the same time”. Although circumfixation may be productive in the languages in which it is attested, it is not a widespread word-building process among the world’s languages, unlike prefixation⁷ and suffixation (Štekauer et al. 2012: 209, Carstairs-MacCarthy 2006: 85). For this reason, it is left out in the discussion of affixation in some books on morphology (cf. Katamba and Stonham 2006: 44f).⁸

“Genuine circumfixes”⁹ are a kind of affix at par with prefixes, suffixes and infixes, given that there exist many instances where the two parts of which they are made constitute a single unit and express a single meaning¹⁰ (and not the “simultaneous presence of two morphemes” (cf. Lieber 2010: 78)), a meaning that cannot be realized if the two parts are regarded as “normal” prefixes and suffixes, which can co-exist with the base one without the other and do not necessarily constitute a single unit or express a single meaning, as seen in the possibilities that exist with the English words *un-happi-ness* ~ *un-happy* ~ *happi-ness*. The word *happy* can occur with the prefix *un-*, as in *unhappy*, or with the suffix *-ness*, as in *happiness*, or with both the prefix *un-* and the suffix *-ness*, as in *unhappiness*. However, the meanings of the prefix *un-* and the suffix *-ness* are not dependent on each other or on the presence of both affixes. Each of the affixes can always exist with the base independently of the other but this is not always so with circumfixes, as we shall see in Degema. It is also to be seen in Degema that the two parts that

⁷ Spencer (1991: 13) refers to prefixation and suffixation as “standard” (affixation).

⁸ Štekauer et al. (2012: 197) refer to circumfixation and other word-formation processes that are characterized by the absence of “diagrammaticity” or “anti-diagrammaticity” and those that violate morphemic integrity, as well as those that produce new words by adding derivational material at two different points, as “minor types of affixation”.

⁹ Because circumfixes are rare or considered nonexistent, they are thought of as not being different from prefixal-suffixal derivation (cf. Carstairs-MacCarthy 2006: 86).

¹⁰ This view agrees very much with J. Mugdan’s description of the circumfix. Mugdan’s description includes the fact that a circumfix encloses the base, and that the first part looks like a prefix while the second part looks like a suffix. Of significance is the remark that “neither part has any meaning by itself so that it is preferable to treat the combination as a unit” (Mugdan 1994: 2549).

make up circumfixes do not have independent meanings. Whatever meanings that circumfixes have are compositionally expressed by both parts, which are obligatorily present.

3. CIRCUMFIXATION IN DEGEMA

Circumfixation is a very common and productive word formation process in Degema. Like prefixes and suffixes, which feature prominently in word formation in the language, circumfixation is one of the processes through which nouns are formed from verbs. Among the nouns that are formed from verbs through circumfixation are gerundive nominals, agentive nominals and state nouns. The structure of the affix used in the derivation of gerunds in Degema is discussed elaborately by Elugbe (1984). Kari (1997, 2003, 2004, and 2008), in addition to the gerund, also discussed the derivation of agentive nominals and state nouns in Degema. In what follows, we present and discuss data on agentive nominals, gerundive nominals, and state nouns.

3.1. Agentive Nominals

Agents refer to entities, tangible or intangible, that cause a change in the physical state of some other entity. The shape of the circumfix used in the derivation of agentive nominals¹¹ is **O-...-(A)m**.¹² The longer form of the affix **O-...-Am** is used with verb bases that terminate with a consonant or a high vowel, such as **í**, **ɪ**, **u** or **ʊ**, while the shorter form **O-...-m** is used with verb bases with more than one syllable and which terminate with a vowel that is not **í**, **ɪ**, **u** or **ʊ**. In monosyllabic verb bases terminating with vowels other than **u**, **ʊ**, **í** or **ɪ**, there is complete assimilation of the underspecified vowel in the second part of the affix to the vowel of the verb base. The data in (19) show some of the bases that take the different forms of the agentive circumfix:

(19)	mené	‘do’	>	o-mé⁺né-m	‘doer’
	kél	‘begin’	>	ɔ-ké⁺l-ám	‘beginner’
	kotú	‘call’	>	o-kó⁺tú-óm	‘caller’
	loβíró	‘remember’	>	o-ló⁺βíró-m	‘rememberer’
	bí	‘push’	>	o-bí⁺-óm	‘pusher’

¹¹ A significant observation made by Kari (2008: xxx) is that agentive nominals cannot be used as complements of the verbs from which they are derived.

¹² Each morphophoneme in the structure of the affix represents two alternants. **O** represents **o-/**, while **A** represents **-/a** or **-e/-** contingent on vowel harmony and the phonological structure of the verb base.

βέβ	‘fly’	>	ɔ-βέ⁺β-ám	‘flyer’
kpɔn	‘flay’	>	ɔ-kpɔ⁺n-ám	‘flayer’
sá	‘shoot, kick’	>	ɔ-sá⁺-ám	‘shooter, kicker’
bó	‘build’	>	ɔ-bó⁺-óm	‘builder’
mɛsé	‘sleep’	>	ɔ-mé⁺sé-m	‘sleeper’
mará	‘yawn’	>	ɔ-má⁺rá-m	‘yawner’
pú	‘close’	>	o-pú⁺-óm	‘closer’
dé	‘buy’	>	ɔ-dé⁺-ém	‘buyer’
ɨ^wáj	‘count’	>	ɔ-ɨ^wá⁺ɨ-ám	‘counter’
siré	‘run’	>	o-sí⁺ré-m	‘runner’
gén	‘look’	>	ɔ-gé⁺n-ám	‘spectator’
jé	‘expose’	>	ɔ-jé⁺-ém	‘exposer’
sinesé	‘hide’	>	o-síné⁺sé-m	‘one who hides’
kaké	‘show’	>	ɔ-ká⁺ké-m	‘one who shows’
ɨɔn	‘insert’	>	ɔ-ɨɔ⁺n-ám	‘one who inserts’
díjesé	‘destroy’	>	o-díjé⁺sé-m	‘destroyer’

The two parts of the circumfix used in deriving agentive nominals constitute a single morphological unit and express a single meaning. The use or presence of one part of the circumfix without the other leads to ungrammaticality. Consider the data in (20):

- (20a) **o-méné-m o=sóm** **fíjé=n** **ɔ-gé⁺n-ám**
doer 3SgSCL=be good surpass=FACT spectator
‘A doer is better than a spectator’
- (b) ***o-méné o=sóm** **fíjé=n** **ɔ-gén**
(c) ***méné-m o=sóm** **fíjé=n** **gé⁺n-ám**

Example (20a) is grammatical because both parts of the circumfix are obligatorily present. In examples (20b) and (20c) where one or the other part of the circumfix is missing, the sentences are ungrammatical. For this reason, (20b) and (20c) are not glossed. Indeed, examples (20b) and (20c) are meaningless, as far as the expression of agentive meaning is concerned. Example (20b) is ungrammatical because the second part of the circumfix is absent, while (20c) is ungrammatical because the first part of the circumfix is absent. The fact emerging from a comparison of (20a) with (20b) and (20c) is that the morphological/semantic bond existing between both parts of the circumfix used in deriving agentive nominals does not support optionality of any of its sub-parts in spite of the non-contiguity of the two parts.

3.2. Gerundive Nominals

Gerundive nominals,¹³ like agentive nominals, are formed from dynamic verbs, i.e. verbs that mainly indicate an action, process, etc. They are formed with an affix having the structure **U-...-(A)m**. The longer form of the affix **U-...-Am** is used with verb bases that terminate with a consonant or with a high vowel such as **i, ɪ, u** or **ʊ**, while the shorter form **U-...-m** is used with verb bases with more than one syllable and which terminate with a vowel that is not **i, ɪ, u** or **ʊ**. There is complete assimilation of the underspecified vowel in the second part of the affix to the vowel of the verb base in monosyllabic verb bases terminating with vowels other than **i, ɪ, u** or **ʊ**. The data in (21) show some of the bases that take the different forms of the gerundive circumfix:

(21)	mené	‘do’	>	u-mé⁺né-m	‘doing’
	kél	‘begin’	>	o-ké⁺l-ám¹⁴	‘beginning’
	kotú	‘call’	>	u-kó⁺tú-óm	‘calling’
	loβiró	‘remember’	>	u-ló⁺βiró-m	‘remembering’
	bí	‘push’	>	u-bí⁺-óm	‘pushing’
	βéβ	‘fly’	>	o-βé⁺β-ám	‘flying’
	kpón	‘flay’	>	o-kpó⁺n-ám	‘flaying’
	sá	‘shoot, kick’	>	o-sá⁺-ám	‘shooting, kicking’
	bo	‘build’	>	o-bo⁺-óm	‘building’
	mesé	‘sleep’	>	o-mé⁺sé-m	‘sleeping’
	mará	‘yawn’	>	o-má⁺rá-m	‘yawning’
	pú	‘close’	>	u-pú⁺-óm	‘closing’
	dé	‘buy’	>	o-dé⁺-ém	‘buying’
	η^wáp	‘count’	>	o-η^wá⁺η-ám	‘counting’
	siré	‘run’	>	u-sí⁺ré-m	‘running’
	gén	‘look’	>	o-gé⁺n-ám	‘looking’
	jé	‘expose’	>	o-jé⁺-ém	‘exposing’
	sinesé	‘hide’	>	u-siné⁺sé-m	‘hiding’
	kaké	‘show’	>	o-ká⁺ké-m	‘showing’
	ηón	‘insert’	>	o-ηó⁺n-ám	‘inserting’

¹³ Like agentive nominal, gerundive nominals in Degema cannot be used as complements of the verbs from which they are derived. Kari (2008: xxx).

¹⁴ Each morphophoneme in the structure of the affix represents two alternants. **O** represents **o-/ɔ-**, while **A** represents **-ə/-a** or **-e/-ɛ** contingent on vowel harmony and the phonological structure of the verb base.

dijesé ‘destroy’ > **u-dijé⁺sé-m** ‘destroying’

Like agentive nominal, the two parts of the circumfix used in deriving gerundive nominals constitute a single morphological unit and express a single meaning. The use or presence of one part of the circumfix without the other leads to ungrammaticality. Consider the data in (22):

- (22a) **o-bó⁺-ó-m** **o=sóm** **fijé=n** **ú-dijé⁺sé-m**
 building 3SgSCL=be good surpass=FACT destroying
 ‘Building is better than destroying’
- (b) *?**o-bó** **o=sóm** **fijé=n** **ú-dijé⁺sé**
- (c) *?**bó⁺-ó-m** **o=sóm** **fijé=n** **dijé⁺sé-m**

Like what we saw in (20), example (22a) is grammatical because both parts of the circumfix are obligatorily present. In examples (22b) and (22c) where one or the other part of the circumfix is missing, the sentences are ungrammatical and unacceptable. For this reason, (22b) and (22c) are not glossed. Example (22b) is ungrammatical and unacceptable because the second part of the circumfix is absent, while (22c) is ungrammatical because the first part of the circumfix is absent. Here too, the fact emerging from a comparison of (22a) with (22b) and (22c) is that the morphological/semantic bond existing between both parts of the circumfix used in deriving gerundive nominals does not allow optionality of any of its sub-parts in spite of the non-contiguity of the two parts.

3.2. State Nouns

State nouns¹⁵ are formed from stative verbs. They refer to the states of being of entities. These nouns are derived from stative verbs by attaching a circumfix to the verb base. The shape of the circumfix is **U-...-A**:¹⁶

- (23) **bí** ‘be black’ > **u-bí⁺-á** ‘state of being black’
fó ‘be white’ > **o-fó⁺-á** ‘state of being white’
kój ‘be heavy’ > **o-kó⁺j-á** ‘state of being heavy’
rób ‘be sharp’ > **u-ró⁺β-á** ‘state of being sharp’
βóβów ‘be light’ > **u-βóβó⁺w-á** ‘state of being light’

¹⁵ Unlike agentive and gerundive nominals, state nouns in Degema can be used as complements of the verbs from which they are derived (see Kari 2008: xxxi).

¹⁶ **U** represents **u-/o-**, while **A** represents **-á/-a** contingent on vowel harmony and the phonological structure of the verb base.

State nouns, like gerundive and agentive nominals, have both parts of the circumfix functioning as a single unit and expressing a single meaning such that one part of the circumfix cannot be used without the other, and still express the meaning of “state of being X”. Forms such as ***o-kɔ́j** and ***kɔ́ʔj-á** are morphologically ill-formed, as a comparison of (24a) with (24b) and (24c) shows:

- | | | | | |
|-------|---|--------------|---------------|-----------------------------|
| (24a) | u-βóβó⁺w-ó | o=sóm | fijé=n | o-kɔ́⁺j-á |
| | state of being light 3SgSCL=be good surpass=FACT state of being heavy | | | |
| | ‘A state of being light is better than a state of being heavy’ | | | |
| (b) | *? u-βóβów | o=sóm | fijé=n | o-kɔ́j |
| (c) | *? βóβó⁺w-ó | o=sóm | fijé=n | kɔ́⁺j-á |

Example (24a) is well-formed because of the co-existence of both parts of the circumfix. The sentences in (24b) and (24c) are ill-formed because in (24b) the second part of the circumfix is absent, with a concomitant effect on the prosodic structure of the nouns, while in (24c) the first part of the circumfix is absent. For this reason, (24b) and (24c) are not glossed. Again, as we saw in the case of agentive and gerundive nominals, the morphological/semantic bond that exists between both parts of the circumfix used in deriving state nouns, separated from each other as they may be, does not allow optionality of any of its sub-parts.

From the foregoing discussion, it is clear that in agentive and gerundive nominal and state nouns, the first part of the circumfix is as obligatory as the second part. These nominals contrast with some examples in Dutch discussed by Carstairs-MacCarthy (2006: 85), where the forms **ge-** and **-d** are treated as separate affixes, because the element **-d** can appear with the base without **ge-**. In fact, the impossibility of one part of the affix occurring without the other in these Degema deverbal nominals is a strong basis for treating the two parts of the affix as constituting a single morpho-semantic unit. By the traditional view of circumfixation, therefore, the circumfixes used in deriving agentive and gerundive nominals and state nouns are assumed to attach simultaneously to the base, since one part of the circumfix cannot exist without the other.

4. A THEORETICAL ANALYSIS OF CIRCUMFIXATION

In the preceding section, we considered circumfixation in Degema based essentially on the traditional view of the phenomenon. The analysis of these deverbal nominals, in this section, is

based on generative morphology with particular reference to the Binary Branching Hypothesis (BBH) formulated by Scalise (1986). This hypothesis has its roots in Aronoff (1976) who proposes it as the “one affix, one rule hypothesis”. In the light of the “one affix, one rule hypothesis”, a word formation rule (WFR) is assumed to attach only one affix at a time to the base. That is to say, that word structure is always binary irrespective of the complexity of the morphological structure of derived words. The BBH provides the basis of the analysis by Scalise (1986: 146ff) of parasynthetic words in Italian that seem to be counter-examples to the hypothesis, showing that in the analysis of such apparent counter-examples a binary analysis is more preferable to a ternary one.

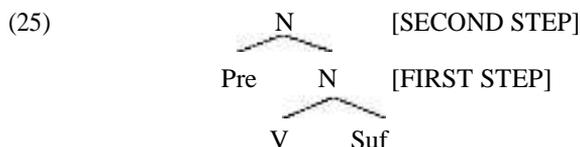
An interesting feature of the BBH credited to Allen (1978) and others, cited by Scalise (1986: 150), is the proposal that the base of a WFR can also be a possible but non-existent word. This proposal makes it possible for a WFR to create a possible but non-existent base by attaching a suffix¹⁷ to the (simple) base. In the light of this proposal, therefore, Scalise (1986) hypothesizes that “the parasynthetics of the traditional literature are actually formed in two steps: first, suffixation creates a possible, though not necessarily existent word, and second, prefixation generates the rest of the form”. With the foregoing discussion as a background, let us examine the parasynthetic formation of Degema agentive and gerundive nominal and state nouns.

A theoretical analysis of circumfixation in Degema deverbal nominal could be pursued based on the assumption that word structure is always binary irrespective of the complexity of the morphological structure of derived words (Aronoff 1976). It should, however, be borne in mind that the two parts of the circumfixes used in deriving agentive and gerundive nominal and state nouns in the language do not represent genuine cases of prefixal-suffixal derivation found in languages like German and English, for instance (cf. Carstairs-MacCarthy 2006: 85, Štekauer et al. 2012: 205ff).

Based on the BBH, the agentive nominal **o-mé⁺né-m** ‘doer’, the gerundive nominal **u-díjé⁺sé-m** ‘destroying’ and the state noun **u-βóβó⁺w-é** ‘state of being light’ could be assumed to derive in two binary stages: a first stage which involves the attachment of the second part of the circumfix, which is like a suffix, to the verb base [[V]+Suf]N and a second stage involves the attachment of

¹⁷ It should be pointed out that, unlike in traditional analysis where the suffix in circumfixed words is described as an inflectional element, the suffix in circumfixed words in Degema is analyzed as a derivational element.

the first part, which is like a prefix, to the verb + suffix base [[Pre+[[V]+Suf]N]N to generate the rest of the form. This analysis is represented in (25):



Even though agentive and gerundive nominals and state nouns tend to support a ternary analysis, instead of a binary one, our theoretical analysis accounts for the formation of Degema deverbal nouns in a uniform and principled way, showing that all three types of deverbal nouns are morphologically derivable in the same way.

From the foregoing analysis, it is obvious from a theoretical point of view that a binary analysis of these deverbal nominals in Degema is more desirable than a ternary one [Pre + V + Suf], as given in (26):



The ternary representation in (26), which supports the traditional view of circumfixation, presupposes simultaneous affixation of the first and second parts of the circumfix to the verb base – a view that is not tenable in the light of the BBH. This flat structure shows that the structure in question is nominal but it falls short of the BBH, which sees word structure as always binary irrespective of the complexity of the morphological structure of derived words.

It is worthy to state that in spite of the discrepancies in assumptions and analyses between the traditional view of parasynthesis and the BBH, the fact remains that the meaning of the circumfix is compositionally expressed, as neither the sequence [Pre + X] nor the sequence [X + Suf] exists alone. In other words, the circumfix has no meaning until both parts of the morpheme are generated, with the correct application of phonological rules. To this end therefore and since Generative Grammar attempts in a principled way to account for the innate linguistic rules, which reside in the mind of a competent native speaker of a language and which enable him/her

to form different kinds of phonological, morphological, syntactic and semantic structures, this paper aligns itself with this view. Generative Grammar sees linguistic structures as being characterized by binarity, and views circumfixation in Degema as a case of suffixation and concomitant prefixation rather than one of simultaneous affixation espoused by the traditional view.

CONCLUSION

In the foregoing discussion, we have examined circumfixation in the traditional sense and in the generative sense. The paper demonstrates that parasynthesis is a very common and productive word formation process in Degema, like “normal” prefixes and suffixes, and is the source of derivation of agentive and gerundive nominals and state nouns from verbs. One of the interesting findings of this paper is the fact that irrespective of whether the analysis adopted is traditional or theoretical, there is a high degree of morpho-semantic bonding between the two parts of the circumfix used in deriving agentive and gerundive nominals and state nouns, as neither part of the circumfix has any meaning until both parts of the morpheme are generated (with the correct application of phonological rules). The morpho-semantic bonding that exists between the two parts of the circumfix prohibits the optionality of any of the parts in spite of their non-contiguity. The theoretical analysis of circumfixation in Degema deverbal nominals shows that all three types of deverbal nouns are morphologically derivable in the same way. This can be by the attachment of the suffix-like part of the discontinuous morpheme to a verb to generate a non-existent base or by the attachment of the prefix-like part of the morpheme to generate the rest of the form. Our findings show that rare as circumfixation may be in the world’s languages, it is not impossible as a word formation process, like prefixation, suffixation and infixation. As evidence from Degema show, the two parts of the circumfix constitute a single morphological unit and express a single meaning, which cannot be realized if the two parts of the circumfix are regarded as cases of “normal” prefixes and suffixes. Finally, the paper concludes that circumfixation in Degema is a case of suffixation and concomitant prefixation rather than one of simultaneous affixation, noting that the two parts that make up the circumfix are not “normal” prefixes and suffixes, which may exist independently of each other and have their separate meanings, but constitute a single morpho-semantic unit.

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