

Compounding in Dangme

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Abstract

The paper investigates the phenomenon of compounding in Dangme, a language that belongs to the Kwa family of languages. It explores the formation of endocentric compounds in Dangme. This study discusses specifically the types of compounds in Dangme, and examines the syntactic and semantic properties and functions of constituents in a compound in Dangme. The study looks at two to three words compounds and also clause compounds. As in other Ghanaian languages, compounding is very productive in Dangme. It was observed that Dangme has both headed (endocentric) and headless (exocentric) compounding strategies. Headless compounding is however, not of the classical type in the language. This paper demonstrates that endocentric compounding in Dangme is formed from the concatenation of base nouns and verbs with suffixes, base nouns, base nouns with base adjectives, base nouns with base verbs, base nouns with postpositions and the agglutination of words to form clause compounds among others. Some Dangme compound words undergo certain phonological processes such as the deletion of mid or final vowel of final syllable and syllables among others. Compounding types identified in Dangme includes N-N, N-A, V-N, N-Postp and clausal compounds reduced to personal and town names. The data further demonstrates that Dangme has both the left and the right headed compounds. The left headed compound occurs in a noun-noun combination of a human and a non-human noun, noun-adjective and noun-postposition combinations whilst the right headed compounds occur in other noun-noun combinations in Dangme.

Key Words: Compounds, endocentric, morphology, syntax, semantic

Introduction

Dangme is a three-level tone language and it belongs to the Kwa group of Niger-Congo family of languages. It is spoken in two regions of Ghana, Eastern and Greater Accra mainly in South-Eastern Ghana. The people inhabit the coastal area of the Greater Accra Region, east of Accra, and part of the Eastern Region of Ghana. Its closest linguistic neighbours are Ga, Akan and Ewe. Dangme has seven dialects: Ada, Nugo/Ningo, Gbugblaa/Prampram, Osudoku, Sɛ/Shai, and Krobo (Yilo and Manya).

There are several small communities east of the Volta Region that trace their origins to Dangmeland; most of these have shifted to Ewe as the language of daily life, but others have not (Dakubu 1966; Sprigge 1969 cited in Ameke and Dakubu 2008:215). Patches of speakers are also found in Afegame Wengum in the Volta Region of Ghana and also at Nyetoe and Gatsi in Togoland.

Every language has a way of adding on to its lexicon. One way of forming words in Dangme, is through compounding. Compounding is used in a great variety of languages to create new words out of old. It is a word formation process which involves the combination of at least two potential free forms belonging to open word classes (Aikhenvald 2007:24, Booij 2007:3, Fabb 2001:66, Aziza 2007b: 302 and Ndimele 1999:71). According

to Appah (2013:1), “Compounding is the process by which a word is formed by concatenating two or more bases each of which potentially occurs alone elsewhere in the grammar as a syntactic atom”. Katamba (1993:66) opines that compounding involves the use of different processes some of which are so general that they can be used to cover many lexical items. He classified such processes as being productive but cautions that no processes may affect a small fraction of negligible importance but might apply more widely when new items enter the language. Bauer (2001:695) opines that a compound as a lexical unit is made up of two or more elements, each of which can function as a lexeme independent of the other(s) in other contexts, and which shows some phonological and/or grammatical isolation from normal syntactic usage.

Scalise & Vogel (2010:2&6) assert that compounds are interesting, intriguing and controversial linguistic constructions in terms of their analysis. They argue that compounds do not take a clear determined position within grammar, since they connect several important linguistic and non-linguistic areas: syntagmatic and paradigmatic relations. They explain further that compounds are syntactic-semantic islands, perceived as conceptual units within a specific accent. (see also Pyles 1964:276 & Milojevic 2000:41). The syntactic and semantic interpretation of compounds is an issue worth investigating in Dangme.

Katamba & Stonham (2006:56) opine that ‘a compound word contains at least two bases that are both words, or at any rate, root morphemes’. According to them, a compound may sometimes be roots that are combined in compounds. Another instance, they gave is that there may be an input base which contains an affixed form as exemplified below:

- | | | | | | | |
|----|--------|---|---------|---------|---------------|---|
| a) | [tea] | N | [pot] | N | [teapot] | N |
| b) | [week] | N | [end] | N | [weekend] | N |
| c) | [hair] | N | [dress] | V [-er] | [hairdresser] | N |

Katamba & Stonham (2006:56)

There are roots in (a) and (b), however, in (c), the compound consists of two bare roots and the second root is suffixed with the agentive marker *-er*. This is what Booij (2007:4) refers to as compounding and affixation in languages.

Compounds can be analysed essentially based on the notion of head, which is identified by looking at the syntactic and semantic properties of the left or right-hand constituents in the compound. Thus, the right-headed compound is a compound word in which the head element occurs on the right; whereas left-headed compound refers to a compound whose lexical head is located on the left-hand side of a given compound word (Scalise and Fabregas 2010:1).

Generally, endocentric compounding involves a combination of two or more free words where one word is the head and the other modifies the head. Fabb (2001:67) argues that there are languages where the position of the head is to the left instead. He explains that compounds are subject to phonological as well as morphological processes which may be language specific or specific to compounds. He explains further that assimilation, vowel elision and suprasegmental features like stress, tone and intonation may play very significant roles in identifying and distinguishing compounds from noun phrases in some languages. Booij (2007:3) argues further that there are languages with the possibility of having both left and right head positions. Dangme compounds have both the right and the left headed positions. This is contrary to Williams (1981) claim that right hand heads are universal.

Payne (1997) proposed that the criterion for calling something a compound falls into two groups, namely formal and semantic criteria. He explains that a compound may exhibit any of the following formal properties. A stress pattern characteristic of a single word as opposed to the pattern for two words for instance, *blackbird* which refers to the species, has a different stress pattern from *black bird* (any bird that is black). The second way of calling something a compound under the formal property is compounding. According to him, there are some

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compounds that consist of a noun plus a verb where the noun represents the object rather than the subject of the verb. For example, *housekeeper*.

There are many types of compounding in a language. These include noun + noun, verb + noun, noun + adjective, adjective + noun, preposition + noun, adjective + adjective, preposition + adjective and preposition + verb (Akamajian 1984:70-71). Some personal and place names are also formed through the concatenation of words in a phrase or a clause. Among these, Dangme has noun-noun, verb-noun, noun-adjective and compound clauses reduced to personal names and place names.

The Aim of the Paper

The aim of this paper is to examine the phenomenon of endocentric compounding in Dangme. The paper identifies the forms and types of compounds in Dangme. It also seeks to discuss the formation of compounds in two or more words in Dangme compounds. It further looks at the syntactic factors and the semantic motivation in determining headedness of endocentric compound words in Dangme.

Research Questions

1. What are the forms of compounds in Dangme?
2. Which categories of compound formation exist in Dangme?
3. Is Dangme likely to have both left and right headed compounds as in some other languages?
4. What are the syntactic factors and the semantic motivation that determine headedness in Dangme endocentric compound words?

Significance of the study

The findings of the study will add to the relatively limited literature on Dangme and serve as a basis for further research into other areas of the morphology, syntax and the semantics of Dangme. It is also hoped that the findings of this study will add to the literature on the typology of compounds formation universal.

Methodology and Research Design

Data were drawn from native speaker's competence and from community consultants from twenty (20) speakers of Dangme; four (4) teachers of Dangme, four (4) students studying Dangme at the University of Education, Winneba and two (2) consultants through unstructured interview and auditing of two grammar lessons at the College of Languages Education, Ajumako, of the University of Education, Winneba. Additional data were collected from ten (10) native speakers through daily spontaneous speech. The data collected were confirmed with other native speakers of Dangme.

The descriptive approach is used in the analysis of data. The descriptive method according to Mitchell & Jolly (1988) is a research design that progresses from describing a single variable to describing relationships among variables. They explain that the use of this design involves determining how variables co-vary or how variables relate to another. I have also adopted tree diagrams as presented by Haegeman (1994) and Radford (1988; 1981) to enhance the understanding of the concept of compounding in Dangme.

Organization of the Paper

Beyond the introduction, the paper is organized into four sections. The second section examines the classification of compounds based on the three main forms of compounding; open, close and hyphenated in Dangme. It also discusses the classification of compounds based on syntactic and semantic criteria. Section three discusses some types of endocentric compound formation processes in Dangme. The last section concludes with the findings of the study.

Classification of Compounds

This section classifies Dangme compounds into form, syntax (headedness) and semantics.

Classification of compounds based on form

There are three forms of compound: closed/solid form, hyphenated form and the open/spaced form. The closed/solid is the form of compound which the individual words are welded together. Most Dangme compounds have these combinations: **yò** ‘female’ + **tsɛ** ‘father/lord’ and **mà** ‘town’ + **tsɛ** ‘father/lord’ are combined as **yòtsɛ** ‘a husband’ and **màtsɛ** ‘chief/king’.

Hyphenated compounds are normally written with a hyphen between the words that form the compounds. This type of compounding is common in some Dangme personal names. These hyphenated names are usually made up of a noun and an adjective which may be an adjective of colour, size, height and ordinal numbers. For instance, **Tɛ̃tɛ̃** ‘a second male born name’ + **tsùtsù** ‘red’ are combined as **Tɛ̃tɛ̃-tsù**. A syllable of the colour adjective, **tsùtsù** ‘red’ is deleted in the compounded name **Tɛ̃tɛ̃-tsù** which means ‘**Tɛ̃tɛ̃** who is fair in complexion’. Also, **Nā** ‘a fourth male born name’ + **wàyó** ‘small/little/younger’ are combined as **Nā-wàyó** to mean ‘**Nā** who is younger or smaller in size’. **Tɛ̃tɛ̃** ‘a third male born name’ and **kpítí** ‘short’ are combined to form the name **Tɛ̃tɛ̃-kpítí** to point at ‘**Tɛ̃tɛ̃** who is not tall’. **Tɛ̃tɛ̃** and **ényɔ** ‘two/second’ can also be combined to form the hyphenated name, **Tɛ̃tɛ̃-Ényɔ** ‘a second **Tɛ̃tɛ̃**’.

Spaced compounds are made up of two or three words which are not usually longer words but when read together, a new meaning is found. Example in Dangme: **pū** ‘sun’ **sìtè** ‘rise’ **hé** ‘place’ becomes **pū sìtè hé** ‘east’ and **pū** ‘sun’ **sìnɔ** ‘down’ **hé** ‘place’ becomes **pū sìnɔ hé** ‘west’.

Classification of compounds based on syntactic and semantic criteria

Compounds have been classified in a number of ways by linguists (Gavranović 2015:59). Gavranović (Op.cit.) notes that they have been classified based on the following: semantic and syntactic criteria, parts of speech of elements of the compound and the compound as a whole, grammatical relation between its constituents, and headedness. Headedness in compounds, have been classified into two main types: headed and headless. This could be based on the position of the head constituent giving left-headed, right-headed and co-ordinate compounds (Appah 2013:54). Headed compounds are referred to as endocentric compound and headless as exocentric compounds (O’Grady, Dobrovolsky and Katamba 1996:156, Spencer 2003:310, Haspelmath 2002:139, Aronoff and Fudeman 2005:117, Bauer 2010:168, Ralli and Andreeou 2011:49-50, Ralli, 2011:3 and Taiwo 2009:31). The endocentric compound has one of its components as head that contains the basic meaning of the whole compound and a modifier which restricts the meaning of the head compound. In exocentric compounds, however, the constituents do not have head modifier semantic relations (see Caesar, 2005:121; Ajiboye, 2014:14).

Endocentric compounds are hyponyms of their head elements (Bauer 2010:167). For example, the compound *blackboard* denotes *a board which has the colour black*. *Black* is the modifier to the head *board*. In the same vein, the compound *warehouse* points to *a house* where wares are kept. *House* is the head, and *ware* is the modifier. On the contrary, exocentric compounds are headless compounds (Katamba and Stonham 2006, Bauer 2010:168 and Ralli 2013) for instance, *white elephant* can be analysed into *white* and *elephant* but *white elephant* does not contain the meaning of *white* neither does it refers to an elephant which is white in colour, but the dis-functioning nature of an entity. Booij (2007:3) argues that headlessness of a compound is not only relevant as part of its formal properties but very necessary for its semantic interpretations.

The paper discusses the endocentric type of compounding in Dangme. Endocentric compounds have heads with the heads mostly on the right in some languages of the world. This is partially applicable in Dangme as in certain cases, the head may occur first. For instance, in Dangme, **là tɛ** ‘earthen stove’, is a typical example of endocentric type of compound.

1. **là tɛ**
fire stone
‘earthen stove’

In example (1), **là** and **té** are concrete nouns. The concrete noun, **té** ‘stone’ represents the three legged molded cooking stove used mostly in traditional homes in Ghana. It is the head of the compound indicating a sub-category within the class of entities, ‘stones’ that the word is denoting. **Té**, ‘stone’ is therefore a special kind of stone, and **là** ‘fire,’ functions as a modifier of the head **té**.

Formation of Endocentric Compounds in Dangme

There are a number of morpho-phonological processes involved in the formation of endocentric compounding in Dangme. This section discusses the types of compounds and their formation in Dangme.

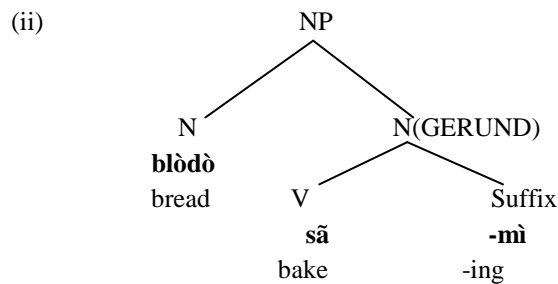
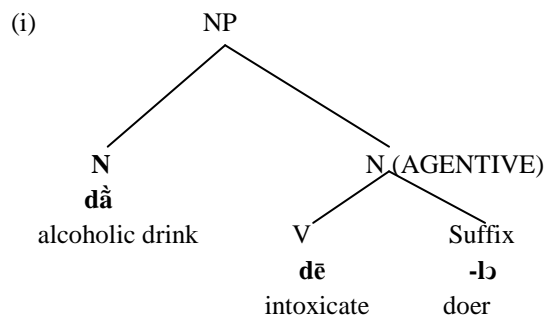
Combination (N-V) with an Affix

One way of forming a compound in Dangme is a combination of N-V with suffixes such as **-lɔ**, **-mi**. The suffix **-lɔ** stands for the agentive *-er* in English, while **-mi** translates as the gerund *-ing* in English. The affixation of parts of compound words is what is referred to in languages as noun incorporation by Spencer (2003:96) and Katamba (1993). A combination that comes with an affix is most of the times made up of three words in Dangme. The first word is usually a noun which is followed by a verb and then an affix which can be a gerund marking suffix or an agentive marker as exemplified in (2a-e) and (3a-e) below:

- | | | | |
|-----|---|---|--------------------|
| 2a. | dǎ-dě-lɔ̀
N-V-AGENT suffix
alcoholic drink-intoxicate-er
‘A drunkard’ | → | dǎ dɛlɔ̀ |
| b. | jé-juá-lɔ̀
N-V-AGENT suffix
world-sell-er
‘A trader’ | → | jé juálɔ̀ |
| c. | wò-hè-lɔ̀
N-V-AGENT suffix
sea-search-er
‘A fisherman’ | → | wò hɛlɔ̀ |
| d. | tsū-mā-lɔ̀
N-V-AGENT suffix
room-build-er
‘A mason’ | → | tsū málɔ̀ |
| e. | ní-tsòó-lɔ̀
N-V-AGENT suffix
knowledge-teach-er
‘A teacher’ | → | ní-tsòó-lɔ̀ |
| 3a. | blòdò-sǎ-mì
N-V-GER suffix
bread-bake-ing
‘The act of baking bread.’ | → | blòdò sǎmì |
| b. | dè-yā-mì
N-V-GER suffix
hunt-go-ing
‘The act of hunting’ | → | dè yāmì |

- c. **sā-lò-mì** → **sā lòmì**
 N-V-GER suffix
 mat-weave-ing
 ‘The act of weaving mat.’
- d. **ngò-jē-mì** → **ngò jēmì**
 N-V-GER suffix
 salt-win-ing
 ‘The act of winning salt.’
- e. **wò-hé-mì** → **wò hémì**
 N-V-GER suffix
 sea-search-ing
 ‘The act of fishing.’

The noun-verb with a suffix combination, results in the formation of agentive nouns and gerunds as exemplified in (2a-3e). Examples (2a) and (3a) are illustrated in tree diagrams (i) and (ii) below:



There are many boundaries such as word, clause, sentence among others, but I want to use # for word boundary. When a compound is formed, the word boundary between the two or more words is removed. Below are examples of the categories of compounding in Dangme.

Noun-Noun Compounding

According to Séaghda (2008:9), compound nouns in particular have received a great deal of attention in recent years due to the challenges they pose for natural language processing systems. He explains that the semantic relation between the constituents of a compound is not explicitly expressed and must be retrieved from other sources of linguistic and world knowledge. I have identified five types of N-N compounds in this study in Dangme. These are: (i) non-animate and human nouns (ii) human (titles and personal names) and non-human nouns (iii) non-human and human or non-human nouns (iv) non-animate and non-human nouns and (v) human

and non-human nouns combinations. The data available to me indicate that there are no phonological changes in noun-noun compounds in Dangme. Each of these is discussed below.

In each of the five types of N-N compound formation, two nouns merge to form a single noun. In the first group of N-N compound, the first noun, the modifier, is generally an inanimate noun, while the second, the head of the endocentric noun compound is a human noun. The result of the merging of two nouns to form a compound may denote a place or an entity. The referent of the place name in the first noun is said to indicate the location of the jurisdiction of the human noun. When a human noun is formed, noun one overtly possesses and controls noun two. The semantic interpretation of the human noun head shifts in many cases. This may be generalized in the following schema:

$$4. [\# N \# N \#] \rightarrow [\# N N \#] \rightarrow [N_2 \quad + \quad N_1 \quad] \\ \quad \quad \quad N \quad \quad \quad [- ANIMATE] \quad \quad \quad [+ HUMAN]$$

where N_1 is [+ Human] and controls N_2 .

5. a. **jùá** + **nyè** → **jùányè**
 market + mother A female lord of a market
 ‘A female controller of a market.’
- b. **mà** + **nyè** → **mànyè**
 town mother queen or queen mother
 ‘A female controller of a town.’
- c. **wè** + **tsɛ̃** → **wètsẽ**
 house + owner landlord
 ‘A controller of a house.’
- d. **tsòpà** + **tsɛ̃** → **tsòpàtsɛ̃**
 medicine owner a herbalist
 ‘A controller of preparation of drugs.’

N_2 in (5a-d) denotes inanimate names of N_1 . The referent of N_1 in 5(a-d), stands in a certain relationship of parent, leader or a controller of the unity in N_2 . I use the term controller as a cover term to include a parent, a leader, owner, master, etc. The head’s association with the N_2 is one of a controller. In the examples above, the noun **nyè** in 5(b) acts as the head of the compound indicating a sub-category within the class of female controllers. **Nyè** is therefore a kind of parent, a mother, and **jùá** ‘market’ and **mà** ‘town’ function as modifiers of the head **nyè** to indicate the settings where the head compound operates. In 5(c), **tsɛ̃** is the head of the compound expressing a sub category within the classes of entities, *controller* that the word is denoting. **Tsɛ̃** is then human, a kind of controller and the preceding noun, **wè** functions as a modifier of the head **tsɛ̃** to point out the leadership setting of the head. Similarly, **tsɛ̃** in (5d) denotes a controller of the preparation of herbal medicines. Another set of noun-noun compounds identified in Dangme is habitation or place names. These compounds are formed by the combinations of personal names and **kɔ̀pé** meaning ‘village’. N_1 , **kɔ̀pé** ‘village’, is the head of the compound and N_2 , the personal name, has two functions; the possessor and the modifier of the head compound.

$$6. [\# N \# N \#] \rightarrow [\# N N \#] \rightarrow [N_2 \quad + \quad N_1 \quad] \\ \quad \quad \quad N \quad \quad \quad [+ HUMAN] \quad \quad \quad [- HUMAN]$$

where N_1 is [- Human] and indicates the habitat of N_2 . N_2 is either a title of a person or a personal name.

11a.	Dàdé	+	pèé	→	dàdé pèé
	Metal		hat	→	a metal hat
	'A hat made from a metal'.				
b.	Tsò	+	lólè	→	tsò lólè
	Wood		lorry	→	a wooden truck
	'A truck made from wood'.				
c.	Zù	+	tsù	→	zù tsù
	Soil		house	→	a mud house
	'A house made from soil'.				
d.	Hlóbà	+	gògá	→	hlóbà gògá
	plastic		bucket	→	a plastic bucket
	'A bucket made from plastic materials'.				

It is observed in (11a-d) that the N₁ and N₂ are both inanimate. The N₁: **pèé** 'hat', **lólè** 'lorry', **tsù** 'house' and **gògá** 'bucket' are the heads of the compounds and **dàdé** 'iron/metal', **tsò** 'tree', **zù** 'soil' and **hlóbà** 'plastic' are the modifiers that indicate the type of materials used in producing the N₁ or its associate. Compounds discussed in (1-11) are right headed because; the N₂ are the modifiers of the N₁.

The fifth N-N compound is made up of a human and a non-human noun as demonstrated in examples (12) and (13).

$$12. [\# N \# N \#] \rightarrow [\# N N \#] \rightarrow [N_2 \quad + \quad N_1 \quad]$$

N
[+ HUMAN]
[- HUMAN]

where N₁ is [-Human] and is the attribute of N₂.

13a.	Tèé	+	dòkù	→	Tèédòkù
	A third male born		emptiness	→	a personal name
	'A third male born's name'.				
b.	Tètè	+	ògbètèé	→	Tètè-ògbètèé
	Second male born name		hyena	→	a personal name
	'The name of a second male born considered having the attributes of a hyena'.				
c.	Tèé	+	kpàdé	→	Tèé-kpàdé
	A third male born		ghost	→	a personal name
	'A reincarnation name for a third male born'.				

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d.	Nā	+	káyó	→	Nākáyó
	A fourth male born		hawk	→	a personal name
	'A fourth male born who has an attribute of a hawk'.				

In (13a-d) however, the N₁ and N₂ are typical examples of left headed noun-noun compounds. In these examples, the N₂: **Tèé**, **Tèté**, **Téé** and **Nā**, are the heads of the individual compounds. The N₁: **dòkù**, **ògbètée**, **kpàdé** and **káyó** modify the N₂ **Tèé**, **Tèté**, **Téé** and **Nā** respectively.

The head noun of the Dangme noun-noun compounds can inflect for number. The head noun selects any of the plural markers {-**hi**, -**mɛ**, -**wi**, -**bi**} as exemplified in the following constructions:

14. a.	Tsō	+	lólè-hì	→	tsō lólèhì
	Wood		lorry-PL	→	wooden trucks
	'Trucks made from wood'.				
b.	Tèé	+	dòkú-mé	→	Tèédòkúmé
	A third male born		emptiness-PL	→	a personal name and others
	'Tèedoku and others'.				
c.	Sùkùú	+	jókùé-wí	→	sùkùú jókùéwí
	School		child-PL	→	school children
	'Children who attend school'.				
d.	Sómānyà	+	sòlèmi bí	→	Sómānyà sòlèmi bí
	Somanya		church member.PL	→	Somanya church members
	'Church members from Somanya'.				

Vowel change is another strategy by which the head noun in a noun-noun combination can be pluralized. Consider the examples below:

15. a.	Àkúkùmànyà	+	jùlò -i	→	Àkúkùmànyà jùlì
	Àkúkùmànyà		thief-PL	→	Àkúkùmànyà thieves
	'Thieves from Àkúkùmànyà'.				
b.	Bàtòó	+	yò-i	→	Bàtòó yí
	Bator		female-PL	→	Bator females
	'Females from Bator'.				

We observe in examples (14) that the plural affixes, -**hi**, -**mɛ**, -**wi** and **bi** were attached to the heads of the compound, **lólè**, **dòkú**, **jókùé** and **sòlèmi** respectively without any morphological or phonological change in the form of the compound nouns. On the contrary, the {-**ɔ**} of the head noun, **jùlò** 'thief' and the {-**o**} of the singular noun **yò** 'female' were elided before the plural suffix {-**i**} is attached as exemplified in (15a-b) above. This means that **jùlò** 'thief' has become **jùlì** 'thieves' and **yò** 'female' has become **yí** 'females'.

The Dangme noun-noun compounds, as in other languages, function as prototypical Dangme nouns, and may function in a clause as subject and object (direct and indirect), a complement of a verb, an object of a postposition and also as noun appositives among others in Dangme. They can be modified by adjectives and other nouns. Consider the compound words in bold print in the following sentences:

- 16 a. **Tèédòkú** hé àplétsí kò.
Tèédòkú buy.PAST goat INDEF
 ‘**Tèédòkú** bought a goat’. (As a subject of the clause)
- b. Tsàátsè tsé **Hògbàyò**.
 Father call.PAST **Hògbàyò**
 ‘Father called **Hògbàyò**’. (As an object of the clause)
- c. Àkú fiá **wètsē** ò té.
 Àkú throw landlord DEF stone
 ‘Àkú threw a stone at the landlord’. (As an indirect object of the clause)
- d. Àlògbè bā pèé **màtsē** píò.
 Àlògbè come make chief ADV
 ‘Àlògbè is now a chief’. (As a subject complement of the clause)
- e. À pèé lè **màtsē**.
 3PL make 3SG.OBJ chief
 ‘They have made him a chief’. (As an object complement of the clause)
- f. Kōfí, **tsōpàtsē** ò ngè híè ò.
 Kōfí herbalist DEF COP ADV
 ‘Kōfí, the herbalist is here’. (As a noun in apposition)

Noun-Adjective Compounding

In the noun-adjective compound in Dangme, the noun becomes the head of the compound. The noun-adjective compound dwells on head noun, colour, number, taste, physical property and size. The adjectival component of the compound acts as modifier of the head noun. That is the noun’s association with the adjective is that of colour, size, number, taste and physical property.

17. [# N # ADJ #] → [# N ADJ #]
 Semantic interpretation: the attribute of N.

Below are examples of noun adjective compounds.

18. a. **nyè** + **ngùá** → **nyèngùá**
 mother big → a mother’s elder sister
 (an aunt)
 ‘A female parent’s elder sister.’
- b. **tsē** + **wàyó** → **tsēwàyó**
 father small → a father’s younger brother
 (an uncle)
 ‘A male parent’s younger brother.’

c.	Kòfí	+	tsùtsù	→	Kòfí-tsù
	Kòfí		red	→	a male personal name
	'A fair male born on Friday'				
d.	Kùésí	+	yúmù	→	Kùésí-yúmù
	Kùésí		black	→	a male personal name
	'A dark male born on Sunday'.				
e.	Bō	+	híó	→	bō híó
	cloth		white	→	a white cloth
	'A cloth that is white in colour'.				
f.	Yò	+	éywìè	→	Yòóywìè
	female		four	→	a female personal name
	'The fourth female born'.				
g.	Tèté	+	ényò	→	Tèté-Ényò
	Tèté		two	→	a personal name
	'The second in the series of first male born'.				
h.	Dǎ	+	ngáná	→	dǎ ngáná
	drink		sweet	→	soft drink
	'A drink that is sweet'.				
i.	Nyù	+	mùá	→	nyù mùá
	water		soft/clean	→	soft/clean water
	'Soft water or clean water'.				

In 18.(a-b), the second components of the compounds that contain **ngùá** and **wàyó**, are idiomatic since they have both literal and idiomatic interpretations. **Ngùá** literally means 'big', but its other meaning as regards this compound, is 'elder'. While **wàyó** is 'small' but idiomatically, it may refer to 'young(er)'. The reference to colour in 18.(c), (d) and (e), also have other meanings that read, 'fair', 'dark' and 'white' in complexion or colour. It is also observed that a syllable of **tsùtsù** 'red' is elided in the personal name, **Kòfí-tsù**. In 18(f) and 18(g) **éywìè** 'four' and **ényò** 'two' make reference to cardinal number. **Ényò** 'two' in 18(g), has another meaning 'second'. The referent to **ngáná** 'sweet' and **mùá** 'soft/clean' expresses the physical property of the head nouns **dǎ** 'drink' and **nyù** 'water' in examples 18(h) and 18(i). It is realized in 18(f) that the mid-high front vowel of the numeral, **éywìè**, has assimilated the rounded feature of the vowel of the head noun, **yò**. Therefore, to compensate for the elided mid-high front vowel, the mid-high back vowel in the head noun, **yò**, has been lengthened to make **Yòéywìè** become **Yòóywìè**.

In 18.(a), the noun **nyè** becomes the head of the compound, and **ngùá** 'big/elder' as an adjective to indicate the type of **nyè** 'mother' being discussed. In 18.(b), the diminutive morpheme, **wàyó** is the adjective that is qualifying the head compound **tsè** to indicate the kind of father being expressed among the entities of fathers by the head **tsè**. In 18.(c), **Kòfí** is the head of the compound and **tsù** functions as a qualifier to the head **Kòfí**. In 18.(d), **Kùésí** also is the head of the compound which is being qualified by the adjective **yúmù**. Also, **yò**, **Tèté**, **dǎ** and **nyù** in 18(f-i), are the heads of the compounds that are being qualified by **éywìè**, **ényò**, **ngáná** and **mùá** respectively to express serialization in terms of the order of birth and the physical properties of the head nouns. The noun-adjective combination, results in the formation of nouns.

Noun-Postposition

In this kind of compound, a noun and a postposition are combined to form a noun. The noun is either a name of a river, a stream, a lagoon, a valley or a tree and the postpositional particle indicates a position or a point of the noun. The noun is the head of the compound. The merging of a noun and a postposition, results in the formation of a place name.

19. [# N # POSTP #] → [# N POSTP #]
 Semantic interpretation: at a location or a point of N.

Below are examples of noun plus postposition compound.

- 20 a. **Lóló** + **nyà** → **Lólónyà**
 A name of a river edge a place name
 ‘At the bank of river *Lóló*.’
- b. **Sòngò** + **nyà** → **Sòngònyà**
 Songor lagoon edge a place name
 ‘At the bank of the *Songor* Lagoon’
- c. **Hùhù** + **nyà** → **Hùhùnyà**
 A name of a river edge a place name
 ‘At the bank of river *Hùhù*.’
- d. **Pòpò** + **nyà** → **Pòpònyà**
 A name of a river edge a place name
 ‘At the bank of river *Pòpò*.’
- g. **Lénóbí** + **nyà** → **Lénóbínyà**
 A baobab tree.DIM edge a place name
 ‘At the place of the baobab tree.’
- h. **Lūhūé** + **sè** → **Lūhūésè**
 A name of a river behind a place name
 ‘At the back of *Lūhūé*.’
- i. **Tǎ** + **kpè** → **Tǎkpè**
 Palm tree middle a place name
 ‘In the middle of a palm plantation.’
- j. **Dò** + **mì** → **Dòmì**
 Valley inside a place name
 ‘(A town) in a valley’

The location for the place names in (19a-h), is indicated by the postpositional elements of N; **nyà** ‘edge of /bank of’, **sè** ‘behind’, **kpè** ‘in the middle’ and **mì** ‘in’. The association of N to the noun-postpositional compound is that of the position of the river, the stream, the valley, the lagoon and the palm tree to the named

town or village. It is to be noted that the noun-postpositional compound words can take other modifiers as in any prototypical noun as demonstrated in (21a) and (21b) below:

21. a. **Padi yà ngò yò ngé Lólónyà mómó ò mì.**
 Padi go marry woman at Lólónyà old DEF inside
 ‘Padi has married from the old township of Lólónyà.’
- b. **Saki pò wē àgbō ngé Tākpè nyáfíí ò mì.**
 Saki build house big at Tākpè small DEF inside
 ‘Saki built a mansion in the small township at Tākpè.’

It is observed in (21a-b) that the compounds are formed from the combination of nouns and postpositions, i.e. **Lólónyà** and **Tākpè**, both place names, have taken other modifier, **mómó** ‘old’ and **nyáfíí** ‘small’ to express age and size of the towns respectively.

Verb-Noun Compounding

A verb-noun compound is formed by merging an action verb and a locative noun *hé* ‘place’. In verb-noun compounding, the noun functions as the head of the compound and the verb acts as a qualifier of the noun. The head noun (N) association with the verb (V) is that of a place for an activity designated by the verb and a path to, or from a location. This process might be stated as below:

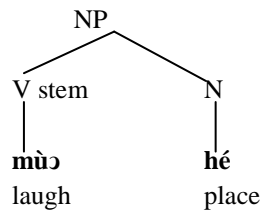
22. $[\# V \# N \#] \rightarrow [\# V N \#]$
 N [+ACTION]
 Semantic interpretation: 1. A place where the activity of V takes place.
 2. A path that leads to, or away from a location.

Below are some more examples of verb + noun compound.

23. a. **mùò + hé → mùò hé**
 Laugh + place → a place of laughter
 ‘A place where the activity of V (laughing) is said to take place.’
- b. **jè + hé → jè hé**
 leave + place → a place of origin
 ‘A path that leads from a place of origin.’
- c. **yà + hé → yà hé**
 go + place → a place worth going to.
 ‘A place that leads to a place worth going to.’
- d. **nù + hé → nù hé**
 drink + place → a drinking place.
 ‘A place where the activity of V (drinking) is said to take place.’
- e. **hì + hè → hì hè**
 stay + place → a place worth staying.
 ‘A place worth staying at.’

- f. **gbè** + **hé** → **gbè hé**
 kill place slaughter house/killing place.
 ‘A place where the activity of V (killing) is said to take place.’
- g. **ngmà** + **hé** → **ngmà hé**
 write place a writing place
 ‘A place where the activity of V (writing) is said to take place.’

(iii).



In the above example, **hé** ‘place’ is the head of the compound. In addition to **he** that signifies place, there are other nouns that co-occur with verbs in a verb-noun combination. These nouns function as complements of the verb. Consider the examples below:

24. a. **Tsɔ̀** + **ní** → **tsɔ̀ ní**
 Teach thing → teaching
 ‘The acts of making someone acquire knowledge.’
- b. **Dù** + **bà** → **dù bà**
 bathe leaf → purification
 ‘The process of purifying someone’.
- c. **Kùá** + **gbà** → **kùá gbà**
 refuse marriage → divorce
 ‘The act of walking out of a marriage.’
- d. **Fìé** + **dò** → **fìé dò**
 play dance → drumming and dancing
 ‘The act of drumming and dancing.’
- e. **Ngò** + **hó** → **ngò hó**
 take pregnancy → pregnancy
 ‘Being pregnant.’
- f. **Tsùá** + **àgbèli** → **tsùá àgbèli**
 dig cassava → uproot cassava
 ‘The act of uprooting cassava.’

g.	Ngmè	+	blò	→	ngmè blò
	give		way	→	allow/permit
	‘The act of granting or giving permission.’				

As in (13), examples (24a-g) are also samples of left headed V-N compounds. The verb-noun combinations in (24) are examples of transitive verb complementation in Dangme. According to Quirk & Greenbaum (1973:358) mono transitive verbs require a direct object, which may be a noun phrase, a finite clause and a non-finite clause. The verbs are the heads of the compounds and the NPs function as complements of the VP^s: The verb-noun combination, results in the formation of nouns in Dangme.

The Clause as Compound

In Dangme, there are certain nouns whose meanings enable us to relate them to an underlying structure of a main clause. These nouns refer to humans, locations and events. These compounds are formed as a result of experiences or events that one might have gone through in life. This process may be described as agglutination. These are special simple and compound sentences, and I cannot at the moment provide a systematic analysis since all have subjects, verbs, objects, conjunctions, negation, adjectives, postpositions, etc. The merging of words of this kind to form a compound is that the compound may denote a place or a personal name. Below are some examples of such clauses:

25.	Clause					→	Phonetic Form	
a.	Á	plé	nè	á	hyè.	→	[áplénájè] (a place name in Ada)	
	3PL	VP	CONJ	3PL.OBJ	VP			
	They	turn	and	they	look			
	‘They should turn and look.’							
b.	À	nyà	né	é	nù	mè.	→	[ànyà:nùmè] (a personal name)
	3PL.POSS	NP	CONJ	3SG	VP	3PL.OBJ		
	Their	mouth	and	it	catch	them		
	‘They should be paid back in their own coins.’							
c.	Ò	dé	ò	pèè.		→	[òdéòpè:ò] (God’s appellation)	
	2SG	VP	2SG	VP				
	You	say	you	do it.				
	‘He who never fails.’							
d.	Á	dé	né	é	bé.	→	[àdénébé] (a personal name)	
	3PL	VP	CONJ	3SG	VP			
	They	say	and	it	pass			
	‘Let them say it, it will soon be over.’							
e.	Ékòmɛ	sù.				→	[kòmèsù] (name of a person)	
	ADJ	VP						
	Some	like it						
	‘One man’s poison is another man’s meat.’							

- f. **Wà hé bé nó.** → **[wàhébéńó]**
 2PL.POSS VP NEG POSTP (a personal name)
 Our expectant NEG on
 ‘An unexpected (event).’
- g. **È ngè jè mì jà.** → **[éńédzémǝ]**
 3SG AUX NP POSTP PRT (a personal name)
 It is world inside that
 ‘So it is in the world.’
- h. **À pèè w` gù.** → **[àpè:wǝgù]**
 3PL VP NP ADV (a personal name)
 They do us nothing
 ‘Let them treat us as they wish.’
- i. **À sè nè wà ngé.** → **[àsèńèwàńé]**
 3PL.POSS. PostP CONJ 1PL AUX (a personal name)
 Their behind and we are
 ‘We are behind them.’
- j. **Ò jè múnó.** → **[òǝzèńúnó]**
 2SG VP ADJ (a personal name)
 You be different
 ‘You are different.’
- k. **Ò tǝ kpè.** → **[òtǝkpè]**
 2SG VP POSTP (a place name)
 You stack middle
 ‘You are stacked in the middle.’
- l. **Ò bùá nè ò bà.** → **[òbùábà]**
 2SG VP CONJ 2SG VP (a personal name)
 You pretend and you come
 ‘You have pretended to have come back.’
- m. **Máwú jí ngùá.** → **[máwúǝzǝńùá]**
 NP COP ADJ (a personal name)
 God is big
 ‘God is great.’
- n. **Ò bé nyèmí.** → **[òbéńèmí]**
 2SG NEG NP (a personal/place name)
 You not relative
 ‘You do not have a relative.’

Caesar

o.	À	bé	nò	sùòmì.	→	[àbénòsùòmì]
	3PL	VP	PRO	NP		(a personal name)
	3PL	beg.NEG	someone	love		
	‘Love is not forced.’					
p.	Kòó	dì	mè.		→	[kò:dìmè]
	NEG	VP	NP			(a personal name)
	No not	consider	them			
	‘Do not consider their deeds.’					

In the examples above, it is to be noted that the clauses have passed through the process of agglutination to become words without any change in tone of the combined words. In this process, there are phonological changes; elision of segments at either word initial, medial or final positions. The resultant words are place names or personal names in Dangme.

In 25.(a), the clausal name **Á plé né á hyè**, a compound sentence and a place name in Ada, which means ‘they should turn and look’ is pronounced as **áplénáyè**. The /h/ becomes silent in this process and the /ε/ is also elided. **À nyà nè é mù mè** in 25(b), is pronounced as [ànyà:nùmè] also a clause with the semantic reading, ‘they should be paid back in their own coin’. This indicates that two syllables, **nε é** have been deleted in the process of pronunciation. The elision of the phrase, **nε é** ‘that he/she/it’ is compensated for with the lengthening of the low back vowel /a/ of **nyà**. In 25.(c), the clausal appellation for God **Ò dé ò pèè ò** [òdèòpèèò] translates as ‘He who never fails.’

In 25.(d), the clause, **Á dé né é bé** which is pronounced as [àdénébé] means, ‘let them say it, it will be over,’ is a personal name. In 25(e), **Ékòmè sùò** ‘one man’s poison is another man’s meat,’ is a name of a person pronounced as [kòmèsùò], the initial vowel [e] of the original word has been deleted in the phonetic form. **Wà hé bé nò** ‘unexpected event’ in 25.(f) is also a clause used as a personal name [wàhébéno]. In 25.(g) **È ngè jè mì jà** [énèdzémdzà] which reads, ‘so it is in the world’, is another clausal name in Dangme. In the articulation process of the name **È ngè jè mì jà**, the [i] is elided. In 25.(h) **À pèè wò gù** [àpè:wògù] is also a clausal name of a person with the meaning. ‘Let them treat us as they wish’. In 25.(i), the phrase **À sè nè wà ngé** [àsènèwàngé] is also a name of a person which translates as ‘we are behind them’. In 25.(j), the clause, **Ò jè mùnó** [òdzèmùnó] ‘you are different’ is also a personal name.

In 25.(k), the clause, **Ò tlò kpè** ‘you are stacked in the middle’ is a place name in Dangme land which has not gone through any phonological changes, [òtlòkpè]. The personal clausal name in 25.(i), **ò bùá nè ò bà** meaning ‘you have pretended to have come back’, is a reincarnation name. In the articulation process of **ò bùá nè ò bà**, two syllables **nè** and **ò** are deleted. This process reduces the form of the name to **ò bùá bà**, [òbùábà]. In 25.(m-p), are personal clausal names used in Dangme; **Máwú jí ngúá** [máwúdžíngúá] ‘God is great’, **ò bé nyè mí** [òbényè mí] ‘you do not have a relative’, **à bé nò sùòmì** [àbénòsùòmì] ‘love is not begged for’ and **kòó dì mè** [kòódì mè] ‘do not consider their deeds’. Example 25.(n) **ò bé nyè mí** [òbényè mí] can also be used as a place name. This type of compound formation, results in the formation of nouns.

Conclusion

The paper explored the phenomenon of compounding in Dangme, specifically, endocentric compounds in Dangme. It indicated that compounding is the concatenative operation which results in the morphological unification of the members of word class elements such as noun-noun, verb-noun, noun-postposition, noun-adjective and the agglutination of word to form clause compound.

The paper discussed three forms of compound in Dangme; open, close and the hyphenated, and examined the formation of endocentric compounds in Dangme. The data have shown that as in other languages, Dangme has

headed (endocentric) compounds which heads occur mostly on the right and in some few cases on the left. The right headed compounds occur in the formation of N-N compound type one to four in Dangme. For example, **bɔ̀dɛ̀ tsò** ‘neem tree’ is a typical example of an endocentric N-N compound where the N₁, **tsò** ‘tree’ is the head of the compound and **bɔ̀dɛ̀** ‘neem’ is a specific type of tree modifying the head noun **tsò** in a right headed N-N compound. The left headed compound is identified in the N-N compound type five which is a combination of a human noun and a non-human noun. In addition, the noun-adjective and the noun-postposition compounds are also typical examples of left headed compounds in Dangme. For instance, in **Tɛ̀tɛ̀-Ényò** ‘Tettyey-Two’ which means ‘the second Tettyey’ is an example of a left headed compound where the adjective, **ényò** ‘two’ is modifying the number of **Tɛ̀tɛ̀**. That is, an endocentric compound consists of a head that contains the basic meaning of the whole compound and a modifier which restricts the meaning of the head compound.

The paper revealed that in Dangme as in other languages, it is possible to have a noun-verb combination with an agentive affix, **-ɔ̀** or a gerund marking affix, **-mi**. The data have shown that when **-ɔ̀** is attached to a noun-verb compound, it points to the doer of the action designated by the verb in the combination. On the contrary, when **-mi** is suffixed to noun-verb combination, the compound expresses ‘the act of doing the action expressed by the verb’.

The paper identified five ways by which N-N compounds could be grouped in Dangme. These are: (i) non-animate and human nouns (ii) human (titles and personal possessive names) and non-human nouns (iii) non-human and human or non-human nouns (iv) non-animate and non-human nouns and (v) human and non-human nouns combinations. In the N-N compound, it was observed that N₁ can be a human noun as in (5a-9g) and two non-human nouns can form a compound as in (11a-11d) or two animates (human and non-human) could be combined to form a compound as in (13a-13d).

The data demonstrated that Noun-adjective compounds dwell mostly on human noun, colour, size, number, taste and physical property. It was observed that a verb-noun compound is composed of an action verb and a locative noun which indicates the place of an activity or a path leading to or away from a location. In dealing with noun-postposition compounds, the data have shown that the noun in the combination either refers to a river, a lagoon, a valley or a tree and the postpositional particle indicates the point of a noun. The noun-postposition combination results in the creation of a place name.

Compounding in Dangme can also take the form of main clauses (simple and compound) which have noun and verb base, and are used as names of persons (allusive names), places and events. The data demonstrated also that some Dangme clause compound words undergo certain phonological processes such as loss of mid or final vowel of final syllable and syllables among others. It is to be noted that the tone assigned to the individual words/morphemes that form a compound in Dangme, do not change in the compounded forms. It is interesting to note that all the compound words formed through a noun and a verb with an affix, noun-noun combination, noun-adjective combination, noun-postposition, verb-noun combination and reduced main clauses to personal and place names, are all nouns in Dangme. These nouns function as prototypical Dangme nouns and may function in a clause as subject and object (direct and indirect), a complement of a verb, an object of a postposition and also as noun appositives among others in Dangme. These can be modified by adjectives and other nouns.

In conclusion, the study has shown that endocentric compounding is very productive in Dangme as in other languages. The analysis on headedness of compounds, has also demonstrated that Dangme obeys both the right and left headed rule in endocentric compounding as proposed by Bauer (2001) and Booij (2007) as against the right headed rule which Williams (1981) claims is universal. The findings of this paper will add to the typological study of compounding universal.

Abbreviations

A/ADJ	Adjective
AGENT	Agentive
AUX	Auxiliary Verb
CONJ	Conjunction
COP	Copular
GER	Gerund
N	Noun
N ₁	First Noun from the right
N ₂	Second Noun from the left
NEG	Negation
NP	Noun Phrase
POSS	Possessive
POSTP	Postposition
PRO	Pronoun
PRT	Particle
V	Verb
VP	Verb Phrase
1PL	First Person Plural
2PL	Second Person Plural
3PL	Third Person Plural
3PL.OBJ	Third Person Plural Object
2SG	Second Person Singular
3SG	Third Person Singular
#	Word Boundary

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