THE PARTICIPLE FORM OF CAUSATIVE VERBS IN DANGME

Regina Oforiwah Caesar
University of Education, Winneba
College of Language Education
Department of Ga-Dangme Education
P.O.Box 72 Ajumako
Ghana
reginacaesar16@hotmail.com

ABSTRACT

This paper presents a descriptive analysis of verbs with the participle marking affixes in expressing causatives in Dangme, a language that belongs to the Kwa group of the Niger-Congo family of languages. The paper examines the syntax and the semantic perspectives of the participialized form of causative verbs in the Role and Reference Grammar's (RRG) theory in Dangme. The participle is an affix which expresses the completion at the final stage of a process. As a verbal affix, it can take objects and have tense or aspect in languages. They also indicate active agency (actor) and an agency receiving an action (sufferer). Generally affixes that express participial are in two forms: the finite and non-finite categories. Unlike Akan and other languages that have both forms, Dangme has just the non-finite category which of two forms. The two non-finite forms of the verb in Dangme are the participle and the gerund. The gerund affix {-mi} denotes a new word class from verbs in Dangme, (noun). The participle on the other hand has adjective-like characteristics and it is expressed mostly with the front vowels of Dangme: /i, e, ɛ/. It is to be noted that to form the participle in Dangme, two processes are required. Firstly, the verb stem is reduplicated either partially or totally depending on the shape of the verb stem. The reduplicant then selects a front vowel of the same tongue height of the vowel of the verb stem. The words formed imply a process of change caused by a causer. For the purpose of this paper, my focus is on the participial affix used in expressing causative meaning in Dangme.

Keywords: participle, reduplication, allomorph, derivation, causative

INTRODUCTION

The participle is a word which is partly a verb and partly an adjective. They are often used as simple qualifying adjectives. These, precedes nouns in

English. The participle has three forms; the present participle, the past participle and the perfect participle. The present participle is marked with the suffix {-ing} also referred to as the gerund form. This form formed from a transitive verb, takes an object. For example:

1a. upon *seeing* the man, the thief ran.
b. The child *thinking* it was safe dived into the river.
c. The *wailing* woman felt all was lost.

The past and perfect participles represent the completion of an action, a process, an event or state (research.omicsgroup.org/index.php./participle). Consider the following examples:

2a. *Deceived* by his colleagues, he went into hiding.
b. *Driven* by the headmaster, the pupil went home.
c. A *dead* goat is priceless.

It is argued in the literature that a participle used as an adjective has a passive meaning. This assertion is true to the current study of participle form of causative verbs in Dangme. Consider the following examples in English:

3a. A broken bottle can hurt someone becomes a bottle which is broken can hurt someone.
b. The boiled yam tastes nice becomes the yam that has been boiled tastes nice.
c. A gifted child moves mountains becomes a child who is gifted moves mountains.
d. An obedient child listens becomes a child who is obedient, listens.

This paper examines verbs with the participle-marking affix in expressing causation in Dangme. Causative verb is a verb that denotes causing something to happen. Such verbs are often formed from adjectives or nouns by means of causative suffixes: harden (to cause to become hard; to make hard), purify (to cause to become pure; to make pure), harmonize (to cause or create harmony; to make harmonious). Causation is thus a phenomenon that exists in almost all languages of the world. In many languages, causatives are useful theoretical constructs used to explain certain grammatical phenomena. The structure of causatives is seen in the first place by many researchers as morphosyntactic phenomena. Causatives are expressed by verbs and require the introduction of an argument(s). Causation is a situation in which something happens and it produces a result. It can be caused by a living entity or non-human entities. If it is non-human, it becomes an instrument (De Busser 2010).

A causative verb denotes an action, process or state that instigates a particular reaction or condition in another person or object. According to Dixon (2000:30), '…a causative construction involves the specification of an

additional argument, a causer, onto a basic clause. A causer according to Dixon (2000), refers to someone or something which can be an event or state that initiates or controls the activity which is a defining property of the syntax-semantic function of a transitive subject.' De Busser (2010) argues that 'causatives are grammatical mechanisms that are used to express causation, i.e. they express that in addition to the main participants of the event, an additional participant, the causer, is relevant, which is not the main Agent of the event, but somehow causes it.' A causative construction illustrates who or what causes something to happen, (Dryer, 2005:49). Agyekum (2004), quoting (Lyons 1977), also states that causatives simply denote actions in which an entity causes something to happen either positively or negatively to another entity.

A causative situation involves two events: the causing event, which commonly corresponds to the way the event is initiated, and the caused event, which corresponds to either the resultant state or the performed action. Shibatani (1976:239) explains that a way to define the causative construction is, perhaps, by characterizing the 'causative situation'. He assumes that two events can be said to constitute a causative situation if the following two conditions exist:

a. The relation between the two events is such that the speaker believes that the occurrence of one event, the 'caused event', has been realized at a given or subsequent time (t2), which is after a given earlier first time (tl), the time of the 'causing event'.

b. The relation between the causing and the caused events is such that the speaker believes that the occurrence of the caused event is wholly dependent on the occurrence of the causing event. That is, the causing event most commonly depicts the way the event is initiated while the caused event designates either the result or the performed action. The mutual dependency of the two events must be to the extent that it allows the speaker to entertain a counter-factual inference that the caused event would not have taken place at that particular or subsequent time (t_2) if the causing event had not taken place at that earlier time (t_1) provided that all things been equal. Thus, the beginning of the time of the process, state of affairs is time one (t_1) and by the time the process or state of affairs ends, is at time two (t_2).

The participle is an affix which expresses completion having at the final stage of a process. All process verbs have a BECOME meaning element in them. As a verbal affix, the participle can take subjects and objects and have tense they also indicate active agency and an agency receiving an action (sufferer). According to Boadi, (2006:36) also (2010:41-50), participle is one of the morphological paradigms of the verb. It assigns a semantic role to the

noun with which it occurs in the syntactic structure. It also has the cross linguistic semantic properties of verbs. He stated further that it codes one or more of universal states of affair: activity, state, process, and event. In Dangme, adjectives and nouns can be derived from the participle by derivational processes. Generally, affixes that express participial are in two forms: the finite and the non-finite categories. Unlike Akan and other languages that have both forms, Dangme has just the non-finite category.

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, Kpone, Gbugblaa/Prampram, Osudoku, Sɛ, 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 Ameka and Dakubu 2008:215). Patches of speakers are also found in Togo- Nyetoe and Gatsi.

Beyond the introduction, the paper is structured as follows: section one discusses the theoretical framework, the Role and Reference Grammar (RRG) used in this paper. Section two considers the lexical causative situation in which verbs express inherent causative meaning, the basis for the study on participle form of causative construction in Dangme. The formation of the participle is in the third section. Section four, examines the syntax and semantics of participle constructions in Dangme. It further looks at the modifying functions of the participle in Dangme and the fifth section, summarizes and comes out with the findings of the paper.

1. THE THEORETICAL FRAMEWORK

This paper employs the Role and Reference Grammar theory (henceforth, RRG.) in the description of the syntax and semantics of serial verb construction in Dangme. The Role and Reference Grammarians theory is proposed by Van Valin and Foley (1980), Jolly (1991) and their associates. RRG incorporates many of the points of views of current theories of functional grammar. RRG takes language to be a system of communicative social action, and accordingly, the communicative function of grammatical structures plays a vital role in grammatical description and theory from this perspective. It is in this sense that RRG is functional (Van Valin, 1993). The RRG posits a single syntactic representation for each sentence which corresponds to the actual form of the sentence. That is, grammatical units and construction are analysed primarily in terms of their functional roles in a linguistic system and secondarily in terms of their formal properties (Van Valin & Foley, 1980). According to Van Valin (1993) the description of a

sentence in RRG in a particular language is formulated in terms of (a) its logical (semantic) structure and communicative function, and (b) in terms of the grammatical devices that are available in the language for the expression of these meanings. Clause structure in RRG is captured in a semantically-based model known as the "layered structure of the clause". The essential components of the layered structure of the clause are:

    i. The CORE contains the nucleus plus the arguments of the predicate
    ii. A PERIPHERY for each layer contains adjunct modifiers.

    Labels used as mnemonics for the arguments positions include; (x) argument of all verbs that function as the Actor. The mnemonics for the second argument position is (y) in a two place predicate and (z) represents a three place argument structure as in ditransitive constructions. The Role and Reference Grammar assumes that there is a mapping relation between a semantic representation and a syntactic representation and the vice versa.

    The aim of this paper is to describe the syntax and semantics of the participle form of causative verbs in Dangme which falls within the domain of lexical causatives.

2. LEXICAL CAUSATIVE EXPLAINED

    Lexical causatives are single-clause expressions that encode the notions of cause and result. These two notions are encoded within a single verb such as *melt, break,* or *kill* hence the term 'lexical' (Song & Wolff, 2003). Lexical causative verbs are a subset of transitive verbs in which the subject-causer engages in some action directed towards the patient-causee, and as a consequence of this action, the causee undergoes a change in state, or engages in another action. Semantically, the transitive lexical causative sentence describes the total control of the causer-subject over the cause-object and it is often construed as depicting manipulative causation (Shibatani, 1976: 259). Lexical causative verbs bear the causative meaning inherent in them. Consider (4a-b) below:

4a.   Kate   gbe   to   ɔ.
        Kate   kill.AOR   goat   DEF
        Kate   killed   the   goat
        'Kate caused the goat to die.'

dó [x Kate [CAUSE [BECOME **not alive**´[y *to ɔ* 'the goat']

4b.   Ofori   ywia   atukpa   a.
        Ofori   break.AOR   bottle   DEF
        Ofori broke the bottle
        'Ofori caused the bottle to be broken'.

dó [x Ofori [CAUSE [BECOME **not whole´**[y *atukpa a* 'the bottle']

We observe in (4a) that the subject, *Kate,* did something which brought about the death of the goat, *to ɔ*. The action or inaction of the subject, *Kate,* has resulted in the goat, *to ɔ,* changing its state from alive to not alive. Similarly, in (4b), *Ofori* the subject did something which is not indicated in the syntax that resulted in the object, *atukpa a* 'the bottle' transforming its state from being whole into pieces or fragments.

In Dangme, the participle has adjective-like characteristics as explained earlier and it is expressed mostly by the front vowels of Dangme: [i, e, ɛ]. The derived words refer to a process of change initiated by a causer (which is unspecified in the syntax). Let us consider the formation of the participle in the next section.

3. THE FORMATON OF PARTICIPLES IN DANGME

To form the participle in Dangme, two processes are required. Firstly, the verb stem is reduplicated either partially or totally depending on the shape of the verb stem. The reduplicant then selects a front vowel of the same tongue height level of the vowel of the verb stem. i.e. when a monosyllabic verb ends in the vowel /i/, /e/ or /ɛ/, the verb reduplicates in the process of participialization in Dangme, and the reduplicant is invariably suffixed to the verb stem. The verb stem denotes a change in state of an animate or inanimate thing. For example: *gbo* 'to die' will be reduplicated as *gbo-gbo* 'die-die'. It will then select and attach the front mid high vowel /e/ to the reduplicated verb; *gbo-gbo-e* 'dead'. The new word formed has shifted from the verbal category into the adjectival group as in English. When we examine the new word formation critically, we realize that the kind of reduplication that has taken place is the complete or total one since no part of the verb stem has been altered in the reduplicant part. We also notice that the vowel of the verb stem is the back mid high vowel /o/, and since the choice of the participial suffix depends on the front vowel counterpart of the verb stem vowel, /e/ has been suffixed to the reduplicated verb. The new word formed functions prototypically as adjectives in Dangme. I discuss the rules of reduplication in the next section.

3.1 Rule of Reduplication

Firstly, the verb root of the phonological shape, CV_1 is reduplicated to $CV_1 \ CV_1$ where C_1V_1 has the same phonological feature as the reduplicated C_1V_1. Consider example (5a-c):

5a. $[C_1V_1]$ $[C_1 \ V_1 + [\ C_1 + V_1]]$
      gbó   gbó   +   gbó

die   die   +   die

5b. $[C_1V_1]$ $[C_1\ V_1 + [\ C_1 +V_1]]$
           sì ⟶   sì   +   sì
           fry   fry + fry

5c. $[C_1V_1]$⟶ $[C_1\ V_1 + [\ C_1 +V_1]]$
sā   ⟶sā   +   sā
bake/grill   bake/grill + bake/grill

3.2 The Rule of Participle Formation

The second process of the participle formation rests with the attachment of the participialised affix. The allomorphs of the participle affix are selected on two bases. Firstly, it is determined by the vowel height of the verb stem and by the rounded or unrounded nature of the vowel.

6a. $[C_1V_1]$⟶   [CVCV] + Participle
     gbó⟶   gbó-gbó + -e
     die⟶   die-die + participle
                'Dead'

6b. $[C_1V_1]$ [CVCV] + Participle
      sì⟶ sì-sì   + -i
      fry⟶   fry- fry + Participle
              'Fried'

6c. $[C_1V_1]$ ⟶   [CVCV] + Participle
   sā   ⟶sā-sā   + -ɛ́
   bake/grill   bake/grill-bake/grill + Participle
   BECOMES   sā-sØ   + -ɛ́
              'Baked/grilled'

From example (6a), I have realized that when a monosyllabic verb ends in the vowel /o/, it reduplicates in Dangme, for example: gbó 'to die' becomes gbó-gbó 'die-die'. The reduplicated verb fronts the vowel of the verb stem. Thus, it selects and attaches the front mid high vowel /e/ to the reduplicated verb; gbo-gbo-e 'dead'. The new word formed has shifted from the verbal category into the modifier group as in English. In causation, gbó-gbó-é 'dead' accounts for the new state of a Causee after it has undergone a process of *kill*.

In (6b), this form of the verb adds a vowel whose quality is based on the quality of the vowel of the verb stem to the reduplicant. Thus, the high front vowel adds /i/ as its participial marking suffix as in sì-sì 'fry-fry' becoming sì-sì-i 'fried'. The verb form changed class by the process of reduplication and

suffixation that is, given a verb of the phonological structure CV, I apply the following rules: reduplication, suffixation, vowel fronting and vowel deletion if the vowel is low. However, there are other forms of monosyllabic verbs that end in /a/ which have the vowel of the verb roots raised and fronted to /-ɛ/ as their participle marking affix as indicated in the CV structure in (6c). For example: *sã* 'grill/bake' reduplicates as *sã-sã-ɛ* 'grill/bake-grill/bake'. In the process of deriving the participle, the low vowel of the reduplicant is deleted. So *sã-sã* 'grill/bake-grill/bake' becomes *sã-sØ-ɛ́* 'grilled/baked'. The word formed may be referred to as unaccusative verbs. These derived causative forms have their accompanying syntactic process which is discussed in the next section.

I consider [ɛ] as the underlying vowel of the participial affix in Dangme simply because it ranks with two different classes of vowels, [a, ɔ] of the verb root. Hence [i] and [e] are the allomorphs of the participle morpheme [ɛ]. When any of these allomorphs is attached to a reduplicated verb, it results in the internal change of state of a named object. This part of the process of participle formation has a morphophonemic implication which needs to be explained.

I will discuss each of the affixes in turns. I continue with the {-e} suffix.

3.2.1 The {-e} Participle Suffix

This section examines monosyllabic verb forms which change class by the process of reduplication and the suffixation of the participle suffix {-e}. Let us consider the following examples in table (1):

Table 1

VERB FORM	GLOSS	REDUPLICATED FORM	PARTICIPLE FORMED	GLOSS
po	to cut	po-po	Po-po-e	cut part
lo	to weave	lo-lo	lo-lo-e	woven
to	iron/arrange	to-to	to-to-e	arranged
ko	to pound	ko-ko	ko-ko-e	pounded
gbo	to die	gbo-gbo	gbo-gbo-e	dead
do	to sieve	do-do	do-do-e	sieved
wo	to fruit	wo-wo	wo-wo-e	fruited
tso	to burn	tso-tso	tso-tso-e	burnt
tso	to crack	tso-tso	tso-tso-e	cracked

From the data in the table 1, we realize that when a monosyllabic verb that ends in the vowel /o/ reduplicates in Dangme, the reduplicant is invariably suffixed to the verb stem. To form the participle in this form, discussed in the introduction of this section, the reduplicative adds a vowel which quality is

based on the quality of the vowel of the verb stem. In causation, the derived participle (adjective) denotes an entity which has been brought into a state after being subjected to a process of internal change depicted by the verb to which the affix is attached (Boadi, 2010:48). For instance,

7   Sa   lo-lo-e   ɔ   ngɛ   fɛu.
      Mat   weave-RED-Participle DEF   is   beautiful
       Mat CAUSE to be weave.PERF-Participle
       'The woven mat is nice.'

In (7), the derived adjective, *loloe* 'woven' expresses a process of weaving that is complete.

3.2.2 The {-i} Participle Suffix

I now move to the second participle affix {-i} in the following table 2:

Table2

VERB STEM	GLOSS	REDUPLICATED FORM	PARTICIPLE FORM	GLOSS
fu	to ripe	fu-fu	fu-fu-i	riped
pu	to burry	pu-pu	pu-pu-i	buried
ju	to steal	ju-ju	ju-ju-i	stolen
bu	to sow	du-du	du-du-i	that can be sown
nu	to drink	nu-nu	nu-nu-i	drinkable/that can be drunk
su	to light	su-su	su-su-i	that can be lightened
si	to fry	si-si	si-si-i	fried …
fi	to tie	fi-fi	fi-fi-i	tied …
mi	to swallow	mi-mi	mi-mi-i	that can be swallowed
ni	to twist	ni-ni	ni-ni-i	twisted…

The data in table (2), depicts that when a monosyllabic verb that ends in the vowel /u or i/ reduplicates in the process of participialization in Dangme, the reduplicant is invariably suffixed to the verb stem. This form of verbs adds a vowel which quality is based on the quality of the vowel of the verb stem to the reduplicant. Thus, the high back or front vowel selects the high front vowel. The low tone of the verb root is repeated in the reduplicant. The participialised affix however bears the high tone as illustrated in the table 2 above.

8.   To   ju-ju-i   ɔ   kle.
        goat steal-RED-Participle   DEF   big
        goat CAUSE.AOR BECOME steal.PERF-Participle is big
        'The stolen goat is big.'

In (8) the participial affix {-i} is suffixed to a verb stem in each of the sentence. The participle *jujui* 'stolen' designates a change of location which was achieved through by unlawfully acquiring that property. The process of achieving the set purpose is said to be complete.

3.2.3 The {-ɛ} Participle Suffix

We now examine the last affix of the participle in Dangme. Consider the following examples in tables 3 and 4:

Table 3

VERB FORM	GLOSS	REDUPLICATED FROM	PARTICIPLE FORM	GLOSS
lɔ	to lick	lɔ-lɔ	lɔ-lɔ-ɛ	That can be licked
gbɔ	about to ripe	gbɔ-gbɔ	gbɔ-gbɔ-ɛ	ripped
pɔ	to wet	pɔ-pɔ	pɔ-pɔ-ɛ	wet
kplɔ	ripple/plug/ prun	kplɔ-kplɔ	kplɔ-kplɔ-ɛ	crippled/plugged/ pruned
bɔ	to burn	bɔ- bɔ	bɔ-bɔ-ɛ	burnt
hɔ	to insert	hɔ- hɔ	hɔ- hɔ-ɛ	that can be inserted
jɔ	be pure	jɔ- jɔ	jɔ- jɔ-ɛ	pure
kpɔ	to reject	kpɔ- kpɔ	kpɔ- kpɔ-ɛ	rejected
ngɔ	be sweet	ngɔ- ngɔ	ngɔ- ngɔ-ɛ	that tastes nicely

Table 4

VERB FORM	GLOSS	REDUPLICATED FROM	PARTICIPLE FORM	GLOSS
ka	tall/long	ka-ka	ka-kØ-ɛ	height
pa	to drink/borrow	pa-pa	pa-pØ-ɛ	drinkable/borrowed
sã	to grill/bake	sã-sã	sã-sØ-ɛ̃	grilled/baked
sa	to rot	sa-sa	sa-sØ-ɛ	rotten

da	to straighten	da-da	da-dØ-ɛ	straightened
ta	to chew	ta-ta	ta-tØ-ɛ	chewable
wa	to grow	wa-wa	wa-wØ-ɛ	matured
gba	to tear	gba-gba	gba-gbØ-ɛ	torn
ngla	to burn	ngla-ngla	ngla-nglØ-ɛ	burnt
ngma	to write	ngma-ngma	ngma-ngmØ-ɛ	written

Table 3, contains verb stems that ends in the vowel /ɔ/. Participles are derived from these verb forms by first through a complete or total reduplication as in the case of the participial affxes {-e} and {-i}. The reduplicant is invariably suffixed to the verb stem. The process is then completed with the suffixation of the participial affix {-ɛ} which is of the same quality as the vowel of the verb stem to the reduplicated verb. Thus, the mid low back vowel selects the mid low front vowel as its participial marking suffix. In table 4, however, the type of reduplication that takes place in the verb form is the partial one. In the process of deriving the participle, the low vowel of the reduplicant is deleted before the participle suffix {-ɛ} is attached to the verb. See example (9a-b),

9a.   Mangoo   gbɔ-gbɔ-ɛ   ko   ngɛ   kusii   mi.
        Mango   rip-RED-Participle   INDEF   in   basket
inside
        mango CAUSE.AOR BECOME ripped is in a basket.
        'The ripped mango is in a basket.'

 b.   Lo   sãsɛ͙   hi   pe   sisii.
        Fish   grill.AOR   good   exceed   fry.AOR
        Fish CAUSE.AOR to grill is better than a fried one
       'Grilled fish is better than a fried one.'

In (9a) we have the verb *gbɔ* 'rip' from which the participle *gbɔgbɔɛ*

'ripped' is derived. This process is achieved through a total reduplication of the stem verb and the suffixation of the participle affix {-ɛ) to the verb form. The makeup of the mango has undergone some change. The process which is said to be complete brought about the new condition in the mango *gbɔgbɔɛ* ripped. In (9b), the participles, *sãsɛ* ͙ *'grilled'* has been derived by partial reduplication from the verb stems: *sã* 'to grill'.

4.1 *The syntax and semantics of the participialised verbs (Causative Derivation)*

Causative derivation takes the form of an intransitive clause. The derived participle, forms a different word class. Their meaning has a time span covering the time of the initiation of the process (t_1) and endpoint at (t_2). Participle form of causative verbs are among the verbs containing an inherent semantic component of "cause of become or change of state'. In sentences of this kind, the Causer is not included in the intransitive clause (Dixon & Aikhenvald, 2000:13; 1997:82). Consider for example (10):

10. Tàdé   *gbágbɛ́*   ɔ̀   làá.
    Dress   torn   DEF   missing
    SUBJ-PAT
    The torn dress is missing.
    'The dress that has become torn is missing.'

The participle adds another meaning to the cause verbs. The derived causatives are only employed for semantic reasons. In such cases, the original intransitive Subject becomes the Causee of the causative construction. Thus, the Object then assumes the subject position to satisfy the Extended Projection Principle rule (EPP). In (10), for instance, *tàdé gbágbɛ́ ɔ̀ làá.* 'the torn dress is missing', *tàdé* 'a dress' is the Subject of the intransitive clause and the Causee whose 'state of being' has been changed by an unexpressed Causer. The Subject of the new state designated by the verb *gbágbɛ́* 'torn' is said to be Patient. The causavization of verbs of this nature gives the meaning of a resultative state (Rice, 2000:202).

This kind of causative formation does not follow the prototype form of transitive as demonstrated in (10); they mostly have the intransitive forms without overt Causers which can be interpreted to mean that a non-animate Causee is acted upon by an unexpressed Causer to bring about a change of state in the Causee as in (10). The result of this is that, the Patient of Cause undergoes a process at the end of which its original state is completely different from its final state. Hence, the Complement-Patient becomes Subject-Patient. In a periphrastic causative construction, the Complement of a participialised verb can function as an Object-Causee as in (10b):

10b. Àlímò há   Dede   kpɛ   tàdé *gbágbɛ́* ɔ̀.
    Àlímò make   Dede   sew   dress torn   DEF
    SUBJ of Cause   SUBJ of Cause   OBJ-CAUSEE
    'Àlímò made Dede sew the torn dress.'

Consider the following sentences in which some of these participle forms are used to express causation. I examined the underlying transitive causative sentences and then the derived intransitive constructions of these verbs in this section.

11a. Akuorkor $p\grave{\jmath}$ bò   ɔ̀.
       Akuorkor   wet   cloth   DEF
       AGENT of Cause   PATIENT of Cause
       Akuorkor CAUSE BECOME wet   Cloth   the
       'Akuorkor caused the cloth to become wet.'

11b. Bò $p\grave{\jmath}$-$p\grave{\jmath}$-$\acute{\varepsilon}$ ngὲ   gògá
á   mì.
       Cloth   wet-RED-Participle   in   bucket
DEF   inside
       SUBJ-PAT   BECOME-wet   LOCATION
       Cloth   BECOME-wet in the bucket.
       'The cloth that has become wet is in the bucket.'

(11a) contains a transitive verb. It is causative. It has *Akuorkor* as the Subject and Agent of Cause and *bò* ɔ̀ 'the cloth' as the Patient of Cause of the verb *pɔ̀* 'wet'. The sentence means that *Akuorkor* changed the state of the cloth from being dry to being wet. This new state of the cloth *bò* ɔ̀ came as a result of the Agent-Causer submerging it in liquid (not specified in the syntax). The verb *pɔ̀* expresses both the action and the result of the action initiated by the Subject, *Akuorkor*. The cloth at this point would not have been wet at time two (t₂) if *Akuorkor* had not at an earlier time (t₁) applied some liquid to it.

Sentence (11b) is formed from the verb root *pɔ̀* 'wet' as mentioned earlier. This sentence is intransitive because it has only one argument, *bò* ɔ̀ 'the cloth'. *Bò* ɔ̀ becomes a Subject Undergoer of *pɔ̀* 'wet'. The make-up of the cloth has undergone some change by dipping it into some form of liquid not stated in the syntax. The process which is said to be complete brought about the new condition in the cloth *pɔpɔɛ* 'wet'. These events in the Causee may be triggered off by the action of the Causer which in this case is unexpressed. But something brought it about that *bò* ɔ̀ 'the cloth' is wet. The situation represented in sentence (11b) is to be interpreted to mean that a non-animate Patient *bò* ɔ̀ 'the cloth' is acted upon by an unexpressed Actor. The result of this is that, the Subject-Causee *bò* ɔ̀ undergoes a process of being in liquid at a location indicated in the Periphery *ngὲ gògá á mì* 'in a bucket' at the end of which its original state is completely different from its final state. It has BECOME wet.

The transitive and the derived intransitive causative sentences in (11a-b) can be illustrated on tree diagrams. Tree diagram (vii) mapped the underlying semantic structure of sentence (11a) on to the syntax:

(i)   SENTENCE

'Akuorkor caused the cloth to become not dry.'
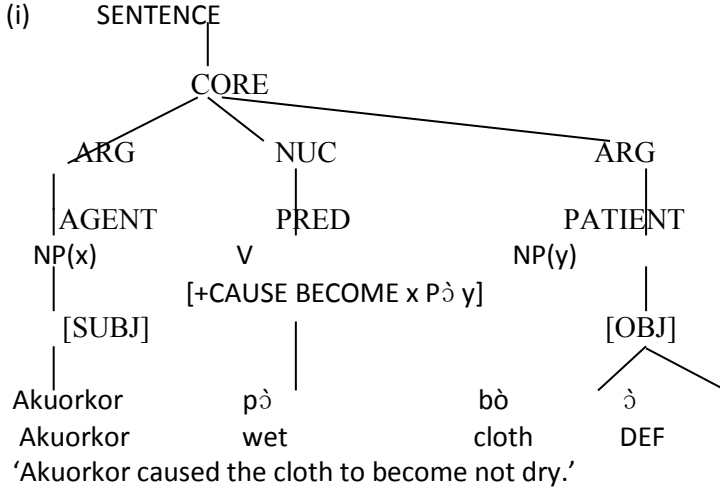
The semantic representation is as below:
dó[(x, Akuorkor [CAUSE [BECOME **pɔ̀** (not dry) [y, bɔ̀ ɔ̀ 'the cloth')]]]]

In diagram (i) above, there are two Core Arguments. These are *Akuoko* the Agent of Cause and *bɔ̀ ɔ̀* 'the cloth' the Patient of Cause. *Akuorkor* is responsible for the new state of the Undergoer, *bɔ̀ ɔ̀* denoted by the verb of Cause *pɔ̀* 'wet'. This new state of the Object-Patient at time two (t₂) would not have been possible if the Agent of Cause, *Akuorkor* at an earlier time (t₁) had not used an Instrument which is not expressed in the syntax to do so.

The participle form of causative construction of (11b) is derived as below:

(ii)   SENTENCE

CORE ···································· PERIPHERY

ARG   NUC

PATIENT   PRED   LOC

NP (y)   V   ADV
                   [DERIVED]   [+PLACE]
[SUBJ]   [+ CAUSE BECOME]

Bò   pɔ̀-pɔ̀-ɛ́   ngɛ̀ gògá á mì.
Cloth   wet-RED-Participle Affix   in bucket.DEF inside
' The cloth that has become wet-wet is in the bucket.'
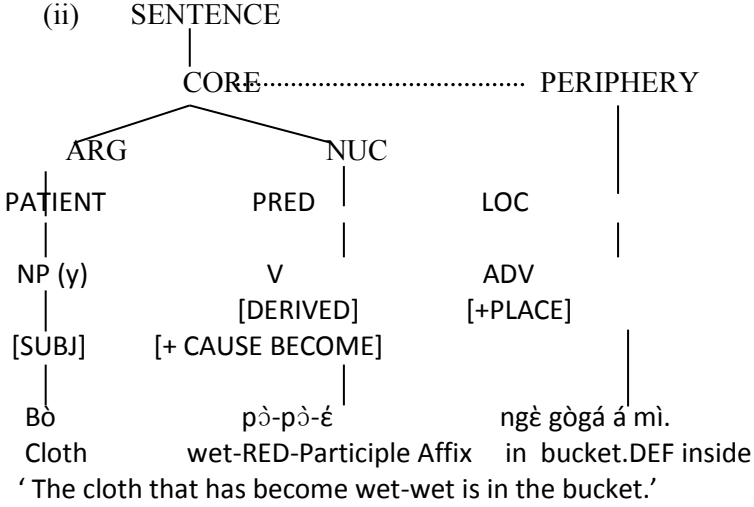
ngɛ̀ (in) [*gògá á mì* (the bucket) [BECOME **pɔ̀-pɔ̀-ɛ́ (wet')** [(y,

bò ɔ̀ (the cloth)]]]

Diagram (ii) shows that there is an unexpressed Causer for the new state of the Patient of Cause, *bò* 'cloth'. So the Subject position is empty. *Bò* then functions as the Subject of *pɔ̀-pɔ̀-ɛ́* 'wet'. At the same time, *pɔ̀-pɔ̀-ɛ́* assigns the role of Patient of Cause to *bò* 'cloth'. *Bò* then fills in the first argument position of tree diagram (viii) with all its assigned semantic properties as it is in (11a).

The separate syntactic structure representation for sentences (11a) and (11b) are related semantically because the absence of the Causer in (11a) did not present a diverse view of meaning in the sentence in (11b) above. Both sentences have element of causation. (11a) implies that x CAUSE y BECOME wet and (11b) illustrates that something happened and y is in a state of *pɔ̀-pɔ̀-ɛ́* (wet).

Consider the following sentences in which some of these participles are used.

12   Atsoko   po-o   lo   ɔ.
           Atsoko CAUSE to cut.AOR   fish/meat DEF
           Atsoko caused the fish/meat to cut into pieces
       'Atsoko cut the fish/meat into pieces.'
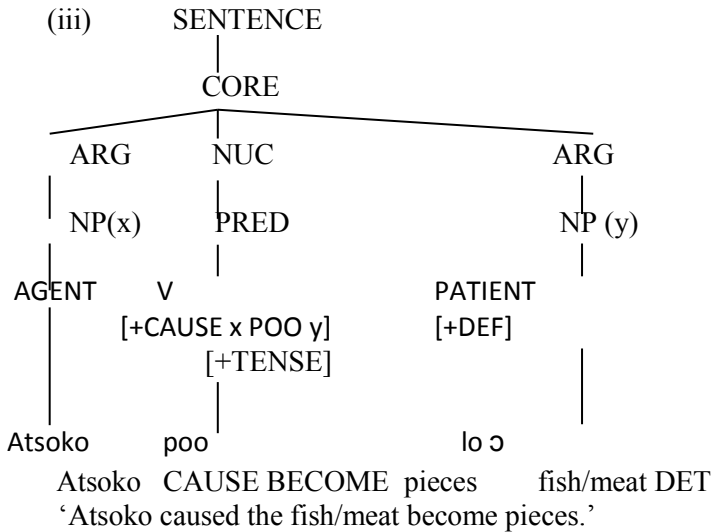

12b. Lo   po-po-e   ɔ   ngɔɔ.
      Fish/meat   cut-RED-Participle   DEF   tasty
      Fish/meat CAUSE.AOR BECOME cut into pieces-Participle tasty

'The piece of fish/meat is tasty.'

12c.   Atsoko   lo   popoe   ɔ   ngɔɔ.
           Atsoko.POSS   fish/meat piece   DEF   tasty
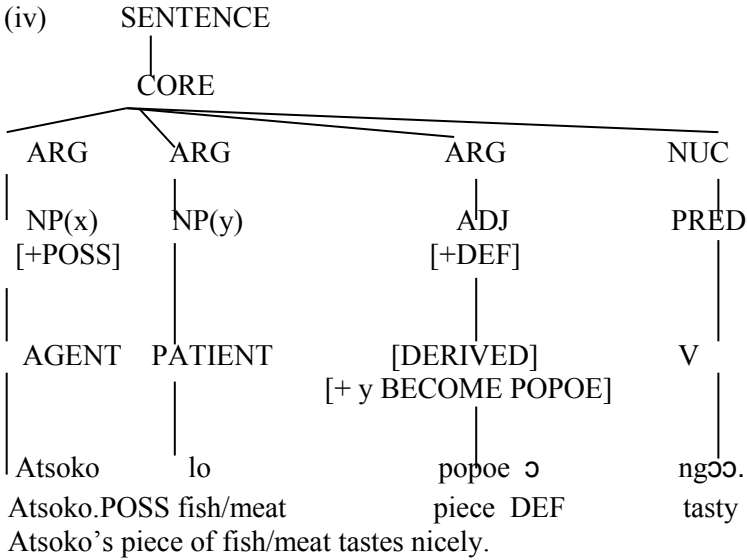   'Atsoko's piece of fish/meat tastes nicely.'

In sentences 12(a), the participial affix {-e} attached to a verb in each of the sentence, functions as a participle. And in (12c), *popoe* (piece of) denotes that the process of cutting is over and the outcome of the action is the piece of fish/meat that is said to be tasty. These process verbs are causative and they require that their underlying complement participants undergo a process of internal change initiated by a covert agent or instrument of cause (Boadi, 2010:50) He explains that the complement is referred to us Patient of Cause. Sentence (8) is an example of such a sentence.

Below is a tree diagram representation the underlying structure of sentence (8):

(iii)   SENTENCE
                |
              CORE
      _____|_____
     ARG   NUC   ARG
      | | |
    NP(x)   PRED   NP (y)
      | | |
   AGENT   V   PATIENT
      | [+CAUSE x POO y] [+DEF]
      | [+TENSE] |
      | | |
   Atsoko   poo   lo ɔ
   Atsoko CAUSE BECOME pieces   fish/meat DET
   'Atsoko caused the fish/meat become pieces.'

Example (12a), has two arguments: *Atsoko*, the Agent of cause and *lo ɔ* 'the fish/meat' is the Patient of cause. *Atsoko* is said to be responsible for the new state of the undergoer, *lo ɔ* denoted by the verb of cause *poo* 'cut into pieces'. This new state of the Patient at time two (t_2) would not have been possible if the causer, *Atsoko* at an earlier time (t_1) had not used an instrument which is not expressed in the syntax to do so. The participle structure is derived as below:

(12b) is represented on a tree diagram as below:

(iv)   SENTENCE
              |
           CORE
        /   /   \   \
    ARG   ARG   ARG   NUC
     | | | |
   NP(x) NP(y)   ADJ   PRED
  [+POSS] | [+DEF] |
     | | | |
     | | | |
  AGENT PATIENT   [DERIVED]   V
     | | [+ y BECOME POPOE] |
     | | | |
   Atsoko   lo   popoe ɔ   ngɔɔ.
   Atsoko.POSS fish/meat   piece DEF   tasty
   Atsoko's piece of fish/meat tastes nicely.

I now look at similar construction in (13a-16b) with different verbs of
BECOME.

13 a. Làákò   *nglá*   àgbèlì   ɔ̀.
       Làákò   burn.PERF   cassava   DEF
       AGENT of Cause   PATIENT of
Cause
       Làákò Cause-BECOME-burnt the cassava
       'Làákò caused the cassava to become burnt.'

13b. Àgbèlì   *nglánglέ*   pέ lὲ ngὲ.
      Cassava   burn.PERF   only FOC
available
       SUBJ-PAT   BECOME-burnt
       Cassava   BECOME-burnt is the only one available
       'It is only a cassava that has become burnt which is available.'

14a. Mámà   nìnè   *sā*   má   à.
      Mámà.POSS   hand   rot.PERF   dough DEF
       SUBJ-INSTRUMENT of Cause   PATIENT of
Cause
       Mámà's   hand Cause-BECOME-rotten the dough
       'Mámà's hand caused the dough to become rotten.'

14b. Má   *sāsέ*   hí.
     Dough   rot.PERF   good.NEG
     SUBJ-PAT   BECOME-rotten
     Dough   BECOME-rotten   not good.
     'Rotten dough is not good.'

15a. Kòjó   *gbè*   tò   kò   kɛ̀   fɔ̀
     Kòjó   kill   goat INDEF   take   put
     AGENT   CAUSE   PATIENT of Cause

     tsù   ɔ̀   sè.
     house.OBLQ DEF   back
     LOCATION
     'Kòjó caused the goat to die at the back of the house/the goat is
dead.'

15b. Tò   *gbó-gbó-é*   kò   ngɛ̀ tsù   ɔ̀
sè.
     Goat   die-RED-Participle INDEF   in   room.OBLQ DEF
back
     SUBJ-PAT   BECOME-dead   LOCATION
     'A goat that has become dead is at the back of the house.'

16a. Àgbèdùgbè   *sì*   hyɛ̀   mùɔnɛ̀ ɔ̀.
     Àgbèdùgbè   fry.PERF   yam.   today DEF
     AGENT of Cause   PATIENT of Cause   TIME
     Àgbèdùgbè CAUSE BECOME FRIED the yam
     The yam has been caused by Àgbèdùgbè to become fried
     'Agbedugbe caused the yam to be fried.'

16b. Hyɛ̀   *sì-sì-í*   ngɔ̀ɔ́.
     Yam   fry-RED-Participle   ADJ
     SUBJ-PAT   BECOME fried   sweet
     Yam BECOME fried is sweet.
     Fried yam is sweet.
     'The yam that has become fried is sweet.'

In (13b) and (14b), the participles, *sāsέ* 'rotten' and *nglánglέ* 'burnt' have been derived by reduplication, suffixation and reduplicant vowel deletion from the verb roots: *sā* 'rot' and *nglá* 'burn' in (13a) and (14a). (13a) has *Làákò* as the Subject-Agent of Cause, and *nglá* 'burn' as the Predicate of

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Cause. In (14a) *Mámà's* hand is an Instrument of Cause that has assumed the Subject position of the clause. *Mámà nine* functions as an Instrument-Causer that did something which brought about the change of state in the Object-Causee *má*. As in (12b), *Àgbèlì* is the Subject-Patient of Cause and the Complement of *nglánglé* (burnt) in (13b) and *má* in (14b). (13b) and (14b) imply that *àgbèlì* the Patient of Cause has experienced some form of internal change depicted by the verb *nglá* 'burn'. And *má* 'dough' has been caused to change state from being fresh to being rotten. Verbs of these forms are causative and they require that their underlying Complement participants undergo a process of internal change initiated by a covert Agent or Instrument of Cause (Boadi, 2010:50). Consider other examples in (15a-15b).

Sentence (15a) has an overt Agent of Cause, *Kòjó,* and a Patient of Cause *tò* (goat) as in (12a) and (13a) above. The verb of Cause, *gbè* 'kill' has been discussed in the previous section **in (2a)** so I described its derived participle only in (15b). In sentence (15b), *tò* 'goat' is the Undergoer of the process of *gbó* 'die'depicted by the verb. *Ngè tsù ɔ̀ sè* 'at the back of the house' indicates the location of the dead goat. *Tò* is then the Patient of Cause and the Complement of *gbó* 'die'. The word *gbó-gbó-é* 'dead' marks a change of state which was achieved through the process of dying which is complete.

There are two arguments in (16a): *Agbedugbe,* the Subject and Agent of Cause and *hyɛ* 'yam' the Object-Undergoer. *Sì* 'fry' is the verb of Cause in the Predicate. The Subject-Agent of Cause is construed as been responsible for the new state of the *hyè* 'yam'. The result of this sentence is that *Agbedugbe* changed the state of the yam from being fresh to being fried. This new state of the yam came as a result of the Causer cooking the *hyè* 'yam' in oil. (16b) just like (12b), (13b), (14b) and (15b) is an intransitive form of causative construction. This implies that it has one argument which is the Subject-Patient and Complement of *sì-sì-í* 'fried'. These processes of wetting, burning, rotting, dying and frying encoded by the VP's in (12-16) have changed the state of the Causees *bò, àgbèlì, má, tò* and *hyè* from their original states of 'not wet', 'not burnt', 'not rotten', 'not dead' and 'not fried' to become 'wet', 'burnt', 'rotten', 'dead' and 'fried'. These changes are internal. All these participles can function as one of the modifiers of nouns in Dangme. All these participles can function as one of the modifiers of nouns in Dangme.

4.2 The Modifying Function of the Participle in Dangme

The verb-participle functions as one of the modifiers of nouns in Dangme. According to Boadi (2010:41), 'a noun modified by a verb participle denotes an entity which has been brought into a state after being subjected to a process of internal change depicted by the verb to which the affix is attached. He further explained that a complete process marks the state as a result.'

Consider the following examples:

17. Saki ju   lo   sàsέ   ɔ   hiɛ.

     Saki steal.AOR fish/meat gill.RED.Participle   DEF   yesterday

      'Saki stole grilled fish/meat yesterday.'

18.   Margaret he   madaa sisii   piani

nɛ ɔ.

     Margaret buy.AOR plantain fry.RED.Participle   afternoon this

      'Margaret bought fried plantain this afternoon.'

Sentence (17) implies that *Saki* is the subject of cause expressed by the verb *ju* 'steal' and *lo* 'fish/meat' is the object of cause or the undergoer of the action designated by the agent causer. Saki is construed as unlawfully acquiring the said fish or meat that has been caused to be cooked by bringing it into direct contact with fire. That is the fish/meat' lo has undergone a complete process of grilling and has become sàsέ 'grilled'. In (18), *Margaret* functions as the subject agent of cause and *madaa* 'plantain' as the object of cause expressed by *he* 'buy'. Margaret is said to have acquired a kind of plantain that has undergone a complete change by causing it to be cooked in hot oil. So *madaa sisii* 'fried plantain' is in a state of friedness.

These processes of stealing and buying encoded by the VP's in (17-18), indicate the change of location of the causees. And the processes of grilling and frying have changed the state of the causes *lo* and *madaa* from their original states of not grilled and not fried to grilled and fried. These changes are internal. In the structure of a clause, the participle comes after the noun it modifiers. See (17-18).

The table (5) below gives the underlying forms of noun and verbs from which the verb participle is derived in Dangme. The second column presents data on verb participle modifying NPs.

Table 5.

Underlying Forms of NP VP and VP NP	Derived Verb Participles Modifying NPs
kplɔ mangoo 'plug mangoo'	mangoo kplɔkplɔέ 'a mango that has been plugged'
to wa 'goat mature'	to wawέ 'a goat that has become matured.'
ngla agbeli 'burn cassave'	agbeli nglanglέ 'cassava that is burnt'
bla bo 'join cloth'	bo blablέ 'a cloth that has been joined'
sa lo 'grill fish/meat'	lo sasέ 'fish/meat that has been grilled;

da dade 'straigthen iron'	dade dadέ 'an iron that has been straightened'
ta kotsa 'chew sponge'	kotsa tatέ 'sponge that is chewable'
kpɛ tade 'sew dress'	tade kpɛkpέ 'a dress that has been sewn'
lo bagi 'weave bag'	bagi loloe 'a bag that has been woven'
fi kotoku 'tie sack'	kotoku fifii 'a sack that has been tied'
gbe to 'kill goat'	to gbogboe 'a goat that is dead'
po nane 'cut leg'	nane popoe 'a leg that is cut'
pɔ blɛfo 'soak maize'	Blɛfo pɔpɔέ 'maize that has been soaked'
si akate/gigέ 'roast groundnut'	akate/gigέ sisii 'groundnut that has been roasted'
kpe afungu 'chew sugarcane'	afungu kpekpe 'sugarcane that is chewable'
du wu ɔ 'sow the seed'	wu dudui 'seed that can be sown'
fɔ bi 'give birth to a child'	bi fɔfɔɛ 'a child that can be bore'
tso ywie ngmɛ 'crack the palm kernel'	ywie ngmɛ tsotsoe palm kernel that is cracked or can be cracked
pu dwɔmi ɔ 'burry the rubbish'	dwɔmi pupui ɔ 'the buried rubbish'
gba zugba a 'share the land'	zugba gbagbɛ ɔ 'the shared land or the land that can be shared

5. SUMMARY

This paper reveals that participles in Dangme can be formed through total and partial reduplication of the verb stem and an addition of a vowel. The choice of the participial vowel depends largely on the quality of the verb stem vowel. That is, if the verb stems vowel ends in [u, or i, o, ɔ] then [i, e, ɛ] is suffixed respectively to the reduplicant part of the verb to derive a participle, for example: *gbo* 'to die' becomes *gbogboe* 'dead'. However, monosyllabic verbs that end in the low back vowel /a/, do not attach any vowel to their reduplicant rather, the vowel of the reduplicant is deleted in the process and

the front mid low vowel is suffixed to the verb for instance, *sa* 'to rot' becomes *sasɛ* 'rotten'. The new words formed are process verbs which have been caused to change their forms. According to Boadi (2010), these process verbs are causative and they require that their underlying complement participants undergo a process of internal change initiated by a covert agent or instrument of cause.

In dealing with the syntax and semantics of participles also referred to as causative derivation Rice (2000), it was realized that such a derivation participle, takes the form of an intransitive clause. The derived participle forms a different word class. Their meaning has a time span covering the time of the initiation of the process (t_1) and endpoint at (t_2). The data shown also that the participle form of causative verbs are among the verbs containing an inherent semantic component of "cause of become or change of state'. The derived words function prototypically as adjectives in Dangme to modify the NP as exemplified in table 5.

ABBREVIATIONS

ADJ	Adjective
ADV	Adverb
ARG	Argument
AOR	Aorist
CAUS	Cause
CAUSE	Causative
CV	Consonant and a Vowel
DEF	Definite Article
INDEF	Indefinite Marker
LOC	Locative
NP	Noun Phrase
NEG	Negation
NUC	Nucleus
OBJ	Object
OBLQ	Oblique
PAT/PATIENT	Patient
PART	Participle
PERF	Perfective
POSS	Possessive
PRED	Predicate
PERF	Perfect
RRG	Role and Reference Grammar
SUBJ	Subject

SUB-PAT	Subject Patient
t_1	The Time of the Event
t_2	After a Given Earlier Time
V	Verb
VP	Verb Phrase
x	First Argument/Subject Actor/Instrument at Subject Position
y	Macrorole Argument of the Verb/Object Undergoer
z	Intermediary Actor/Causer
j/k/i	Referential Indices

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