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On holistic properties of morphological constructions: the case of Akan verb–verb nominal compounds

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ABSTRACT

Akan verb–verb nominal compounds exhibit unusual formal and semantic properties, including extreme formal exocentricity, where the composition of two verbs yields a noun some of whose semantic properties may not be directly coded in the constituents, and argument structure suppression, where no argument of either constituent can occur in the compound. The purpose of this paper is twofold. First, I delineate the membership of the class, showing that some of the constructions listed in the literature as verb–verb compounds do not belong to the class; they have formal features that betray them as affix-derived nominals. Secondly, I discuss the rather idiosyncratic properties of the compound. I argue that the form class is inherited from a meta-schema for compounding in Akan which bears a nominal output category. Again, it is a unique constructional property of Akan verb–verb compounds that, unlike other verb-involved compounds, they do not allow any argument of the constituents to become part of the compound. These extra-compositional holistic properties can be accounted for straightforwardly in a framework like Construction Morphology which does not assume that every property in a construction must emanate from its constituents. This study provides evidence for the view that constructions can have holistic properties.

KEYWORDS Akan verb–verb compounds; Construction Morphology; holistic constructional properties; transpositional exocentric compounds

1. Introduction

Compounds are words formed by combining at least two lexemes of the same or different word classes. Compounding is a very common word-formation process in the languages of the world (cf., *inter alia*, Botha 1984; Booij 2002; Bauer 2006; Dressler 2006; Aikhenvald 2007; Lieber and Štekauer 2009a, 2009b; Obeng 2009; Scalise and Vogel 2010b; Štekauer, Valera, and Körtvélyessy 2012),

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and various aspects of the process and product have been studied across various languages. Indeed, virtually every important question about the nature of compounding in specific languages and across language families have been asked, including definition (Fabb 1998; Bauer 2006; Montermini 2010; Fábregas and Scalise 2012), classification (Bisetto and Scalise 2005; Bauer 2009; Scalise and Bisetto 2009) and how to delineate compounds from derived words on the one hand (Bauer 2005; Ralli 2010) and phrases on the other (Spencer 1991; Lieber 1992; Bauer 1998; Bisetto and Scalise 1999; Payne and Huddleston 2002; Giegerich 2004, 2008, 2009; Katamba and Stonham 2006; Jackendoff 2009, 2010; Scalise and Vogel 2010a; Ackema and Neeleman 2010). The question of how to distinguish between compounds and phrases is important because compounds, like phrases, combine words (specifically, lexemes).

Compounding has received more attention in some languages than others. In Akan (Kwa, Niger-Congo), compounding is a relatively understudied process. Thus, there are still aspects of the process and product of compounding that has either not been studied at all or have only been touched at a very general level, leaving important questions still unanswered. They include questions like: What is a possible compound in Akan? What classes of compounds are attested in Akan? Are all the constructs that have been attributed to a certain set of compounds real members of the set? What are the defining properties of the attested classes of compounds?

Attested Akan compound types, by word classes, each of which has an output category noun, are N–N, N–A, N–V, V–N and V–V, as exemplified in Table 1. Each type may have subtypes with their own sets of general and idiosyncratic properties and may be sub-classified by means of varying criteria, including the word classes of the constituents and whether or not there is a head constituent in the compound and, if there is a head, the position of the head constituent.¹

Some extant studies add a class of A–N compounds in Akan, citing examples like *àkèsèsém* (*àkésé* ‘big’, *àsém* ‘matter’) ‘magniloquence’, *àtétésém* (*àtétér* ‘flat’, *àsém* ‘matter’) ‘publicized case’ and *àfèfédé* (*àfèfè* ‘nice’, *àdé* ‘thing’) ‘vanity’

Table 1. Attested Akan compound types.

Type	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
N–N	<i>síká</i>	‘money/gold’	<i>ɱfútúró</i>	‘dust’	<i>síkàɱfútúró</i>	‘gold dust’
N–A	<i>àsém</i>	‘message’	<i>pá(pá)</i>	‘good’	<i>àsèmpá</i>	‘good news’
N–V	<i>àtár</i>	‘dress’	<i>hyé</i>	‘to wear’	<i>àtàrhýé</i>	‘dressing’
V–N	<i>dí</i>	‘to eat’	<i>béá</i>	‘place’	<i>dibéá</i>	‘position/rank’
V–V	<i>gyé</i>	‘to receive’	<i>dí</i>	‘to eat’	<i>gyédí</i>	‘faith’

¹The abbreviations used in this paper are as follows: AFV = Asante final vowel; Ak. = Akuapem dialect; AS = argument structure; As. = Asante dialect; ATR = Advanced Tongue Root; CxM = Construction Morphology; Fa. = Fante dialect; H = high; HUM = human; L = low; LOC = located; N–A = noun–adjective compound; N–N = noun–noun compound; N–V = noun–verb compound; NMLZ = nominalizer; NOM = nominal affix; PFX = prefix; SEM = semantics; SVC = serial verb construction; V–N = verb–noun compound; V–V = verb–verb compound, [V–V]_N = verb–verb nominal compound and [V–V]_V = verb–verb verbal compound.

(Balmer and Grant 1929; Dolphyne 1988; Abakah 2004, 2006; Obeng 2009). However, Appah (2013a) has shown that they are better regarded as N–N compounds.

In the present paper, I discuss verb–verb nominal compounds ($[V-V]_N$) in Akan. They have not been studied in any detail, although they appear in almost all studies on Akan compounding (Christaller 1875; Balmer and Grant 1929; Dolphyne 1988; Abakah 2006; Obeng 2009). The only exception is Anderson (2013) who discusses the formation of $[V-V]_N$ compounds, focusing on how the compounds come to possess their nominal syntactic category and showing clearly that they are irregular. This is because criteria that seem to work for establishing the syntactic category of other compound types fail to work for this class of compounds. This is discussed in Section 4.1.1.

I show that Akan $[V-V]_N$ compounds have interesting features, one of which is that they exhibit extreme formal exocentricity, where the compounding of two verbs yields a nominal. This makes the constructions fit the description of what Bauer (2008, 2010) calls transpositional exocentric compounds. Another idiosyncratic feature of $[V-V]_N$ compounds is what I call the suppression of the argument structure (AS) of the constituent verbs, so that no argument of either constituent can occur in the $[V-V]_N$ compound, contra the expectation that argument-taking heads will occur in constructions, compound or phrase, where they can satisfy their AS requirement (Selkirk 1982; Lieber 1983; Grimshaw 1990). A third interesting feature of $[V-V]_N$ compounds is that the meaning of some compounds may not be directly related to the meanings of the constituents, although they are not totally non-transparent. Thus, the constituents and the whole may be related, for example, metaphorically, as is the case for the compound *gyé dí* ‘faith’ (*gyé* ‘to receive’, *dí* ‘to eat’).

Because these compounds have properties which do not emanate from their constituents, accounting for their properties will be challenging for a framework that assumes that every feature of the compound must somehow be accounted for in the constituents. I discuss and reject previous rule-based analyses (e.g., Obeng 2009; Anderson 2013) which, given the fact that the constituents of the nominal compounds are two verbs, have to posit an abstract nominalizer as the source of the nominal form-class. I then show how the properties of these compounds can be accounted for straightforwardly in the framework of Construction Morphology (CxM; Booij 2007, 2010b) which accepts that morphological constructions can have holistic properties.

Following Appah (2013b, 2015), I argue that the nominal form-class of the Akan $[V-V]_N$ compounds is inherited from a constructional meta-schema for compounding in Akan which bears an output syntactic category, N. Some semantic properties too may be treated as holistic properties of specific constructional schemas since they are not directly coded in the constituents. Finally, I posit an AS suppression principle which operates, at a construction-specific level, in the formation of the compounds and explains why the Akan $[V-V]_N$

compound cannot have any argument of the constituents realized in the compound. This is also a constructional property.

In the rest of this section, I briefly introduce the theory of CxM in Section 1.1 and deal with why the constructions discussed in this paper should not be regarded as opaque lexicalized verbal constructions in Section 1.2. I then go on to delineate the class of $[V-V]_N$ compound constructions in Section 2, pointing out which of the many exemplars cited in the literature (Christaller 1875; Dolphyne 1988; Abakah 2006; Obeng 2009; Appah 2013b) really belong in the class. I discuss the properties of the $[V-V]_N$ compounds in Section 3 and present the formal account of the properties in Section 4. For each property, I first discuss and reject previous accounts before presenting the proposed constructionist account. Section 5 concludes the paper.

The points made about the data in this study hold true for all the three major dialects of Akan – Akuapem, Asante and Fante. Where some property is true of only one dialect or another, I indicate this specifically with abbreviations as follows: Akuapem (Ak.), Asante (As.) and Fante (Fa.)

1.1. *Construction Morphology*

CxM is a theory of linguistic morphology, which seeks to provide “a better understanding of the relations between morphology, syntax and the lexicon and of the semantic properties of complex words” (Booij 2010b, 543). The main tenets of CxM are a theory of the notion construction, a theory of word structure and a theory of the lexicon. In CxM, complex words like compounds are morphological constructions – word-level form-meaning pairs that are formed by constructional schemas which are extracted from sets of existing complex words and also serve as a recipe for forming other words of comparable complexity. Constructions can have holistic (constructional) properties which do not emanate from their constituents (Booij 2012, 345). An instantiating construction inherits all of its non-specific properties from the dominating schema but may be able to override the properties in the dominating construction (Booij 2007, 2010a, 2010b). Schemas and the constructions they instantiate coexist in a hierarchically organized lexicon, where two kinds of relations obtain: “instantiation”, which exists between a schema and a construction formed by that schema, and “part of”, which obtains between a construction and its constituents.

1.2. *On lexicalization and $[V-V]_N$ constructs*

One view of the compounds discussed in this paper is that they are lexicalized verbal constructions. Indeed, a reviewer suggests that we might even treat them as non-compounds because they are opaque and non-productive. Whilst this view might sound appealing, given the paucity of exemplars, the facts of the

language do not support the view that the compounds are completely opaque. When a construction has fully lexicalized, it may, among others things, become semantically opaque and may even lose part of its phonological integrity. What we find in [V-V]_N constructions is that their meanings may cease to be literal and may have to be interpreted by means of some figure of speech. However, the constructions are not totally opaque. In terms of form, there is no phonological attrition, except that the constituents occur in a fixed order, not permitting the insertion of any material, including any argument of either base.

Given the constructions in (1a) and (2a) and the corresponding blank spaces in (1b) and (2b), any competent speaker of Akan will fill the slot with the word *gyé* 'faith'. In other words, this compound is formed and used regularly in the language. My view is that the internal structure of such compounds must be available to the speaker for this to happen and it shows that the constructions are not totally opaque.

(1)

- a. *Mè-gyé* *Nyàmé* *dí*
1sg-receive God eat
'I believe in God'
- b. *Mè-wò* [...] *wò* *Nyàmé* *mú*
1sg-possess [...] be.LOC God inside
'I have [faith] in God'

- (2) a. *Ámá* *òn-gyé* *né* *kúnú* *òn-dí*
Ama NEG-receive 3SGPOSS husband NEG-eat
'Ama doesn't believe/have faith in her husband'
- b. *Ámá* *òn-ní* [...] *wò* *né* *kúnú* *mú*
Ama NEG-possess [...] be.LOC 3SGPOSS husband inside
'Ama doesn't have [faith] in her husband'

Findings from a recent study (Kambon, Osam, and Amfo 2015) support the view that the constructions at issue are not totally opaque and that speakers can still recognise the internal structure of the constructions. In this study, the constructions were treated as cases of nominalization of serial verbs, and the respondents were given serial verbs from which to form nominalizations. Reversing the process, respondents were also given nominals to decompose to see if they could identify the verbal source constructions. The study showed that speakers were able to tell the construction from which the nominals were formed. The nominals in the decomposition task included some of the [V-V]_N compounds discussed in this paper.

This shows that the internal structure of the construction is available to and active in the minds of the speakers. Hence, the construction cannot be said to be completely opaque, either semantically or formally. What we can say, as far as lexicalization is concerned, is that it is the [V-V]_N schema which has

lexicalized, or better still, constructionalized, so that, as discussed later under the suppression of AS, even if the compounds ultimately derived from SVCs, the lexicalized pattern provides for two simplex verbal stems only. This way, no argument of the bases may be realized within the compound. There is, therefore, justification for treating the constructs discussed in this paper as compounds.

2. Delineating the class of [V-V]_N compounds

Various sources (Christaller 1875, 28; Dolphyne 1988, 124; Abakah 2006, 25–26; Obeng 2009, 106; Appah 2013b) provide lists of constructs that are believed to be [V-V]_N compounds, but I wish to argue in this section that they tend to be overly inclusive. The exemplars from these sources that I retain because they qualify as [V-V]_N compounds are listed in Table 3. However, I exclude the exemplars in Table 2 from the class of [V-V]_N compounds because they have features that make them formally different and distinguishable from the particular [V-V]_N constructs we are interested in.

Crucially, Akan verbs are consonant-initial (Dolphyne 1988), and so, we expect the prototypical [V-V]_N compound to be made up of two verbal elements that are consonant initial, but the compound may have an optional non-derivational nominal affix which only occurs, post-compounding, on the [V-V]_N base, yielding a structure like [PFX-[V-V]_N]_N. Non-derivational nominal affixes tend to be optional, as exemplified by the prefix *ò-* and the suffix *-é* in *ò-dí-má* (NOM-eat-give) ‘advocacy’ and in *gyé-dí-é* (receive-eat-AFV) ‘faith’, respectively. When such affixes are taken away, the bases remain well-formed morphological constructions in the language. However, the affixes that occur in the excluded exemplars cannot be so ignored because they are derivational.

Table 2. Constructs assumed to be [V-V]_N compounds but are not.

Base 1	Gloss	Base 2	Gloss	Compound	Gloss
<i>tɔ́</i>	‘to buy’	<i>sómí</i>	‘to serve’	<i>ò-tósómí</i>	‘lazy person’
<i>ká</i>	‘to speak’	<i>má</i>	‘to act on behalf of’	<i>ò-kámá-fó*</i>	‘advocate’
<i>sèrà</i>	‘to visit’	<i>hwé</i>	‘to look/see’	<i>òn-sèràhwé</i>	‘visit’
<i>kó</i>	‘to fight’	<i>gú</i>	‘to be defeated’	<i>òn-kógú</i>	‘defeat’
<i>só</i>	‘to try’	<i>hwé</i>	‘to look/see’	<i>òn-sóhwé</i>	‘tribulation’
<i>ká</i>	‘to taste’	<i>hwé</i>	‘to look/see’	<i>òn-káhwé</i>	‘act of tasting’
<i>kèrà</i>	‘to bid farewell’	<i>dí</i>	‘to engage in’	<i>òn-kèràdí</i>	‘act of saying goodbye’
<i>hùrùw</i>	‘to jump’	<i>sí</i>	‘to land’	<i>è-hùrùw sí</i>	‘romp/jubilation’
<i>bùà</i>	‘to cover (food)’	<i>dá</i>	‘to sleep’	<i>à-bùàdà</i>	‘fast’ (n.)
<i>fóró</i>	‘to ascend’	<i>siàn</i>	‘to descend’	<i>à-fòròsíán</i>	‘act of going up and down’
<i>ò-tó</i>	‘not buy’	<i>bóró</i>	‘to be drunk’	<i>á-ń-tóbóró</i>	‘one who gets drunk at other’s expense’

**ò-kámáfó* is an agentive noun derived from a potential [V-V]_N compound base – *kámá* ‘advocacy/intercession’. I believe that *kámá* cannot occur as an independent word because *dímá* exists with the same meaning; it can be part of larger compounds as in *ò-kámáfó* but not stand by itself. This is like English *stealer* which is not possible because of the existence of *thief*; it can occur in *time-stealers*, though.

Table 3. Actual [V–V]_N compounds in Akan.

Base 1	Gloss	Base 2	Gloss	Compound	Gloss
<i>tú</i>	'to uproot'	<i>tǎ</i>	'to fart'	<i>tútǎ</i>	name of a type of shrub
<i>té</i>	'to feel'	<i>má</i>	'to give'	<i>témá</i>	'empathy'
<i>yí</i>	'to take'	<i>má</i>	'to give'	<i>yímá</i>	'betrayal'
<i>gyé</i>	'to receive'	<i>dí</i>	'to eat'	<i>gyédí</i>	'faith/belief'
<i>fá</i>	'to take'	<i>kyé</i>	'to gift'	<i>fákyé</i>	'forgiveness'
<i>bàtà</i>	'to cling to'	<i>bòà</i>	'to help'	<i>bàtábóà</i>	'mutual help'
<i>tsé</i>	'to hear'	<i>ká</i>	'to say'	<i>tséká</i>	'hearsay' (Fa.)
<i>dí</i>	'to eat'	<i>má</i>	'to give'	<i>dímá</i>	'advocacy' (As.)
<i>kàsà</i>	'to talk'	<i>kyèrè</i>	'to teach'	<i>kàsákyérè</i>	'act of counselling'
<i>dá</i>	'to sleep'	<i>dwéń</i>	'to think'	<i>dádwéń</i>	'meditation/burden'
<i>pèrè</i>	'to touch'	<i>hwé</i>	'to see'	<i>pèrèhwé</i>	'gossiping' (Ak./As.)
<i>sú</i>	'to cry'	<i>fřè</i>	'to call'	<i>súfřè</i>	'plea/cry for help'
<i>bèrè</i>	'to struggle'	<i>nyá</i>	'to get'	<i>bèrènyá</i>	a name (lit. 'suffer to gain')*
<i>bèrè</i>	'to struggle'	<i>gú</i>	'to fall'	<i>bèrègúó</i>	'wasted effort'
<i>sòmà</i>	'to send'	<i>kó</i>	'to go'	<i>sòmákó</i>	'faithfulness in going on errands'
<i>pùtsi</i>	'to touch/tap'	<i>kyèrè</i>	'to show'	<i>pùtsíkyérè</i>	'act of gossiping by touching the addressee and pointing at the target' (Fa.)

*A reviewer has suggested that *bèrènyá* should be treated differently because it is possible that it is a lexicalized syntactic construction and so its etymological history is irrelevant. However, I believe that it is not particularly different in form and degree of lexicalization. It just happens to be a recognized name among Akans. I have heard people use this expression for students who struggled to get good grades in examinations, no matter how hard they tried. Thus, the internal structure and composition of this word is available to the native speaker and not totally opaque.

This is a crucial distinguishing criterion for the class of Akan [V–V]_N compounds. Therefore, if any construction cited in the literature as exemplifying Akan [V–V]_N compound needs an additional obligatory affixational process, it is not the kind we are interested in.² Thus the principal reason for rejecting the constructs in Table 2 is that all of them occur with obligatory nominalizing prefixes. For example, *tósóm*, with the intended meaning 'lazy person' (cf. Table 2, row 1), does not exist. In order to express the intended meaning, the construction needs the prefix *ǎ-*, which does not occur on the left constituent in isolation.

For exemplars like *ń-kógú* 'defeat' (Table 2, row 4), we see that without the prefix, the bases sound like verbs, except that complexes of two verbs do not exist as verbs in Akan, outside of serial verb constructions (SVCs), where they occur in the same order as they occur in the nominal compound.³ Finally, it is worth noting that *á-ń-tóbóró* 'one who gets drunk at other's expense' (Table 2, row 11) contains a negation marker which shows that it probably is a nominalization of a phrase. This is discussed further below.

²This criterion suggests a need for work to be done on distinguishing derivational and inflectional uses of Akan nominal affixes. However, such an enterprise is beyond the scope of the present paper. I assume, though, that only derivational affixes are obligatory in constructions like the one discussed in this paper.

³An SVC is a construction in which two or more verbs are used to express what is conceptually a unitary event which would be expressed by one verb in a non-serializing language. Typically, in an SVC, the verbs are equipollent and there is no marker of subordination or coordination between the verbs which may also share arguments and other syntactico-semantic properties (Schachter 1976; Baker 1989; Osam 1997; Aikhenvald 1999; Bodomo 2002; Appah 2009b; Haspelmath 2016).

The semantics of the affixes is diverse. *ɔ̃-* generally signals human referents (e.g., *ɔ̃-kámáfó* ‘advocate’, *ɔ̃-tósóm* ‘lazy person’) whilst *à-/è-* and the nasals tend to form nouns that refer to abstract action (e.g., *à-fòròsían* ‘act of going up and down’, *è-kèràdí* ‘act of saying goodbye’) and, in one instance, a noun with a human referent (*á-è-tóbóró* ‘one who gets drunk at other’s expense’). The difference between *à-/è-* may be dialectal. In [+ATR] environments Asante uses *à-* whilst Fante uses *è-*.

So far I have argued that some constructions that have been put in this class bear affixes that are clearly derivational and obligatory, disqualifying the construction as $[V-V]_N$ compound because they are affix-derived words. Thus, to state the criterion of membership again, to qualify to be in this class, the relevant construct must be made up of two verbs without any obligatory affix.

After applying this criterion, the constructs in Table 3 are the only ones left of the many putative examples of $[V-V]_N$ compounds found in the relevant literature. They are supplemented by others that I collected from written sources, including a children’s reader on fishing, the Akan translation of the Universal Declaration of Human Rights and an Akan translation of Plato’s *Apology* of Socrates.

I retain the orthographies of the three main dialects of Akan, as used in the data sources and also ignore minor dialectal variations in orthography in the various sources of data which do not impede comprehension and have no bearing on the substance of this paper.

Given that we find only 16 actual $[V-V]_N$ compounds, by our strict criterion of membership, it is clear that the pattern of $[V-V]_N$ compounding in Akan is not very productive.⁴ Be that as it may, I believe that they are worth studying, first, for completeness, as far as the study of Akan compounding is concerned, and second, because their properties are noteworthy; they provide evidence for what has been called holistic constructional properties (Booij 2010a, 2012).

3. Formal and semantic properties of Akan $[V-V]_N$ compounds

As a way of motivating the formal constructionist account in Section 4, I present and discuss the formal (Section 3.1) as well as semantic (Section 3.2) properties of the class of Akan $[V-V]_N$ compounds.

3.1. Formal properties of Akan $[V-V]_N$ compounds

There are two interesting formal properties of Akan $[V-V]_N$ compounds. They relate to the output syntactic category of the compound, compared to those of the constituents, and the impossibility of realizing any argument of the constituents in the compound. I discuss these in turn in Sections 3.1.1 and 3.1.2,

⁴I assume a qualitative view of productivity with no backing detailed statistical analysis, which would be very useful, if we had a corpus of Akan text.

respectively. It goes without saying that the latter is not just a formal issue but a semantic one as well, since AS is a semantic notion that has implication for morphology and syntax. I treat it under formal properties because it is its formal manifestation that is at issue.

3.1.1. *Form-class of Akan [V-V]_N compounds*

The first noteworthy formal property of Akan [V-V]_N compounds is that they exhibit absolute formal/categorical exocentricity, where the composition of two lexical items of the same syntactic category (V + V) yields a compound of a completely different syntactic category (N). Thus, as noted above, these compounds instantiate the observation that morphological constructions can have holistic properties, and this formation of nouns by V + V compounding is one main reason why we can claim with some appreciable degree of confidence that in Akan, compounding is essentially a noun-forming strategy (cf. Appah 2013b, 2015).

It must be pointed out, however, that there seems to be no unequivocal formal criteria for ruling out this class of compounds as being verbal, and we might expect to find suggestions of such an analysis, i.e., arguments for a [V-V]_V description.

The case for a verbal [V-V]_V compound analysis (cf. Appah 2003, 2009a) may include the fact that the constituents have the same order as the same sets of verbs occurring in analogous SVCs. However, it has to be noted that this property of the compound has nothing to do with its syntactic category. It just so happens that conceptually the subatomic event expressed by the first constituent temporally/conceptually precedes the event expressed by the second verb, so that they must necessarily occur in that order, whether in a syntactic construction like an SVC or a morphological construction like a compound.⁵

Opting for a verbal [V-V]_V analysis, Appah (2003, 2009a) points to the fact that the V-V combinations may serve as bases for words derived by the human identity suffixes *-n(y)í* and *-fó(ó)*, which attach only to nominal bases and are therefore a good diagnostic for the nominal status of the bases they attach to. Appah, therefore, argues that in such complex words, there are nominalizing vowel prefixes that attach first to verbal V-V bases, nominalizing them, before the suffix is attached. However, this property of V-V bases taking nominalizing prefixes, e.g., *à-*, which supposedly potentiates the occurrence of the human identity suffixes (*-n(y)í/-fó(ó)*), is not quite true. Many of the examples either do not accept a prefix at all or only admit one when the suffix is also present. For example, *à-gyédí*, as occurs in *à-gyédí-fóó* (NOM-faith-HUM) ‘believer’, does not occur by itself, but *gyédí-fóó* ‘believer(s)’ is well formed and acceptable and the presence of the suffix *-fóó* allows the prefix *à-* to occur. Thus, the prefix that occurs para-synthetically with the human identity suffix is not nominalizing

⁵In this sense these constructions are like idioms of encoding (Makkai 1969; Booij 2010a).

per se and so the idea of a prefix nominalizing a verbal $[V-V]_V$ base (Appah 2003, 2009a) may be dismissed.

Anderson (2013) opens his account of $[V-V]_N$ compounds with the observation that “nominal compounds derived from two verbs ($[V-V]_N$) pose a derivational problem” (Anderson 2013, 92). He claims that all Akan compounds are right-headed and that where the right-hand constituent is verbal, it is nominalized. This supposed nominalization, according to Anderson, is signalled by a particular pattern of downstepping which is assumed to be caused by the floating low (L) tone of a deleted nominal(izing) prefix (cf. Anyidoho 1990). With this in mind, Anderson recognizes that the putative nominalization-signalling downstep fails to occur as predicted in $[V-V]_N$ compounds. So it is difficult to claim that the right-hand constituent is nominalized.

He also identifies another problem: that such $[V-V]_N$ compounds are all exocentric, so that “the head of the compound cannot be determined based on the meaning of the whole compound” (Anderson 2013, 92). However, as the discussion in the next section will show, whereas the compounds are indeed exocentric, it is not entirely true that the meaning of the compound is not/cannot be related to the meanings of the constituents. It is true, though, that one cannot use the simple fact of characterization (i.e., what constituent determines the general properties of the compound) to tell the head of $[V-V]_N$ compounds. I will discuss Anderson’s (2013) account further in Section 4.1.1.

In my view, two pieces of morphological evidence and a syntactic one settle the case in favour of analysing these compounds as nouns. The first piece of evidence is the consistent absence of verbal inflection on the compounds. An apparent exception is the form *á-ń-tś-bóró* (NMLZ-NEG-buy-get.drunk) ‘one who gets drunk at other people’s expense’ (Dolphyne 1988, 124; Obeng 2009, 106). The nasal in this word marks negation, a conceptual category of verbs. However, as noted above, *ántśbóró* is not a compound at all; it results from the nominalization of a verbal construction through prefixation. Negation occurs at a higher level than the X^0 level in syntactic structure. The compounds we are concerned with, however, combine only bare roots or nonprojecting heads.

The second piece of evidence for the nounhood of the $[V-V]_N$ compound is the presence of language-general and/or dialect-specific, noun-only affixes that occur on this class of compounds. Two such affixes may be mentioned here. The first relates to the above noted fact that the compounds in this class undergo further derivation by means of the human identity suffixes (*-n(y)í/-fó(ó)*) which attach to nominal bases only, confirming the nounhood of the bases they attach to (Appah 2003, 2009a, 2013a, 2013b). The second is that, in the Asante dialect of Akan, there is a mid vowel, called the Asante final vowel (Appah 2013b), that occurs as the final segment in nouns where the stem terminates in a high vowel (cf. Dolphyne 1988). We find it (*-é*) occurring in the compound *gyéđí-é* ‘faith’ without the need for a prefix on the base – *gyéđí*. In both instances, the V-V combination constitutes a noun to which the relevant affix can attach.

Finally, besides the word-internal formal evidence of nounhood, it goes without saying that, if the relevant construct can head a nominal phrase and be deployed in a context where only nouns occur, then it is a noun. That is exactly what we find in the constructions in (3), where the relevant $[V-V]_N$ compounds function as the subject (a), the object, which is also modified (b) and the possessed element in the possessive phrase (c).

- (3) $[V-V]_N$ compounds head nominal phrases
- a. Bèrènyá rɛ́-dí àdùàné
 Bèrènyá PROG-eat food
 ‘Bèrènyá is eating (food)’
- b. Kòfí wò témá kàkrá
 Kofi have empathy little
 ‘Kofi is a little empathetic (lit. Kofi has little empathy)’
- c. Nyámé á-tíé mè súfré
 God PERF-listen 1SGPOSS plea/cry for help
 ‘God has heard my plea/cry for help/God has listened to
 my plea/cry for help’

As noted above, Kambon, Osam, and Amfo (2015) classify the compounds at issue as instances of serial verb nominalization, although they do not indicate how the serial verbs are nominalized. My reading of the paper is that there are various means of nominalizing SVCs, including affixation and compounding, which is how the constructions under discussion in this paper are turned into nominals.

The discussion in this section shows that the nounhood of the $[V-V]_N$ compounds cannot be in doubt. What is somewhat unusual is the fact that the noun is formed from constituents that belong to a completely different syntactic category. However, this same unusual formal property is one reason why this class of compounds merits research attention, and it will be discussed further in Section 4.1.

3.1.2. Impossibility of realizing arguments in Akan $[V-V]_N$ compounds

Another noteworthy formal property of the $[V-V]_N$ compound is that no argument of the constituents may be realized in the compound. The locality principle (cf. Selkirk 1982; Grimshaw 1990) requires argument-taking lexical items to occur in constructions, morphological or syntactic, where they can satisfy their AS. Thus, usually in compounds with verbal constituents, the verb occurs with an internal argument or an external argument.⁶ Consider the examples in (4), where each verb occurs with a nominal argument in both the phrase and the analogous compound, although the meanings are not quite the same and the tonal melodies are also different.

⁶A predicate may occur with a modifier in the absence of an argument. The verb *eat*, for example, should normally occur in a compound with what is eaten, e.g., *mango-eating*. However, in the absence of *mango*, a word referring to the location of eating or the instrument for eating may form the compound with the verb, as in *tree-eating*, where *tree* is the location. Lieber (1983) would call the *tree* a semantic argument.

- | | | |
|-----|---|---|
| (4) | Related VP | Compound |
| a. | <i>kò òsúó</i>
go water
'fetch water' | <i>kó-òsúó</i>
go-water
'person who fetches water' |
| b. | <i>kò àyíé</i>
go funeral
'attend a funeral' | <i>kó-àyíé</i>
go-funeral
'one who attends funerals habitually' |
| c. | <i>dà àmòná (mú)</i>
sleep hole (in)
'sleep in holes' | <i>dá-àmòná</i>
sleep-hole
'animal that sleeps in holes' |
| d. | <i>kùm kóm</i>
kill hunger
'kill hunger' | <i>kúm-kóm</i>
kill-hunger
'hunger killer' (a species of maize) |

Given this, it would be expected that the argument-taking verbs in the $[V-V]_N$ compound would have suitably qualified constituents in the construction to satisfy their AS. Typically, in the analogous SVCs, the verbs satisfy their AS, sometimes through the sharing of arguments (Osam 1997; Aikhenvald 1999; Bodomo 2002; Agyeman 2003; Appah 2009b). However, in the $[V-V]_N$ compound, that does not happen. For example, although at least one constituent in each of the compounds *dímá* 'advocacy', *bèrènyá*, a name (lit. 'suffer to gain'), and *bàtábóá* 'mutual help' is argument-taking, in none of the compounds is an argument normally permitted. Hence, the ill-formedness of the constructions in (5) is due to the presence of the possible internal argument of an argument-taking constituent.

- | | | | |
|-----|---|---|--|
| (5) | <i>*bata-boa-nyimpa</i>
cling.to-help- person | <i>*brɛ-nya-sika</i>
suffer-gain- money | <i>*di-àsem-ma</i>
mediate- matter -give |
|-----|---|---|--|

The examples in (6) are well formed, and that is because they constitute a completely different class of nouns only interpretable as personal names. They also bear affixes and have particular tonal melodies that show that they are different constructions from $[V-V]_N$ compounds.

- | | | | |
|-----|--|--|---|
| (6) | <i>ò-gyé-àsém-í-dí-é</i>
NMLZ- receive-matter -eat-AFV
'gullible person/belief' | <i>ò-ká-àsém-í-má</i>
NMLZ-say- matter -give
'advocate/intercessor' | <i>fà-àsém-kyé</i>
take- matter -dash
'one who forgives' |
|-----|--|--|---|

Thus, as far as Akan $[V-V]_N$ compounds are concerned, it is not possible to express any argument of either verb in the compound. I interpret this to mean that the argument-taking potential of the verbs in these compounds is suppressed so that the verbs occur without any argument, by default. I consider this as a gestalt property of this particular construction that it suppresses the AS

of the constituent verbs. Put another way, the construction does not allow the realization of the arguments of constituent verbs. I return to this in Section 4.2.⁷

3.2. Semantic properties of Akan [V-V]_N compounds

Although Akan [V-V]_N compounds are formally exocentric, their meanings are usually not completely unrelated to the meanings of the constituents, contrary to the claim in Anderson (2013). Again, the patterning of the verbs reveals the speakers' conceptualisation of the spatio-temporal sequencing of the internal structure of the event. For example, the compound, *yímá* 'betrayal' (lit. 'remove-give'), is conceptualized as consisting of two stages, viz. the act of removing and the act of giving (away). For Balmer and Grant (1929, 115) such compounds, like the analogous SVCs, exist due partly "(a) to the tendency of the language [speakers] to use vivid figurative expressions and partly (b) to the habit of analysing an action into its component parts."

We can make several semantic distinctions in the class of [V-V]_N compounds based on the relations between the constituents within the compounds and the relation between the meanings of the constituents and the meaning of the whole compound. I explore some of these distinctions here.⁸

Regarding the relations between the constituents of the compound, we see that the action/event designated by the constituent verbs may be contiguous, the action/event of the first verb preceding the action/event of the second verb, as in Table 4. For example, in *sòmákó* 'faithfulness in going on errands', *sò má* 'the action of sending someone on an errand', which will entail issuing instructions to some entity, will necessarily precede *kó* 'the act of embarking on an errand'.

The action/event designated by the constituent verbs may also overlap, with the action of the first verb starting before but not necessarily ending before the action/event of the second verb commences. In *pùtsíkyéré* 'act of gossiping by

Table 4. Compounds expressing contiguity of events.

Base 1	Gloss	Base 2	Gloss	Compound	Gloss
<i>yí</i>	'to take'	<i>má</i>	'to give'	<i>yímá</i>	'betrayal'
<i>fá</i>	'to take'	<i>kyé</i>	'to gift'	<i>fákyé</i>	'forgiveness'
<i>tsé</i>	'to hear'	<i>ká</i>	'to say'	<i>tséka</i>	'hearsay' (Fa.)
<i>pèrè</i>	'to touch'	<i>hwé</i>	'to see'	<i>pèrèhwé</i>	'gossiping' (Ak./As.)
<i>bèrè</i>	'to struggle'	<i>nyá</i>	'to get'	<i>bèrènyá</i>	a name (lit. 'suffer to gain')
<i>bèrè</i>	'to struggle'	<i>gú</i>	'to fall'	<i>bèrègúó</i>	'wasted effort'
<i>sòmá</i>	'to send'	<i>kó</i>	'to go'	<i>sòmákó</i>	'faithfulness in going on errands'
<i>pùtsi</i>	'to touch/tap'	<i>kyèrè</i>	'to show'	<i>pùtsíkyéré</i>	'act of gossiping by touching the addressee and pointing at the target' (Fa.)

⁷What is called AS suppression in this paper was also observed by Kambon, Osam, and Amfo (2015) in their discussion of serial verb nominalization. However, the observed complete absence of any argument of the verbs in the resultant nominal is put down to restrictions on collocability.

⁸A full lexical semantic approach to the discussion of the semantics of Akan compounds, including [V-V]_N compounds, is discussed in Appah (forthcoming b).

Table 5. Compounds expressing contemporaneous events.

Base 1	Gloss	Base 2	Gloss	Compound	Gloss
<i>tú</i>	'to uproot'	<i>tǎ</i>	'to fart'	<i>tútǎ</i>	name of a type of shrub
<i>té</i>	'to feel'	<i>má</i>	'to give'	<i>témá</i>	'empathy'
<i>bàtā</i>	'to cling to'	<i>bòà</i>	'to help'	<i>bàtábóá</i>	'mutual help'
<i>dí</i>	'to eat'	<i>má</i>	'to give'	<i>dímá</i>	'advocacy' (As.)
<i>kàsà</i>	'to talk'	<i>kyèrè</i>	'to teach'	<i>kàsákyéré</i>	'act of counselling'
<i>dá</i>	'to sleep'	<i>dwéń</i>	'to think'	<i>dádwéń</i>	'meditation/burden'
<i>sú</i>	'to cry'	<i>frè</i>	'to call'	<i>súffé</i>	'plea/cry for help'

touching the addressee and pointing at the target' (Abakah 2006, 25–26), for example, I believe that the act of touching/tapping expressed by *pùtsi* may not necessarily finish before the act of showing expressed by *kyèrè* begins.

Alternatively, the two events designated by the constituent verbs may occur simultaneously. The data in Table 5 illustrate this. For example, in *bàtábóá* 'mutual help', the action of clinging to(gether) expressed by *bàtā* and the act of helping expressed by *bòà* do not occur one after the other, but contemporaneously.

Sometimes, the event designated by the first constituent may outlast that of the second constituent. This is the case in *tútǎ*, the name of a type of shrub, where the event expressed by *tǎ*, 'farting', may occur whilst the event expressed by the first constituent *tú*, 'uprooting', lasts. In this case, the action designated by the first constituent causes the second, but the second may not last the full duration of the first event.

In terms of the overall interpretation of the compounds, we see that the meaning of the whole may be related to the meanings of the constituents in various ways. We can distinguish two types of [V–V]_N compounds based on the extent to which the meaning of the whole is motivated by the meanings of the parts. In the first (Table 6), the compounds are largely compositional because their meanings are directly related to the meanings of the constituents. For example, expressing empathy as feeling something that benefits another person makes perfect sense and can be deduced directly from the meanings of the constituents. In the same way, the meaning of *tséká* 'hearsay' (Fa.) is directly related to the meanings of the constituents, *tsé* 'to hear' and *ká* 'to say'.

Table 6. Compounds with directly compositional meaning.

Base 1	Gloss	Base 2	Gloss	Compound	Gloss
<i>té</i>	'to feel'	<i>má</i>	'to give'	<i>témá</i>	'empathy'
<i>bàtā</i>	'to cling to'	<i>bòà</i>	'to help'	<i>bàtábóá</i>	'mutual help'
<i>tsé</i>	'to hear'	<i>ká</i>	'to say'	<i>tséká</i>	'hearsay' (Fa.)
<i>kàsà</i>	'to talk'	<i>kyèrè</i>	'to teach'	<i>kàsákyéré</i>	'act of counselling'
<i>pèrè</i>	'to touch'	<i>hwé</i>	'to see'	<i>pèrèhwé</i>	'gossiping' (Ak./As.)
<i>bèrè</i>	'to struggle'	<i>gú</i>	'to fall'	<i>bèrègúó</i>	'wasted effort' (As.)
<i>pùtsi</i>	'to touch/tap'	<i>kyèrè</i>	'to show'	<i>pùtsikyéré</i>	'act of gossiping by touching the addressee and pointing at the target' (Fa.)

Table 7. Compounds with metaphorically linked meaning.

Base 1	Gloss	Base 2	Gloss	Compound	Gloss
<i>tú</i>	'to uproot'	<i>tá</i>	'to fart'	<i>tútá</i>	name of a type of shrub
<i>yí</i>	'to take'	<i>má</i>	'to give'	<i>yímá</i>	'betrayal'
<i>gyé</i>	'to receive'	<i>dí</i>	'to eat'	<i>gyédí</i>	'faith/belief'
<i>fá</i>	'to take'	<i>kyé</i>	'to gift'	<i>fákyé</i>	'forgiveness'
<i>dí</i>	'to eat'	<i>má</i>	'to give'	<i>dímá</i>	'advocacy' (As.)
<i>dá</i>	'to sleep'	<i>dwéń</i>	'to think'	<i>dádwéń</i>	'meditation/burden'
<i>sú</i>	'to cry'	<i>fré</i>	'to call'	<i>súfré</i>	'plea/cry for help'
<i>bèrè</i>	'to struggle'	<i>nyá</i>	'to get'	<i>bèrènyá</i>	a name (lit. 'suffer to gain')

In the other group (Table 7), the meaning of the compounds can indeed be deduced from the meanings of their constituents, but not directly. It may be by establishing some metaphorical link between the meaning of a compound and the meanings of its constituents. For example, the meaning of *gyédí* 'faith/belief' (lit. 'receive-eat') is related to the meanings of its constituents because for one to believe, one has to metaphorically "receive" some message and "eat" it. Balmer and Grant (1929, 115) observed that *gyédí* 'faith/belief' "embodies the thought that, when a thing is accepted and eaten, trust and confidence is implied".⁹

Even some of these compounds whose meanings are directly related to the meanings of their constituents may also have additional features that are not in the constituents, as is typical of exocentric compounds (Bauer 2008, 2010). Thus, to fully comprehend these compounds, one needs some encyclopaedic knowledge.

The foregoing shows that the Akan $[V-V]_N$ compound exemplifies what Bauer (2008, 2010) calls the transpositional exocentric compounds (Appah forthcoming). These are compounds whose meaning can be deduced from the meanings of their constituents "but the word-class of the finished compound [...] is not overt" (Bauer 2010, 171).

4. Accounting for the properties of $[V-V]_N$ compounds

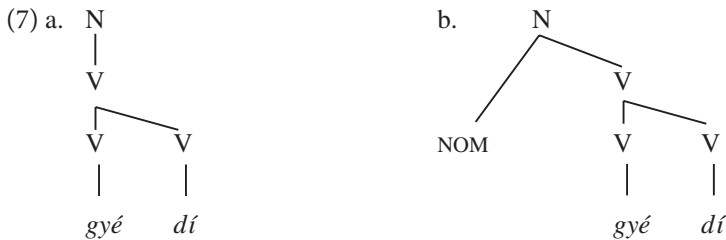
In this section, I attempt to provide a formal account of the properties of Akan $[V-V]_N$ compounds. I start with an account of the syntactic category and semantic properties, in Section 4.1, before attempting to deal with the issue of the impossibility of realizing the argument(s) of the constituent verbs in the compound, in Section 4.2. I first present how previous analysts handled each issue before going on to present the proposed CxM account. The issue of (non-)realization of the argument of the constituent verbs, however, has not been previously discussed with respect to Akan $[V-V]_N$ compounds.

⁹It is worth pointing out that this way of expression faith/belief seems to be a near Kwa-wide feature, as a number of Kwa languages express 'faith/believe' in about the exact same words with the same order. The exception is Ga, where the two constituents appear to bear nominalizing affixes and are linked by a coordinating conjunction, thus making the construction read 'collecting and eating'.

4.1. On the syntactic category and semantics of $[V-V]_N$ compounds

4.1.1. Previous accounts of the syntactic category of Akan $[V-V]_N$ compounds

To account for the form-class of $[V-V]_N$ compounds, one of two non-constructionist approaches may be assumed. The first posits an initial verbal compounding and a subsequent conversion from verb to noun. It is assumed that there is no overt marking of the process since conversion is not seen as an affixation process. This is shown in (7a) with the compound *gyédí* ‘faith’. In the second approach, the same initial verbal compounding occurs, but this time, an abstract nominalizer turns the putative verbal compound into a noun, as shown in (7b).



Both approaches have been proposed in the literature (cf. Obeng 2009; Anderson 2013). For instance, Anderson (2013, 92) represents the example in (7b) as (8). The problem with the first approach, however, is the observation (Appah 2013b) that Akan does not employ conversion at all because all the putative instances of conversion or functional change (Obeng 2009), are marked by tonal changes which should be construed as being responsible for whatever categorial change is engendered. Therefore, the first approach can be ruled out, leaving only the second approach for the time being.

- (8)

gyé + dí	→	Ø-gyé-dí	(Anderson 2013, 92)
get eat		NOM-get-eat	
‘to get’ ‘to eat’		‘faith’	

Previous accounts of compounding involving verbs in Akan mostly assumed that the verbal constituents are nominalized prior to becoming part of the compound. After Christaller (1875), we find that position in Boadi (1966). Within the last quarter century that position is defended in Anyidoho (1990), based on data from Dolphyne (1988).

Anyidoho (1990) argues that a certain pattern of downstepping found at the boundary between the constituents of what Dolphyne (1988) classified as N-V compounds should be seen as showing that the right-hand constituents in such compounds are nominalized.

Anderson (2013) adopts this prior nominalization view in his discussion of what he calls verb-internal compounds in Akan, arguing that the observed

downstep occurs because a putative L-tone nominalizing prefix was deleted leaving a floating L-tone which causes the lowering of the pitch of the high (H) tone in the first syllable of the verbal constituent.

One argument against the prior nominalization with accompanying downstep view is that certain compounds which meet the structural conditions for the manifestation of the downstepping fail to show the predicted tonal melody (cf. Appah 2013b). For example, the two verbs in *gyé-dí* are both said on an H-tone. Thus, if it is true that the second verb is nominalized with an L-tone prefix, then we will have an H_1 -L- H_2 tonal melody which will result in a downstepped H_2 , giving an H_1 -L- $^1H_2$ melody.¹⁰ This does not happen, showing that either the right-hand constituent is not nominalized at all in this instance, or that the argument for the nominalization of right-hand constituents based on the tonal melody is wrong or overgeneralized.

In the case of the exocentric $[V-V]_N$ compounds, we do not find any formal or semantic basis for claiming that the right-hand constituent is nominalized. Anderson (2013) acknowledges this fact that exocentric $[V-V]_N$ compounds systematically fail to pattern after the prior nominalization model which justifies his theory of the source of the nominal form class of the compound. Thus, in concluding his discussion he observes that the prior nominalization of verbal constituents of compounds seems to work for only endocentric compounds. He puts it this way:

For endocentric compounds, the second stem must be nominalized and subsequently delete the nominal affixes according to the compounding rules of Akan. For exocentric compounds, the right verbal element is not nominalized prior to compounding; rather, nominalization occurs after compounding. (Anderson 2013, 92)

Clearly, Anderson finds it difficult accounting for the nominal syntactic category of the compound. That is why he posits the post compounding nominalization through an abstract nominalizer. In my view, the difficulty stems from the fact that, like previous accounts of the syntactic category of Akan compounds (Chrastaller 1875; Boadi 1966; Dolphyne 1988; Anyidoho 1990; Appah 2003), he assumes a source-oriented perspective, where every property of the whole is supposed to be accounted for in the parts (Zager 1981; Appah 2015). Thus, there is no independent motivation for positing the abstract/zero nominalizer in (8) except the desire to make the compound fit a regular pattern of endocentric compounding.

I would note, in conclusion, that, even if we found enough motivation for positing the abstract nominalizer, we would be confronted with the fact that the final process becomes affixation and not compounding. In other words, the formation of the nominal would involve an initial verbal $[V-V]_V$ compounding and a subsequent nominalizing affixation process. However, the $[V-V]_V$

¹⁰A superscript '1' to the left of an H-tone syllable marks downstep in that syllable.

compound base required for this approach does not exist in Akan, because compounding is a noun-forming strategy in Akan (Appah 2013b, 2015).

4.1.2. *Modelling the syntactic category and semantics of Akan [V-V]_N compounds*

In the constructionist approach, the problems identified with previous attempts at modelling the syntactic category of the Akan [V-V]_N compound do not arise. There is no need to assume the prior nominalization of a constituent to serve as the source of the nominal syntactic category. There is also no need to posit post-compounding nominalization because of the “inexplicable” nominal syntactic category of the Akan [V-V]_N compound. This is because unlike the previous accounts which are source-oriented, with proponents expecting every property of the whole to emanate from the constituents, the constructionist view may be product-oriented, allowing constructions to have holistic properties which do not come from the constituents (cf. Zager 1981).

Appah (2015) proposed that because compounding in Akan is essentially a nominalization strategy, we can assume the existence of a meta-schema for Akan compounding which has an output syntactic category – Noun – which every Akan compound inherits. This view of the syntactic category of Akan compounds is expressed in the meta-schema in (9).

(9) Meta-schema for Akan compounds (Appah 2015, 374)

$$\langle [[a]_{xi} [b]_{yj}]_{Nk} \leftrightarrow [[SEM]_{ijkl} \text{ realizing a relation } R \text{ between } [a] \text{ \& } [b]]_k \rangle$$

The upper-case variables X and Y stand for the major lexical categories (X = N & V | Y = N, V & A). The lower-case variable *a* and *b* stand for arbitrary strings of sound segments, whilst *i*, *j* and *k* are indexes for the matching properties of the constituents of the compound and the compound as a whole.¹¹

The schema states that any two lexical items of the same or different form class(es) may form a compound which will be a noun. This is captured by the N label on the outer bracket on the left edge of the double arrow. Again, the schema specifies that the semantic properties of the Akan compound could be related to either, both or neither of the constituents. This is expressed through co-indexation.

Various subschemas of (9) are defined to account for the varying properties of Akan compounds (cf. Appah 2015, 376). One of them (10) generalizes over all compounds in which a crucial semantic feature of the whole is not present in the constituents. The target set generally corresponds to the set of exocentric compounds.

¹¹Note that upper case X in (9) can be either V or N only because Appah (2013b), 191–203 has shown that Akan does not have A-N and A-V compounds. It has to be pointed out that Akan is not unique in not having certain combinations of word classes in compounds. English, for example, does not have V-A compounds (Fábregas and Scalise 2012). Sometimes, the restriction on combination of syntactic categories may be found in specific subclasses of compounds. For example, Japanese does not have subordinate compounds of the type A-N or V-N which are possible in English (Fábregas and Scalise 2012).

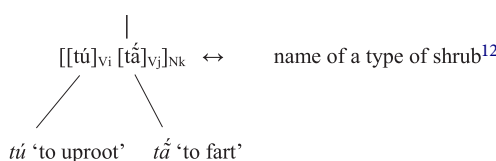
$$(10) \quad <[[a]_{xi} [b]_{yj}]_{Nk} \leftrightarrow [SEM ([SEM_i | SEM_j])_k]>$$

There are extreme cases, where the meaning of the compound may not be related to the meanings of the constituents at all. Thus, the meaning will be that of the whole construction because it directly pairs a form and a meaning that does not come from the constituents. The parenthesized portion of the semantic pole expresses this observation that the meaning of the whole may only be optionally related to the meanings of the parts.

Where the meaning of the compound is related to the meaning of either constituent or to their combined meaning, but the meanings of the constituents do not exhaust the meaning of the compound, the extra-compositional meaning component is expressed as a semantic operator (the unindexed SEM) over the meaning of the compound, or the meaning of the relevant constituent. The disjunction (|) captures this potential of an operator relating to only one constituent of the compound.

There will be an instantiation of schema (10), where the items that substitute for the variables *a* and *b* in the meta-schema are verbs. However, as noted above, the meta-schema bears an output category noun, which the subschema does not override. That explains the nominal syntactic category of the $[V-V]_N$ transpositional exocentric compound (Appah [forthcoming a](#)), as represented in (11).

$$(11) \quad <[[a]_{xi} [b]_{yj}]_{Nk} \leftrightarrow [SEM ([SEM_i | SEM_j])_k]>$$



The occurrence of N_k on both schemas in (11) shows that the nominal syntactic category is inherited from the meta-schema. Thus, the form-class of the $[V-V]_N$ compound is properly construed as a holistic property of the compound itself. This is consistent with Booij's observation that "systematic properties of compounds need not be derived from the head, but can be seen as holistic properties of the compound construction as such" (Booij 2012, 345).

4.2. On the non-realization of argument(s) of constituents in $[V-V]_N$ compounds

It was shown in Section 3.1.2 that the Akan $[V-V]_N$ compound construction does not make room at all for the expressions of the arguments of the constituents. In this section, I attempt to propose a CxM account of this observation,

¹²A more elaborate semantic specification of *tútá* would include the fact that the event coded by the second verb *tá* 'to fart' happens as a result of the performance of the action coded by the first verb *tú* 'to uproot' on the referent of the compound - a type of shrub. Thus the shrub may be regarded as the remote cause of SEM_j (Appah [forthcoming b](#)).

which may require further refinement. I assume that we can regard the impossibility of arguments of either verb occurring in the compound as a constructional property. That is, the $[V-V]_N$ construction has this specific property of not allowing the expression of the argument(s) of its argument-taking constituents in the compound. This is what I call AS suppression – the overriding of the AS of a lexical item as a construction-specific restriction.

To account for the observed fact of AS suppression, Appah (2013b) posits the AS suppression principle which is formulated as (12):

(12) AS suppression principle (Appah 2013b, 315)

If a lexical item in a construction has AS, it retains and satisfies it in every construction in which it occurs unless, as a result of its unifying with a schema that does not permit the expression of the AS, it loses the ability to satisfy the AS.

The idea of AS suppression has implications for our understanding of the nature of bases in Akan compounds. That is, whereas nominal bases in Akan compounds can be complex and even recursive, mostly left-branching complexes, non-nominal bases including verbs and adjectives can only be simplex forms. Put another way, the Akan $[V-V]_N$ compound construction makes available slots for only two verbal bases, so any material that is not part of the verbal lexeme cannot become part of the base in this compound. Thus, if the addition of any of the arguments of the argument-taking verbs will still result in a verb then it can be admitted in the compound. However, as shown in example (4) above, in Akan, every combination of a verb and its arguments at the level of morphology results in a noun, not a verb, see (cf. Appah 2015). Akan does not derive new verbs; it derives only nouns and adjectives.

In this section, I have attempted to provide a constructionist account of the properties of Akan $[V-V]_N$ compounds in the framework of CxM. I have shown that the properties of these compounds including the unmotivated form-class and suppression of AS receive a straightforward account in the constructionist framework of CxM where other solely source-oriented frameworks struggle or fail to account for them. This approach is made possible because, being a constructionist framework, CxM can be product-oriented in perspective, so that it is agreed that not all properties of a construction may come from the constituents (Booij 2012, 345).

5. Conclusion

In this paper, I have discussed Akan $[V-V]_N$ compounds. I attempted to delineate the membership of the class, setting a criterion of inclusion – a composition of two simplex verbal elements constituting a noun without any obligatory

affixation process to which we could attribute the nominal syntactic category. Based on this criterion, many of the exemplars found in extant literature were found not to belong to the class. By this strict criterion we found just sixteen qualifying constructs, raising the question whether they may not simply be treated as lexicalized syntactic constructions, which are too opaque to be regarded as compounds. I argued that they are not as completely opaque as they may appear at first blush. Rather, speakers are sensitive to the internal structure of the compounds because they can decompose them (Kambon, Osam, and Amfo 2015).

The properties of the class of compounds were discussed including the form class, which could not be attributed to either constituent, the non-realization of the arguments of either constituent of the compound and meaning component that can only be recovered from encyclopaedic knowledge or some indirect means such as metaphorical extension.

Thus, this paper has shown that Akan $[V-V]_N$ compounds have properties that cannot be reasonably traced to the properties of the individual constituents and must be seen as constructional properties – holistic properties of the compounds themselves. Accounting for these properties of the $[V-V]_N$ compounds is not straightforward in a framework that assumes that every property of the complex must come from the constituents. However, because the constructionist framework of CxM allows for constructions to have their own gestalt properties, such holistic properties can be accounted for easily.

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