

THE SEMANTICS AND ARGUMENT REALIZATION POTENTIALS OF AKAN VERBS OF SEPARATION

Dorothy Pokua Agyepong
University of Ghana, Legon
dpagyepong@ug.edu.gh

E. Kweku Osam
University of Ghana, Legon
kosam@ug.edu.gh

Abstract¹

This paper explores the argument realization potentials of four separation verbs — *twá* ‘to cut’, *bú* ‘to break’, *bɔ* ‘to crack’ and *pàè* ‘to split’ in Akan (Kwa, Niger-Congo). It supports a Lexicalized Meaning and Manner/Result Complementarity analysis in which all alternating verbs lexicalize a single component—manner or result, (Levin and Rappaport Hovav 2013; Rappaport Hovav 2013). Based on the analysis of Akan data, we show that even though in principle all four verbs participate in the causative/inchoative alternation, when the verbs are combined with certain types of arguments, the alternation is blocked. For instance, in certain restricted contexts, a verb like *twá* ‘to cut’ occurs without an external cause (inchoatively). Similarly, *bú* ‘to break’, *bɔ* ‘to crack’ and *pàè* ‘to split’ show instances where the absence of an external cause triggers interpretation-shift. In all cases of blocked alternations, the verbs still maintain their lexicalized meanings i.e. they either lexicalize result or manner, but not both. We further demonstrate that the appearance or non-appearance of an external cause in the alternation is predicted by both lexical and non-lexical (contextual) factors. Crucially, we argue that in Akan, the overall discourse interpretations of verb-argument combinations determine a verb’s ability to participate in argument structure alternations.

Keywords: Akan, separation verbs, causative/inchoative alternation, Lexical and non-lexical factors.

1. Introduction²

Separation verbs are a category of verbs that describe events and actions that bring about object separation or disintegration (Guerssel et al. 1985; Hale and Keyser 1987). This class of verbs has generated a lot of discussion in the literature (Guerssel et al. 1985; Jackendoff 1990; Levin 1993; Levin and Rappaport Hovav 1995; Ameka and Essegbey 2007; Essegbey 2007, 2019; Bohnemeyer 2007; Majid et al. 2007; Lüpke 2007; Agyepong 2017; Bobuafor 2013, 2018; Atitono 2019). After exploring four unrelated languages — Berber, English, Hocak and Walpiri, Guerssel et al. (1985) propose a classification of separation verbs into two categories; CUT and BREAK (henceforth C&B), named after the most prominent representatives in English. CUT verbs describe separation events that involve the use of bladed or pointed instruments such as a knife, pair of scissors or a needle to create a cut. The verbs under this group lexicalize cause, that is to say that they provide information on the manner of the change. Conversely, BREAK verbs refer to separations that are not carried out with an instrument and therefore do not lexicalize instrument or manner, but rather result. The semantics associated with the two verbal classes has implications for their syntactic behavior. BREAK verbs participate in the causative/inchoative alternation. CUT verbs, however, do not participate in this type of alternation. Rather, they occur in the conative alternation.

¹ This paper is based on the first author’s unpublished doctoral dissertation which was supervised by the second author.

² The following abbreviations are used in this paper: 1/2/3 = first/second/third person, COMPL = completive, CM = clause marker, COS = change of state, DEF = definite, INA = inanimate, IND = independent, LCS = lexical conceptual semantics, OBJ = object, NEG = negation, PASS = passive, PST = PAST PERF = perfect, PL = plural, POSS = possessive, PREP = preposition, REL = relativizer, RED = reduplicant SUBJ = subject, SG = singular, SM = subject marker.

The English verbs **cut** and **break** and their argument structure alternations are illustrated in examples (1a and b) and (2a and b).

- 1a. **John cut the stick** (causative)
b. ***The stick cut** (inchoative)
- 2a. **John broke the stick** (causative)
b. **The stick broke** (inchoative)

Example (1) shows that while **John cut the stick** is an acceptable sentence in English, its inchoative counterpart **The stick cut** is unacceptable. In example (2), however, the causative sentence **John broke the stick** and the inchoative construction **The stick broke** in which the affected entity occurs in the subject position are equally acceptable for the description of a stick that is broken.

The differences in examples (1) and (2) have been argued to result from the lexical conceptual semantics (LCS) associated with the verbs **cut** and **break**, respectively, (Guerssel et al. 1985; Levin 1993; Levin and Rappaport Hovav 1995, 2005; Bohnemeyer 2007). The ungrammaticality of (1b) is attributed to the fact that the verb **cut** lexicalizes an instrument (cause) and, thus, requires the presence of an agent who uses the instrument to carry out the cutting event. The verb **break**, on the other hand, as exemplified in (2), does not specify an instrument or the way in which it is used (manner). For this reason, it is not obligated to have an agent (cause). In this regard, Bohnemeyer (2007), has described BREAK verbs as monadic (i.e. they encode state change of an event without attributing a cause to it). He categorizes CUT verbs as dyadic because they lexicalize cause. It is this semantics that prevents an inchoative interpretation of sentences that contain CUT verbs. The schemas presented in (3) and (4), adopted from Bohnemeyer (2007), show the Lexical Conceptual Structure/Semantics (LCS) of the English verbs **break** and **cut**, respectively.

- (3) *Break* LCS: Y comes to be BROKEN (monadic)³
(4) *Cut* LCS: X produces ‘Cut’ on Y by sharp edge coming into contact with Y (dyadic)
(Bohnemeyer 2007:157)

The verb **break** specifies only a theme; represented with the variable Y in (3). The sole argument Y in (3) is also described as entering into a state, i.e. **be broken**. **Cut** in (4) has a lexical semantics that specifies two participants (i.e. an agent and a theme) represented by the variables X and Y, respectively. The event described by **cut** is caused by the entity X. In effect, Y gets to be in its current state because of something X did.

In this paper, we examine how this is manifested in Akan, by discussing the semantic and morpho-syntactic behavior of **twá** ‘to cut’, **bú** ‘to break’, **bɔ** ‘to break/crack’ and **pàè** ‘to break/split’. We show that in Akan (Kwa-Niger Congo) the interpretations of sentences in which the C&B verbs occur are derived from the interaction of three things: 1) semantics of the verbs 2) type and semantics of arguments the verbs take as complements 3) the overall interpretation of the syntactic constructions in which the verbs occur i.e. Form-meaning pairings (Goldberg 1995, 2003).

Typologically, Akan is an SVO language with two tones i.e. High and Low (Dolphyne 1988; Osam 2008). It is phonologically represented by 9 oral and 5 nasalized vowels. It also has a set of 18 identifiable consonants; some of which have voiced and voiceless counterparts. The tones relevant in Akan are the High and Low tones (Dolphyne 1988). The data presented in this paper are tone marked as either high or low. Osam (2008) describes Akan as primarily an aspect-prominent language with a two-way tense contrast: future vs. non-future. The language has 7 basic aspects; stative,

³ The terms *monadic* and *dyadic* are not included in the original.

habitual, progressive, completive, perfective, future and the optative. With the exception of the completive (morphologically represented as suffix attached to the verb root), all the other aspects are marked by prefixes.

The rest of the paper is organized as follows: the data elicitation method is discussed in Section 2. In Section 3, the distinction between lexicalized and non-lexicalized meaning is discussed. Section 4 focuses on the semantics of the four Akan C&B verbs. Section 5 is devoted to instances of blocked causative/inchoative alternations. Section 6 concludes the paper.

2. Data

A multi-method approach was used in collecting the data for this study. The initial set of data was gathered from four native speakers of Akan (Asante-Twi variant) who were interviewed with two sets of video stimuli — “Cut and Break Videos” put together by Bohnermeyer, Bowerman and Brown (2001) and another set created by Agyepong (2015). For detailed descriptions of both stimuli sets, see Majid et al. (2007:137-147) and Agyepong (2017:238-243), respectively.⁴ Data was also collected from three Akan dictionaries consisting of Christaller’s (1933) Akan dictionary and two monolingual Akan dictionaries— the Akan Dictionary Project (compiled by the Department of Linguistics-University of Ghana in 2006) and Boadi (2005). Two Asante-Twi novels; *Wó sùm bòròdéé á sùm kwàdú bì* (Gyekye-Aboagye 1967) and *Ówúó Agyáá* (Donkoh 1993) were also consulted. From these sources, a compilation of illustrative sentences of the verbs as used in these written sources was created for the analysis. Lastly, the authors rely on their intuitions as native speakers of both the Asante-Twi and Mfantse dialects of Akan to generate some of the examples used in this paper.⁵

3. Lexicalized Meaning and Manner/Result Complementarity (Levin and Rappaport Hovav 2013)

In an attempt to answer the question “what belongs in the meaning of a verb?”, Levin and Rappaport Hovav (2013:49-50) posit that:

..the meaning of a verb determines the range of situations in the world that it can be used to describe; however, when a verb is used in a sentence describing an event, it is only one element in that description, with other elements in the sentence contributing to the description of the event as well. How then can we determine what the verb contributes – that is, what is truly the verb’s own meaning?

⁴ The Bohnermeyer, Bowerman and Brown (2001) video stimuli consist of 61 short clips depicting different types of material separation and destruction. 51 of the clips had the material separations carried out by causal agents. 4 of the clips depict spontaneous separations such as a twig snapping, a piece of cloth ripping apart, carrot snapping spontaneously and a rope spontaneously snapping/severing. The objects that underwent the various separation events were also varied, and included objects such as orange, fish, rope, twigs, watermelon etc. The different types of instruments used in carrying out the separation actions included knives, scissors, hand, machete, hammer etc. The manners in which the activities were carried out were also varied. Some of the actions were done once whereas others were repeated. There were actions that were done either in a calm or furious manner.

⁵ Data from written sources have their full referencing in brackets by the sentences. Those elicited with the two sets of video stimuli have the source and video numbers indicated by the sentences provided by the consultants. These are represented as: Max Planck Institute for Psycholinguistics Cut and Break Videos (Bohnermeyer et al. 2001): [MPI.C&B4], Culturally Specific Cut and Break Videos (Agyepong 2015): [CS.C&B4]. All data without references are based on native speaker intuitions.

Based on this explanation, they suggest a two-way distinction between the meanings that a word or sentence evokes. The dichotomy is between Lexicalised and Non-lexicalized meanings. According to Levin and Rappaport Hovav (2013), the lexicalized meaning of a verb is the meaning strictly provided by the verb itself (without reference to any context). This is also known as the basic meaning of the verb. The Non-lexicalized meaning, however, is based on the verb's choice of argument or the use of the verb in a given speech context.

Levin and Rappaport Hovav (2013:50) further argue that in order to minimize polysemy, all senses of a verb should be put together under a single sense. According to them, "...in default, a verb should have a single sense, and concomitantly should be kept constant across all its uses." Using the English verb **cut**, Levin and Rappaport Hovav (2013) describe this verb as basically a result-type verb with an inferred manner interpretation. In certain contexts, the verb lexicalizes manner rather than result. This has implication on the verb's argument alternation possibilities. In manner uses, the result meaning is dropped in favour of the manner meaning, but never both, as predicted by manner/result complementarity.

“MANNER/RESULT COMPLEMENTARITY: Manner and result meaning components are in complementary distribution: a verb lexicalizes only one.”
(Levin and Rappaport 2013:50)

In support of a manner/result complementarity analysis, this paper investigates the reasons behind the alternation blockings of the verbs **twá** ‘to cut’, **bɔ́** ‘to break or crack open’, **bú** ‘to break’, **pàè** ‘to split/ to burst’. Moving away from a lexicalist account, the lexicalized meaning and manner/result complementarity approach makes it easy to separate the facets of meaning which are encoded directly in the verbs from those that are derived contextually. Distinguishing the lexicalized meanings from contextually derived meanings, therefore, provides a clearer understanding of why in some uses the verbs' ability to alternate is blocked.

4. The C&B verbs and their associated semantics⁶

Akan has roughly 22 verbs that are used in the description of various forms of separation and material disintegration (cf. Agyepong 2017 for a discussion of all 22 verbs). Tables 1 (CUT verbs) and 2 (BREAK verbs) show a categorization of the verbs based on their semantic characterization. The semantics of the verbs are summarized under three themes: whether or not the separation event requires the use of an instrument, examples of objects the separation verbs describe and the result state of the object after undergoing the specific type of separation.

Table 1: Basic semantics associated with Akan CUT verbs

Verbs	English Gloss	Instrument	Objects	Result state
twá	‘to cut’	Yes	fruits, vegetables, bread, body parts	separated
tùè	‘to pierce’	Yes	body parts (of animate things and objects)	a pierce or hole is created on the object

⁶ The two tables, adapted from Agyepong (2017:111&147) have been modified to include the types of objects that undergo the specific separation events.

wó	'to prick, pierce'	Yes	body parts (of animate things and objects)	pierced, crushed (into pieces/pulp)
dwá	'to cut up'	Yes	cassava, plantain	separated
hwàné	'to peel'	No	objects with outer coverings e.g. Plantain, maize	left without an outer covering
sènsènè	'to peel, sharpen'	Yes	root tubers (yam, cocoyam), fruits (pineapple)	left without an outer covering
sàè	'to cut by making a mark'	Yes	body parts (of animate things and objects)	incision/mark on object
nú	'to cut, harvest palm fruit from palm tree'	Yes	palm tree	uprooted
wèrè	'to scrape'	Yes	objects with scales (fish)	without scales or outer covering
dwèè	'to cut into skin'	Yes	body part	incision on object
dwé	'to separate, pluck out individual palm fruit from palm stalk'	Yes	palm fruit	separation

Table 2: Basic semantics associated with Akan BREAK verbs

Verbs	English Gloss	Instrument	Objects	Result state
bú	'to break'	No	stick, building, furniture	distorted/ disintegrated
bó	'to break or crack open'	No	eggs, nuts, plates, bottles	split or disintegrated
dwìrì	'to break up, break or pull down'	No	buildings	crumbled to the ground
pàè	'to split or burst'	No	eggs, nuts, plates, bottles	split or disintegrated
pán	'to pluck, pull off, to crop (off)'	No	plantain or banana	separated
pòrò	'to crumble especially of dry things, to pluck off'	No	dried or crusty items, fruits on a tree	crumbled
pów	'to remove outer covering'	No	groundnut	object left without an outer covering
té	'to tear'	No	soft or flexible objects (thread, paper, fabric)	separated
sùàné	'to tear in a lengthwise manner'	No	soft or flexible objects (paper, fabric)	separated in a lengthwise manner
pékyé	'to crush'	No	fruits and vegetables	crushed
pòtò	'to crush, squash, press into pulp'	No	fruits and vegetables	crushed into pulp

In this paper, we focus on four of the Akan C&B verbs— **twá** ‘to cut’, **bɔ́** ‘to break or crack open’, **bú** ‘to break’, **pàè** ‘to split/ to burst’. These verbs are selected based on the fact that they are the only verbs (out of the 22 verbs elicited for the study) that show instances of blocked alternations, thus, posing a challenge to Guerssel et al.’s (1985) hypothesis (provided in Section 1).

4.1 Twá ‘to cut’

The verb **twá** ‘to cut’ is the prototypical CUT verb in Akan. It is primarily a bivalent verb and is used to describe diverse events in which bladed or sharp-edged instruments are used in bringing about the separation. A typical cutting event involves an agent manipulating an instrument to make contact with another entity, the result being a cut or a change in the entity’s ‘material integrity’ (Hale & Keyser 1987). The semantics of the verb **twá** ‘to cut’ can, thus, be summarized as:

X does something to another thing Y with a bladed instrument.
After this event, the object Y is no longer whole.

From this summary, we can identify three things that are critical for a cutting event described with **twá** ‘to cut’. These are contact, effect, and instrument or the means by which the result is brought about (Levin 1993).

Twá ‘to cut’ describes both incision-like cuts as well as those cuts that result in severance i.e. complete separation. This implies that for **twá**, the change in ‘material integrity’ does not necessarily have to affect the NP object as a whole; rather it could be effected on a part of the NP object. This is evidenced in the way consultants described three separate cutting events (2 incision-like cuts and 1 severance) during the elicitation. For instance, consultants used **twá** ‘to cut’ to describe a scene where someone cut her finger (Bohnmeyer et al. clip 18) and another where an incision was made on a watermelon (Bohnmeyer et al. clip 14). The same verb **twá** ‘to cut’ was also used to describe a different scene where a person used a pair of scissors to cut another person’s long hair (Bohnmeyer et al. clip 27).

Syntactically, **twá** ‘to cut’ occurs in the following types of constructions: a two-place construction, [V+PP] constructions, and a serial verb construction (5a-c).

- 5a. **Màábéná twà-à páànnòó nó**
Maabena cut-COMPL bread DEF
‘Maabena cut the bread.’
- b. **Ò-twi-twá- à ñkùrùmá nó mú**
3SG.SUBJ-RED-cut-COMPL okra DEF inside
‘S/he cut the okra (into pieces).’
[CS.C&B 4]
- c. **Kòfí twà-à kwàdú nó fì-ì dùá nó só**
Kofi cut-COMPL banana DEF come out-COMPL tree DEF top
‘Kofi cut the banana (bunch) from the tree.’
[CS.C&B 74]

Examples (5a-c) describe the separation of three different types of objects: bread, okra, and a bunch of bananas. When **twá** takes food items (e.g. bread, fruits and vegetables) as internal object, it describes the process of separating the items into parts using a bladed instrument. In terms of structure, a two-place construction is used in

In (6a), **bú** ‘to break’ is used in the one-place construction to describe the state of the stick. Though primarily monovalent, there are contexts where the verb is used in a two-place construction. In such cases, the aim is to explicitly make known the causal agent.

Consider example (6b):

- b. **Ò-bù-ù** **àbàá** **nó**
 3SG.SUBJ-break-COMPL stick DEF
 ‘S/he broke the stick.’
 [MPI.C&B 19, 25]

An agent (represented by the third person singular pronoun) who carries out the breaking event is expressed in (6b) when the verb is used in the two-place construction.

4.3 **Bó** ‘to break or crack’

The verb **bó** ‘to break or crack’ is polysemous in Akan. Christaller (1933:23), for instance, explains that the primary meaning of this verb is “to strike, to be in or cause vigorous motion” and it describes instances of hitting, striking, smiting and beating. The second sense relates to object separation. This sense entails two events in which one focuses on two entities coming into contact and the other representing the result of the contact; in this case, that the object ends up separated. The separation sense of the verb can be semantically summarized as:

Entity X comes into contact with entity Y, Entity Y ends up separated.

Both the ‘to hit’ and ‘to break/crack’ senses of the verb involve contact, i.e. one thing comes into contact with another thing. Similarly, a break in an object can only be achieved when entities are brought into contact. The polysemous nature of this verb makes it possible for both senses to be expressed in one sentence as shown in example (7).

7. **È-bò-ò** **nò** **nànsó** **à-m-mò**⁹
 3SG.INA-hit-COMPL DEF but COMPL-NEG-break/crack
 ‘It hit it, but it did not break/crack.’

Example (7) illustrates the use of the two senses associated with the verb **bó**. One can think of a context where something hits another thing, but the patient resists disintegration, either because the hit was not strong enough or the object used to carry out the hitting action does not possess properties that can cause another object to break (e.g. hitting the surface of a mirror with a pillow).

Bó ‘to break or crack’ describes the separation of two types of objects. These are objects that are fragile in nature such as glass, ceramics, and eggs and objects that are hard and nutty in nature. During the elicitation, consultants used examples (8a-b) to describe the clip in which an agent breaks a pot (MPI 39).

- 8 a. **Kúkúó** **nó** **á-bò**
 pot DEF PERF-break
 ‘The pot is broken / cracked / shattered.’
 [MPI.C&B 39]

⁹ The change of the form of **bó** to **mó** is a result of assimilation. The negative prefix which is a homorganic nasal (N) undergoes assimilation (place of articulation) to become the bilabial nasal/m/. The nasal further influences /b/ to change to the bilabial nasal/m/.

- b. **Ǿ-b̀-Ǿ** **kúkúó** **nó**
 3SG-break-COMPL pot DEF
 ‘S/he broke/cracked the pot.’
 [MPI.C&B 39]
- c. **Kòsùá** **nó** **á-b̀**
 egg DEF PERF-break
 ‘The egg is broken / cracked.’
- d. **Adae** **á-b̀** **kòsùá** **nó**
 Adae PERF-break egg DEF
 ‘Adae broke/cracked the egg.’

In example (8a and 8c), **b̀** ‘to break or crack’ is used in the one-place construction to describe the separation of the pot and an egg, respectively. In both cases, the activity is described as occurring without an external cause. Example (8b and 8d) illustrate the use of **b̀** ‘to break or crack’ in the two-place construction in which an external agent is introduced into the construction.

The verb describes the separation or disintegration of objects that are enclosed in hard or tough outer covering/shell such as **àdwé** ‘palm kernel’, **àbòr̀fó nkátéé** ‘Indian almonds’, **nkátéé** ‘peanuts’ etc. Consider examples (8e and 8f).

- e. **Adae** **á-b̀** **àdwé** **nó**
 Adae PERF-break palm kernel DEF
 ‘Adae has broken/cracked the palm kernel.’
- f. ***Adwé** **nó** **á-b̀**
 Palm kernel DEF PERF-break
 ‘The palm kernel has broken / cracked.’

Due to the physical composition of such ‘nutty-type’ objects, they are unable to undergo spontaneous or agentless separation. Consequently, they are unable to participate in the one-place construction. Hence, the ungrammaticality of example (8f).

In sum, when the verb takes as internal objects fragile things such as glass, ceramics, and eggs, it undergoes the causative and inchoative alternation without any restriction. On the contrary, when the objects are hard and nutty, like palm kernel, the alternation is blocked.

4.4 **Pàè** ‘to break/split’

This verb often describes separations that occur or are done in a linear (lengthwise) manner; usually along the grain of objects. Therefore, whether it is an orange that is split into parts or a ceramic/glassware that is broken, the critical thing is that the objects end up with a separation characterized by some form of prominent lengthwise dimension.

It can be interpreted variously depending on the type/nature of NP argument with which it occurs and, possibly, the manner in which the separation is done. It can be interpreted as ‘to split or divide’ when the separation of objects such as fruits, root tubers, fire wood, etc. occurs along a vertical line, creating a division that allows one to see through the line of separation. When the verb takes inflatable items such as balloons, balls, and tires as internal arguments, a ‘to burst’ interpretation is derived. In these contexts, **pàè** describes the sudden separation of such objects. Consider examples (9a-b):

- 9 a. **Bààlúú nó á-páé**
balloon DEF PERF-break/split
'The balloon has burst.'
- b. **Àbòfrá nó pàé-é bààlúú nó**
child DEF break/split-COMPL balloon DEF
'The child burst the balloon.'

In (9a) the event is presented as occurring without an external agent when the [pàé+bààlúú] combination occurs in a one-place construction. When [pàé+ bààlúú] occurs in the two-place construction as in (9b), the event is described as resulting from an action carried out by the external agent. In both cases, the object, balloon, ends up in a disintegrated state after undergoing the event described by the verb.

The 'to break, crack' interpretation of the verb is derived in collocation with ceramic wares, bottle glass wares, nuts and objects with outer shell coverings e.g. coconut, eggs. However, there is a slight difference between the 'to break' and 'to crack' interpretations. The difference between **the glass is broken** and **the glass is cracked** is that in the case of the former there is a separation or division into parts (i.e. with material disintegration), often making it impossible to return the object into its original state. In the case of the latter, there is no separation (i.e. without material disintegration), even though a line may be created.

It is the case that sometimes the verb **bó** can be used interchangeably with **pàé** to describe the disintegration of fragile objects. This is illustrated in (10) and (11) below:

- 10 a. **Tòá nó á-páé**
bottle DEF PERF-break
'The bottle is broken.'
- b. **Àbòfrá nó á-páé tòá nó**
child DEF PERF-break bottle DEF
'The child has broken the bottle.'
- 11 a. **Tòá nó á-bò**
bottle DEF PERF-break/crack
'The bottle is broken.'
- b. **Àbòfrá nó á-bò tòá nó**
child DEF PERF-break bottle DEF
'The child broke the bottle.'

The one-place construction is used in examples (10a and 11a) to describe the state of the bottle after undergoing the breaking event. Both verbs are also used in the two-place construction to show how the bottle got to be in its present state (i.e. indicating the causal agent **àbòfrá** 'child').

From the above discussion, we can deduce that the different interpretations generated by **pàé** 'to break/split' result from the compositional semantics of the verb and the internal argument it selects (Ameka 2019).

To summarize, in this section, we have discussed the semantics associated with four Akan verbs of separation, namely **twá** 'to cut', **bú** 'to break', **bó** 'to break or crack' and **pàé** 'to break/split'. Of these four, **twá** 'to cut' is the only verb that incorporates an instrument/manner in its semantics. For this reason, it fails to occur in the one-place construction in most of its usages. The remaining three, **bú** 'to break', **bó** 'to break or crack' and **pàé** 'to break/split' do not entail cause. When causal agents are involved in the realization of the event, it is expressed in a two-place construction.

5. C & B blocking of causative/inchoative alternation

In Akan, two things affect the argument alternation possibilities of separation verbs- the type and semantics of internal arguments and the overall contextual interpretation of the [V+ NP] combinatorial patterns. This section discusses instances where prototypical Akan CUT and BREAK verbs behave differently in terms of argument alternation. In 5.1, we show contexts where the BREAK verbs **bú** ‘to break’, **bɔ** ‘to break or crack’ and **pàè** ‘to break/split’ fail to participate in the causative/inchoative alternation. Section 5.2 subsequently presents the restricted contexts in which **twá** ‘to cut’ participates in the causative/inchoative alternation.

5.1 On BREAK verbs

There are specific types of NPs that block the argument alternation abilities of **bú** ‘to break’, **bɔ** ‘to break or crack’ and **pàè** ‘to break/split’. When **bú** ‘to break’ takes **dùá** ‘tree’ as complement, an inchoative variant is precluded. Consider example (12):

- 12 a. **Pàpá nó bù-ù dùá nó**
 man DEF break-COMPL tree DEF
 ‘The man felled the tree.’
- b. **Dùá nó bù-ùyè**
 tree DEF break-COMPL
 ‘The tree broke.’ (cannot be interpreted as *The tree felled*)

In example (12a) the semantics of **bú** ‘to break’ interacts with the semantics of the NP complement **dùá** ‘tree’ to form a fixed collocation **bú dùá** whose interpretation is rendered in the English translation as ‘to fell a tree’. The process of tree felling involves an external agent (external cause) using bladed objects such as a saw or an axe to bring about the separation. Note that Akan, unlike English, does not have a separate verb to describe tree felling. Therefore, the ‘to fell’ interpretation is derived in context (i.e. when it occurs with **dùá** ‘tree’ in a two-place construction). When **dùá** ‘tree’ combines with the verb in a one-place/intransitive construction as in (12b), we get a different interpretation. Example (12b) can only be interpreted as the tree undergoing a separation that is done without an instrument e.g. either being uprooted or even in a case where a storm causes the top half of the tree to completely separate from much of its trunk. In such contexts, the separation is done without the involvement of an instrument (external cause). This implies that example (12b) cannot be considered as the alternated form of (12a) i.e. it cannot be used to describe a tree that has been felled. The combination **bú dùá** ‘to fell a tree’ is an example of a fixed collocation which is learnt and subsequently used as a unit.

Bú ‘to break’ when combined with the NP **bɔ̀wɛ̀rɛ̀** ‘finger nail’ also derives a fixed collocation, interpreted as ‘to cut or trim the fingernail(s)’. In such contexts, the verb **bú** ‘to break’ lexicalizes an instrument, i.e. it describes an event that is often carried out with bladed instruments such as scissors and nail cutters, even though it is also possible to break the nails with the hands due to its flexible nature. Example (13a) illustrates the use of the verb **bú** ‘to break’ in collocation with the NP **m̀m̀wɛ̀rɛ̀** ‘finger/toe nails’.

- 13 a. **Sisí bù-bú-ú àbòfrá nó m̀m̀wɛ̀rɛ̀**
 Sisi RED-break-COMPL child DEF PL-nail
 ‘Sisi cut the child’s nails.’

- b. **Àbòfrá nó m-mòwèrè á -bù-bù**
 child DEF PL-nail PERF-RED-break
 ‘The child’s nails are broken.’
 (cannot be interpreted as the *The child’s nails are cut*)

Since it is usually the case that the whole nail cutting event involves a repetitive action on more than one finger, the process is described with the reduplicated form of the verb. In this regard, **bùbù** ‘break repeatedly’ becomes the lexicalized form for the description of the nail cutting event. In which case, it is expected that the cutting/trimming is done on two or more nails. The fact that the combination **bùbù mmòwèrè** ‘cut/trim nails’ lexicalizes an instrument makes it impossible to be used intransitively. Therefore, example (13b) cannot be used to describe the state of the nails after they have been cut or trimmed. Note that it is also very possible to use example (13b) in a context where there will be no lexicalization of an instrument. Consider a situation where a person kept reasonably long fingernails. Then s/he wakes up one morning and find that 4 or 5 of them have broken off; totally disengaged. The reduplicated form, **bùbù**, would be used, but in that situation **bùbù** would not lexicalize an instrument.

There are, however, other combinatorial patterns that do not necessarily occur as fixed collocations in the language, even though they affect the way in which the verbs alternate. The BREAK verb **bó** ‘to break’ is another verb which fails to participate in the causative/inchoative alternation when it combines with specific types of nominals. As already indicated in Section 4, this verb occurs in both the one-place and two-place constructions in collocation with objects such as ceramics and glass wares as in (14a-b).

- 14 a. **Plétè nó bò-òyè**
 plate DEF break-COMPL
 ‘The plate broke.’
- b. **Fòsúá bò-ò plétè nó**
 Fosua break-COMPL plate DEF
 ‘Fosua broke the plate.’

When the same verb **bó** ‘to break, to crack’ collocates with an NP that does not possess ‘spontaneously breakable characteristics’, for example, **kùbé** ‘coconut’, the verb fails to participate in the causative/inchoative alternation. The sentence becomes unacceptable when used in the one-place construction to describe the state of a broken/cracked coconut. Consider examples (15a-b) below:

- 15 a. **Fosua bò-ò kùbé nó bí nòmmyè**
 Fosua break-COMPL coconut DEF some drink-COMPL
 ‘Fosua cracked (open) some of the coconut and drunk.’
- b. ***Kùbé nó bò-òyè**¹⁰
 coconut DEF break-COMPL
 ‘The coconut cracked (open).’

¹⁰ In a context where a speaker wants to describe the state of a coconut that has been cracked open, an impersonal construction is used, as in:

Y’á- bó kùbé nó
 1PL-PERF-break coconut DEF
 ‘The coconut has been cracked open (by someone).’

Example (15b) is unacceptable because, by its nature coconut cannot enter into the state of being cracked on its own. It requires an agent who uses an instrument of some sort to bring about the separation. The breaking of the coconut is usually done in two parts. The first breaking, which is usually a small cut on what looks like the eye of the coconut, allows one to have access to the water contained in the pod. The second breaking, which involves dividing the coconut into parts, subsequently gives access to the flesh inside the pod. It must be pointed out that in Akan, the whole process of coconut peeling and cracking is described as **b̀̀ k̀̀b̀̀é** ‘break coconut’. Because of this, even though speakers were shown a video clip of someone removing the husk and breaking the coconut, they did not use any of the Akan PEEL verbs to describe the former process. Instead, only the verb **b̀̀** ‘to break, to crack’ was used. One can therefore say that Akan uses a part of the whole process i.e. the breaking of the pod, to describe the whole process which consists of a peeling and a cracking of the coconut (metonymy).

P̀̀è ‘to break, split’ is the third BREAK verb which also behaves differently in collocation with a specific type of NP. When **p̀̀è** ‘to break, split’ collocates with the NP **ègyá** ‘firewood’, it derives the interpretation ‘to split firewood’, an event that obligatorily requires an instrument. This requirement accounts for the unacceptability of the interpretation of sentence (16b).

16a. **T̀̀kyí p̀̀é-é ègyá nó**
Takyi split-COMPL firewood DEF
‘Takyi split the firewood.’

b. ***Ègyá nó p̀̀é-éỳ̀**
firewood DEF split-COMPL
‘The firewood split (brought about by an instrument).’

In (16a) the verb **p̀̀é** ‘to break, to split’ along with the NP **ègyá** ‘firewood’ occurs in the two-place construction to derive the interpretation ‘X split firewood’. In (16b), however, the sentence becomes ungrammatical when it is used in the one-place construction to describe the state of the firewood. Therefore, (16b) cannot be considered as the alternated form of (16a). This example demonstrates another context where because the event under description necessarily requires an instrument and, therefore, an agent, the intransitive variant is blocked.

Ameka & Essegbey (2007:246) discuss a similar phenomenon in Ewe in relation to the verb **dze**. They posit that **dze** ‘split’ has some limited contexts in which an instrument is obligatorily required in order to bring about the change of state. According to Ameka & Essegbey (2007:246) although ‘**X dze nake**’ which means ‘X split firewood’ is acceptable in Ewe, its inchoative or one-place usage is not acceptable. Thus, in Ewe, one cannot use **nake a dze** which is ‘the firewood split’ to describe the state of the firewood that has already been split.

The fact that there are instances where BREAK verbs do not intransitivize is not only attested in Akan and Ewe. In Jalonke (Central Mande language spoken in the North of Guinea), Lüpke (2007) reports that two BREAK verbs: **muNuxun** ‘crush, smash’ and **wuru** ‘crack’, have been only attested to occur in transitive argument structures. In the conclusion of her paper, she stresses that:

...it is a matter of future research to determine whether the transitive-only break verbs of Jalonke have some meaning components that distinguish them from causative/inchoative or intransitive verbs of pure state change, whether they must be accepted as idiosyncratic cases, or whether their existence is a mere by-product of Jalonke favoring the lexicalization of events

in transitive verb roots. (Lüpke 2007: 258)

The only difference between what Akan and Ewe exhibit and that which occurs in Jalonke is that, the BREAK verbs in Jalonke are inherently transitive and never occur intransitively. In Akan and Ewe, however, the BREAK verbs are inherently intransitive but can be used transitively to express cause.

The behavior of these BREAK verbs is consistent with Levin and Rappaport Hovav's (2013) manner/result complementarity proposal. **Bú** 'to break', **bó** 'to break or crack' and **pàè** 'to break/split' are prototypically result verbs. However, in the restricted contexts discussed in this sub-section, the verbs lexicalize manner rather than result, hence their inability to participate in the causative/inchoative alternation. The element of manner is implied i.e. the felling of a tree, trimming of fingernails and splitting of firewood require the use of bladed objects. In such manner uses, the result components of the verbs are dropped in favor of the manner component, as predicted by the manner/result complementarity.

5.2 On CUT verbs

In Akan, the verb **twá** 'to cut' in collocation with a body part NP such as **ńsá** 'finger' can be used in a one-place construction to describe the state of the particular body part after it has undergone a cutting event. This challenges Guerssel et al.'s (1985) hypothesis that when CUT verbs occur in the one-place construction, a middle-voice or passive interpretation is derived. Data from Akan, however, show that the only context in which **twá** 'to cut' occurs in the one-place construction derives an inchoative rather than a middle-voice or passive interpretation. It should be noted that Akan does not have middle or passive voice constructions. Consider examples (17a-c).

- 17 a. **Nè ńsá á- twà**
 3POSS finger PERF-cut
 'His/Her finger is cut.'
- b. **Nè ńsá á- twi-twà**
 3POSS finger PERF-cut
 'His/Her finger(s) are cut/ S/he has multiple cuts on his/her finger.'
- c. **È-mú á-twà fine**
 3SG.INA-inside PERF-cut fine
 'It is neatly cut.'
 [MPI.C&B 9]

Example (17a) describes the state of the finger after undergoing a cutting event (i.e. enter into a state of being cut). A cutting event that results in someone having multiple cuts on the finger(s) is expressed in (17b). Both (17a) and (17b) can also be used to describe a person who has his/her hand(s) amputated. Example (17c) was used by a consultant during the elicitation to describe the state of a carrot after it had been finely cut into two by an agent. The postposition **mú** 'inside' shows that the cutting reveals (gives access to) the interior of the carrot. It must be pointed that in all the three cases the separation is done with an instrument, implying the involvement of an agent. As stated earlier, the semantics of the verb **twá** 'to cut' entails cause, and must be understood as such, even in contexts where there is no overt representation of the causal agent. By using the one-place construction in such contexts, we are by no means implying that the event occurs spontaneously. Rather, the one-place construction simply helps the speaker to avoid assigning agency (Essegbey 2019). Furthermore, in such contexts the focus is shifted from the instrument/agent to the result of the separation event i.e. the cut produced (Ameka and Essegbey 2007).

The ability of a CUT verb to occur in the one-place construction is not peculiar to Akan. Studies such as Ameka and Essegbey (2007) and Bobuafor (2013, 2018) have also reported such occurrences in Ewe and Tafi (both Kwa languages). Ameka and Essegbey (2007:244-245, italics in original), for example, point out that:

Interestingly consultants used the intransitive construction with *tso* when asked what happened to the rope. *Tso* was also used to describe a rope snapping spontaneously, suggesting that flexible objects that can be severed in a neat way such that it looks as if the cutting was done with a sharp instrument are described with *tso*. In such cases the focus is on the clean cut, not the instrument... *se* occurs in the intransitive construction in restricted contexts... which involved the separation of ropes either spontaneously or by an agent, were all described in the intransitive. Speakers used *se* to describe clean cuts that could occur by themselves even though they saw it carried out by an agent.

Similar to Akan, Tafi uses an intransitive construction when one wants to describe a cut made on a part of the body as exemplified in (18).

18. **Yí ki-tsri ní kí-bhui**
 3SG.IND CM-toe DEF SM-cut
 ‘His toe got cut.’ (Lit: ‘His toe cut’)
 (Bobuafor 2013:199)

Another language in which CUT verbs intransitivize is Sranan (a Creole of Surinam). According to Essegbey (2007) Sranan has two CUT verbs, **kapu** ‘slash’ and **sa** ‘saw’ which participate in the causative/inchoative alternation. He explains that not only did Sranan consultants use the verb **kapu** transitively to describe the chopping of wood by an agent, but they also used the verb intransitively to describe what had happened to the chopped wood, as exemplified in (19):

19. **A tiki kapu na tu pisi**
 DEF tree slash PREP two pieces
 ‘The wood slashed in two.’
 (Essegbey 2007:236)

Tidore (Papuan language spoken in the North Moluccas), according to Van Staden (2007), also has instances where the verbs of cutting occur both transitively and intransitively. She describes the CUT verb **tola** as occurring intransitively when it expresses state change. In such contexts, the verb **tola** lacks a causal agent as exemplified in (20a-b):

- 20a. **Una tola luto**
 he cut firewood
 ‘He cuts firewood.’
 (Van Staden 2007:303)
- b. **Luto ngge tola**
 firewood that cut
 ‘The firewood cuts.’
 (Van Staden 2007:303)

Still appealing to the lexicalized meaning and manner/result complementarity (Levin and Rappaport Hovav, 2013), we argue that the CUT verbs exemplified in (17-20) basically lexicalize result. Their manner meanings are inferred, hence the verbs’ ability to participate in the causative/alternative alternation. All the intransitive uses of

the verbs in examples (17-20) lay emphasis on the end state of the objects under separation. The instrument/manner interpretation is inferred based on the general world knowledge that most cutting events involve an instrument.

5.3 Why the one-place construction is not passive

According to Guerssel et al.'s (1985) hypothesis, in the few cases where CUT verbs occur intransitively in certain languages, they encode either middle or passive interpretations. We show that in Akan, the one-place constructions in which **twá** 'to cut' occurs are better analyzed as inchoatives since they do not have either a passive or middle interpretation. Our argument is based on the two reasons discussed below:¹¹

i) Morphosyntactic representation of passives: Languages like English, French, Tzeltal and Shona (Bantu), for instance, have morphological ways of expressing the passive form. This morphological feature is not present in Akan and other Kwa languages. Examples (21a-f) below illustrate how the passive is marked in English, French, Tzeltal and Shona, respectively.

English (Indo-European)

21a. **Mickey broke the chair** vs. **The chair was broken by Mickey**

French (Indo-European)

b. **Il a cassé la chaise**
3SG have:PST break DEF chair
'He broke the chair.'

c. **La chaise était cassé-e par lui**
DEF chair be:IMP break:PST-F by 3SG
'The chair was broken by him.'

Tzeltal (Mayan)

d. **Jes-ot kuchilu**
slice-PASS knife
'(It) was sliced (by) a knife.'
(Brown 2007:321)

Shona (Bantu)

e. **Shingi a-ka-bik-a ma-nhanga**
Shingi AGR1-PST-cook-FV CL6-pumpkins
'Shingi cooked pumpkins.'
(Bliss and Storoshenko 2008:2)

f. **Ma-nhanga a-ka-bik-w-a na-Shingi.**
CL6-pumpkin AGR6-PST-cook-PASS-FV by-Shingi
'Pumpkins were cooked by Shingi.'
(Bliss and Storoshenko 2008:2)

The passive forms of the verbs are represented by **was broken** (21a) and **était cassée** (21c) in English and French, respectively. In Tzeltal, it is the morpheme **ot** that serves as the passive marker. The morpheme **-w** is used to mark the passive in Shona. Akan and the other Kwa languages differ from these languages by not having any form of morphosyntactic markings for passives.

¹¹ See Essegbey (2007) for his explanation on why the Sranan one-place constructions in which the CUT verbs occur are neither passives nor middle construction.

ii) Akan, unlike English, takes only change of state verbs in the one-place construction, implying that if the one-place construction were indeed passive then ideally it should be able to take verbs of any nature. Compare the English and Akan examples in (22) and (23) respectively.

English

- 22a. **The food was eaten** [-COS verb]
 b. **The table was broken** [+COS verb]

We observe that in English the one-place construction is able to take a [+COS verb] as in (22b) and a [-COS verb] as in (22a). In both cases, a passive interpretation is derived (i.e. it entails an agent though not overtly represented).

In Akan, however, the one-place construction cannot take a [-COS verb] as exemplified in (23a). When a [+COS verb] is placed in a one-place, an ‘enter-into-state’ interpretation is derived (Essegbey 2007).

Akan

- 23a. ***Àdùàné** **nó** **à-dí** [-COS verb]
 food DEF PERF-eat
 ‘The food is eaten.’
- b. **Pónó** **nó** **à-bú** [+COS verb]
 table DEF PERF-break
 ‘The table is broken.’
- c. **Nè** **nsá** **á-twà** [+COS verb]
 3POSS finger PERF-cut
 ‘His/Her finger is cut.’

Example (23a) is ungrammatical because the verb that occurs in the one-place construction is a [-COS verb]. However, when [+COS verbs] are placed into the one-place construction as shown in (23b-c), the sentences are grammatical and are interpreted as the table and finger have entered into a state of being broken and cut, respectively. This goes to show that in Akan a [-COS verb] is barred from occurring in a one-place construction.

Akan, however, has a functional equivalent of the passive construction, where an impersonal subject **yɛn** pronoun acts as the subject of the construction.¹² This is exemplified in (24a-c).

- 24a. **Y’à-dí** **àdùàné** **nó** [-COS verb]
 1PL-PERF-eat food DEF
 ‘The food has been eaten (by someone).’
- b. **Y’à-bú** **pónó** **nó** [+COS verb]
 1PL-PERF-break table DEF
 ‘The table has been broken (by someone).’
- c. **Y’à-twa** **nè** **nsá** [+COS verb]
 1PL-PERF-cut 3POSS finger/hand
 ‘His/her finger or hand has been cut (by someone).’

¹²This pertains to Asante and related dialects. Mfantse makes use of the 3PL pronoun.

Based on the reasons discussed above, we conclude that the instantiations of the one-place construction in which the verb **twá** ‘to cut’ (see example 23(c) repeated here as (25)), occurs are indeed the inchoative counterpart of the causative/inchoative alternation.

25. Nè ñsá á- twà [+COS verb]
 3POSS finger PERF-cut
 ‘His/Her finger is cut.’

In sum, this section has focused on the role the type and semantics of NPs that the C&B verbs take as internal arguments play in sentence interpretation. We have argued that in some cases, the [V+ NP] combinations occur as fixed collocations that are learnt and used together as units. For instance, the verb **bú** ‘to break’ combines with the NP **dùá** ‘tree’ to form a fixed collocation which can be interpreted as ‘to fell a tree’. The section has also explored how the combinations affect the syntactic behavior of the verbs, i.e. their alternations. We have demonstrated that in the context of certain types of NPs, BREAK verbs such as **bú** ‘to break’, **bó** ‘to break, to crack’, **pàé** ‘to split’ fail to participate fully in the causative/inchoative alternation. Similarly, the CUT verb **twá** ‘to cut’ is able to participate in this type of alternation when it collocates with body part NPs such as **ñsá** ‘hand’ etc.

6. Conclusion

In this paper, we have examined the semantic properties of four separation verbs in Akan using data from the Asante-Twi dialect. **Twá** ‘to cut’, which is the prototypical CUT verb in Akan, describes separation events that are carried out with a bladed instrument. The three BREAK verbs **bú** ‘to break’, **bó** ‘to break, to crack’ and **pàé** ‘to split’, describe breaking events that primarily occur without an instrument. Instances where **twá** ‘to cut’ occurs in the one-place/intransitive construction have been discussed. Contrary to Guerssel et al’s (1985) proposal that when CUT verbs occur intransitively in languages, they are passives, we have provided evidence to show that the one-place construction in which the Akan verb **twá** ‘to cut’ occurs is not passive but rather inchoative. Contexts where the BREAK **bú** ‘to break’, **bó** ‘to break, to crack’ and **pàé** ‘to split’ do not lend themselves to be used in the one-place construction have also been explored in this paper. We have demonstrated that when these three BREAK verbs describe events that necessarily require the use of a (bladed) instrument, then their use in the one-place construction cannot derive an ‘enter-into-state’ interpretation.

Additionally, we have shown that the behavior of the CUT and BREAK verbs in Akan is consistent with Levin and Rappaport Hovav’s (2013) manner/result complementarity proposal which argues that manner and result meaning are in complementary distribution. In line with this, we have explained that the BREAK verbs **bú** ‘to break’, **bó** ‘to break or crack’ and **pàé** ‘to break/split’ are prototypically result verbs. However, in certain restricted contexts, the verbs lexicalize manner rather than result, hence their inability to participate in the causative/inchoative alternation. Similarly, **twá** ‘to cut’ lexicalizes manner but it also has contexts where the result meaning is lexicalized. An instance where the result rather than manner meaning is lexicalized was provided. The result meaning associated with **twá** ‘to cut’ in this type of context is what allows the verb to participate fully in the causative/inchoative alternation. In such context, one is not necessarily implying that the cutting event occurred spontaneously without an instrument, but rather, that the focus is shifted to the end state of the cutting event.

Finally, we have demonstrated that a verb’s ability to participate fully in the causative/inchoative alternation, is dependent on the semantics of the verb, the

semantics of the NPs it selects as internal object and the overall intended sentence interpretation.

Acknowledgments

1. The research for this paper was funded by the A.W. Mellon Foundation through the University of Cape Town, South Africa.
2. We are indebted to the four consultants from Asante-Bekwae for willingly sharing their knowledge on the language with us.
3. We also thank Ronald Schaefer, Felix Ameka, James Essegbey, Heather Brookes and Kofi K. Saah for providing inputs on the initial versions of this paper.
4. This paper has also benefited from critical comments from two anonymous reviewers, who we would like to acknowledge.

References

- Agyepong, Dorothy Pokua (2017). "Cutting" and "Breaking" Events in Akan. Ph.D. thesis, University of Cape Town. Cape Town: South Africa.
- Agyepong, Dorothy Pokua (2015). *Culture specific Cut and Break videos*. Unpublished video clips.
- Ameka, Felix (2019). Verb constructions at the syntax-semantics interface. In Essegbey, James., Bodomo, Adam., and Kallulli, D. (eds.) *The grammar of verbs and their arguments: a cross-linguistic perspective*. Cologne: Rüdiger Köppe, 59-84.
- Ameka, Felix and Essegbey, James (2007). Cut and break verbs in Ewe and the causative alternation construction. *Cognitive Linguistics* 18 (2), 241-250.
- Atintono, Samuel A. (2019). The semantic properties of separation verbs in Gurene. *Journal of West African Languages*, Volume 46.1, 1-31.
- Akan Dictionary Pilot Project (2006). Legon-Zurich-Trondheim computational lexicography project. Department of Linguistics, University of Ghana, Legon.
- Bliss, Heather and Storoshenko, Dennis Ryan (2008). *Passivization and A-movement in Shona*. Proceedings of the 2008 annual conference of the Canadian Linguistic Association.
- Boadi, Asem Kwasi (2005). *Twi kasa mmara ne kaseso*. Accra: Wise Image Publications.
- Bobuafor, Mercy (2013). *A grammar of Tafi*. Ph.D. thesis, Leiden University, Netherlands.
- Bobuafor, Mercy (2018). Separation events in Tafi language and culture. *Studies in African Linguistics* 47 (1&2). 1-23
- Bohnmeyer, Jürgen, Melissa Bowerman and Penelope Brown (2001). Cut and break clips. In Levinson, Stephen C., and N.J. Enfield (eds.), *Field Manual 2001, Language and Cognition Group, Max Planck Institute for Psycholinguistics*. Nijmegen: MPI, 90-96.
- Bohnmeyer, Jürgen (2007). Morphological transparency and the argument structure of cutting and breaking. *Cognitive Linguistics* 18 (2), 153-178.
- Brown, Penelope (2007). 'She had just cut/broken off her head': Cutting and breaking verbs in Tzeltal. *Cognitive Linguistics* 18 (2), 307-318.
- Christaller, Johann Gottlieb (1933). *A Dictionary of the Asante and Fante Language Called Twi*. Basel: Basel Evangelical Missionary Society.
- Dolphyne, Florence Abena (1988). *The Akan (Twi-Fante) Language: Its Sound Systems and Tonal Structure*. Accra: Ghana Universities Press.
- Donkoh, Agnes Effah (1993). *Ōwúó Agyáá*. Accra: Bureau of Ghanaian Languages.
- Essegbey, James (2007). Cut and break verbs in Sranan. *Cognitive Linguistics* 18 (2), 219-230.
- Essegbey, James (2019). Cutting across the Akan-Gbe divide. In Essegbey, James., Bodomo, Adam., and Kallulli, D. (eds.) *The grammar of verbs and their arguments: a cross-linguistic perspective*. Cologne: Rüdiger Köppe, 85-114.
- Goldberg, Adele E. (1995). *Constructions*. Chicago: University of Chicago Press.
- Goldberg, Adele E. (2003). Constructions: a new theoretical approach to language. *TRENDS in Cognitive Science* 7 (5), 219-224.
- Guerssel, Mohammed, Kenneth Hale, Mary Laughren, Beth Levin and Josie White Eagle. (1985). A cross-linguistic study of transitivity alternations. In Eilfort, William H., Paul D. Kroeber and Karen L. Peterson (eds.), *Papers from Parasession on Causatives and Agentivity at the 21st Regional Meeting*. Chicago: Chicago Linguistic Society, 48-63.
- Gyekye-Aboagye, J. (1967). *Wo sum borɔdeɛ a sum kwadu bi*. Accra: Bureau of Ghanaian Languages.
- Hale, Kenneth L. and Samuel J. Keyser (1987). *A View from the Middle*. MA: Centre for Cognitive Science, MIT Press.
- Jackendoff, Ray (1990). *Semantic Structures*. Cambridge, MA: MIT Press.
- Levin, Beth (1993). *English Verb Classes and Alternations: A Preliminary Investigation*. Chicago: The University of Chicago Press.

- Levin, Beth and Malka Rappaport Hovav (1995). *Unaccusativity: at the syntax-lexical semantics interface*. Cambridge, MA: MIT Press.
- Levin, B. and M. Rappaport Hovav (2005) *Argument Realization* (Research Surveys in Linguistics Series), Cambridge: Cambridge University Press.
- Levin, Beth and Malka Rappaport Hovav (2013). Lexicalized meaning and manner/result complementarity. In *Studies in the composition and decomposition of event predicates* (pp. 49-70). Springer, Dordrecht.
- Lüpke, Friederike (2007). ‘Smash it again, Sam’: Verbs of cutting and breaking in Jalonke. *Cognitive Linguistics*, 18 (2), 251-262.
- Majid Asifa, Melissa Bowerman, Miriam van Staden and James S. Boster (2007). The semantic categories of CUTTING and BREAKING events: a crosslinguistic perspective. *Cognitive Linguistics* 18(2), 133-152.
- Osam, E. Kweku (2008). Akan as an Aspectual Language. In: Felix Ameka and Mary Esther Kropp Dakubu (eds.), *Aspect and Modality in Kwa Languages*, pp.69-89. [Typological Studies in Language Companion Series 100]. Amsterdam: John Benjamins.
- Osam E. Kweku, Marfo, Charles O. and Agyekum, Kofi (2013). The morphophonology of the Akan reduplicated verb-form. *Journal of Language and Linguistic Studies*, 9(2), 45-56.
- Rappaport Hovav, Malka (2013). Lexical content and context: The causative alternation in English revisited. *Lingua* 141 (2014), 8-29.
- van Staden, Marian (2007). ‘Please open the fish’: verbs of separation in Tidore, a Papuan language of Eastern Indonesia. *Cognitive Linguistics*, 287-296.