

The syntax and semantics of Gã future markers

Akua Campbell

To cite this article: Akua Campbell (2022) The syntax and semantics of Gã future markers, Acta Linguistica Hafniensia, 54:1, 40-72, DOI: [10.1080/03740463.2022.1992593](https://doi.org/10.1080/03740463.2022.1992593)

To link to this article: <https://doi.org/10.1080/03740463.2022.1992593>



Published online: 01 Feb 2022.



Submit your article to this journal [↗](#)



Article views: 105



View related articles [↗](#)



View Crossmark data [↗](#)



The syntax and semantics of Gã future markers

Akua Campbell

Linguistics Department, University of Ghana, P.O. Box LG 61, Legon, Accra, Ghana

ABSTRACT

This paper explores the syntax and semantics of two grammatical markers of future time in Gã (Niger–Congo, Kwa) – *bàá-* and *àá-*. The coexistence of *àá-* and *bàá-* over a long period, coupled with their overlapping roles, has led to some inconsistency in their analysis. I show that in modern Gã, *bàá-* is the most prevalent future marker, with *àá-* existing much less prominently alongside it. Data from natural speech and elicitation reveal that both markers have modal functions in addition to the temporal function. *bàá-* can also be used aspectually to mark habits. Due largely to the overwhelming frequency of the temporal function in the discourse data, I maintain that the primary function of *bàá-* is as a future tense marker. It is therefore not purely a modal. *àá-* has all but fallen out of use and has a more modal than temporal function. This study uncovers previously unreported non-temporal uses of *bàá-* and underscores the crucial role played by frequency in the determination of category function.

KEYWORDS Gã; Kwa; future; modal; tense

1 Introduction

This paper investigates the syntax and semantics of the primary means of future time reference in Gã, a Niger–Congo, Kwa language spoken in and around the capital of Ghana, Accra, by about 750,000 people. There are two prefixes that are often designated as future markers by various authors: *àá-* (Dakubu 2004, 2008) and *bàá-* (Adjei 1999; Otoo 2014; Campbell 2017). Otoo (2014) refers to *àá-* as an indefinite future marker, while Dakubu classes *bàá-* as coding the ingressive future. The inconsistency in the identification and analysis of the future marker stems from the level of importance each author attaches to the historical functions of these markers, as well as to their morphological makeup. My analysis is primarily synchronic and reveals that the future marker is *bàá-*, with *àá-* currently defunct and in its very limited synchronic use appearing to carry out the epistemic modal function of indicating uncertainty about some future event. In addition to its primary function of marking future, *bàá-* has secondary uses, some of which have not previously

CONTACT Akua Campbell ✉ acampbell@ug.edu.gh 📍 Linguistics Department, University of Ghana, P.O. Box LG 61, Legon, Accra, Ghana

© 2022 The Linguistic Circle of Copenhagen

been noted. First, it expresses epistemic modality, specifically speaker assumptions based on some available evidence. Secondly, together with the modal verb *nyé* ‘be able,’ it marks deontic modality (ability) and dynamic modality (permission, possibility). It may also be used aspectually to express habits or frequently occurring events. This use is contextually determined. When it occurs with *sùmò* ‘like/love,’ it serves the pragmatic function of indexing politeness. *Bàá-* therefore has both future tense and modal functions, and I will show that in its typical use, it is a pure future temporal marker.

I argue that *bàá-* is not solely a modal marker, as has been suggested by Dakubu (2008), for the reason that its dominant function in discourse is more tense-like i.e., it marks futurity – that events are slated to occur after the time of speech. Designating it as a modal distorts the picture and backgrounds a function that is actually at the forefront, as evidenced by the overwhelming frequency of the future temporal use in the natural data. The non-temporal uses of *bàá-* are mostly engendered by contextual/pragmatic factors and the semantics of the verbs that *bàá-* must occur with. The future use, on the other hand, is not, leading to the conclusion that future expression is its most basic function. All the uses of *bàá-* have in common that the truth of the proposition can be confirmed only at some future time. Some may suggest then that it is an irrealis marker, and therefore a modal. Again, my problem with this analysis would be that doing so would be a generalization that overshadows the main future tense function of *bàá-*. The following sentences exemplify this primary use.¹

(1) *ò=bàá-nà Nàá Àfó wè*
 2SG=FUT-see Naa Afo house
 ‘You will see (a sign saying) ‘Naa Afo House’.’

(2) *àhúm=é=è bàá!bá hàò-mò-í=è bàá!bá shì*
 storm=DEF=DEF FUT-come trouble-NOM-PL=DEF FUT-come but
é-fé-ṅ bò nó!kónó!kó
 3SG.NEG-do-FUT.NEG you.SG.OBJ anything
 ‘The storms will come; troubles will come, but they will not harm you.
 (Lit: ‘...they will not do anything to you.’)

(3) *Nún!tsó=ò jòò-!mó=ò bàá-nyíé ó=sèè*
 Lord=DEF bless-NOM=DEF FUT-walk 2SG=back
 ‘The Lord’s blessings will follow you.’

¹Abbreviations in this work, where applicable, follow the guidelines laid out in the Leipzig Glossing Rules: 1 first person, 2 second person, 3 third person, ASSOC associative, COP copula, COMP complementizer, DEF definite, EP epistemic, FOC focus, FUT future, NOM nominalizer, HAB habitual, IMP imperative, IMPERS impersonal, INGR ingressive, INTJ interjection, ITIV itive, NEG negative, OBJ object, PRF perfect, PERT perturbative, PL plural, POT potential, PROG progressive, PROS prospective, PURP purposive, QP question particle, REL relativizer, SG singular, SBJV subjunctive, TOP topic. Diacritics: [ˈ]-high tone; [ˉ]-low tone; [ˆ]-falling tone; [!]-tone on following syllable is downstepped.

In the examples above, there is no other function or semantic element contributed by *bàá-* other than to mark that the action predicated by the verb will occur in the future. The future references here are of a predictive nature, and these have been noted by Dahl (2000) as being indicative of highly grammaticalized futures. Gã is therefore unusual among Kwa languages because, as Manfredi (1997) observes, Kwa languages are generally tenseless. Osam (2008), however, notes that Akan – another Kwa language – makes a two-way tense distinction between future and non-future. This study highlights the importance of frequency in determining the category labels of forms that have multiple functions.

Much of the data for this work comes from naturally occurring discourse that was recorded and transcribed by the author. This consists of three casual conversations, a church sermon, two procedural narratives, a traditional prayer (libation) and 10 narrations of Mercer Meyer's (1969) picture book "*Frog, where are you?*"; a total of about 2.5 hours of spoken discourse. To complement these sources, mine and other native speakers' knowledge and intuition of the Gã language were also utilized.

The paper is organized as follows: In Section 2, I give a brief description of the morphosyntax of Gã with particular attention to the verb phrase. Section 3 surveys previous works on future expression in Gã. In Section 4, the syntax and semantics of the future prefix, *bàá-* is explored. Section 5 presents arguments against a modal-only analysis of *bàá-* and in support of recognizing future tense as its primary function. A syntactic and semantic analysis of *àá-* is carried out in Section 6, and Section 7 presents the conclusion.

2 Overview of Gã verb morphology

Gã is a mostly SVO language with nominative-accusative grammatical relations, obligatory subjects and serial verbs. It has bound subject pronominal clitics and free object pronouns. Affixation is the primary means of expressing verbal categories. Apart from the future *bàá-*, Gã has no other tense markers. Unmarked verbs are most often interpreted as past. Gã has a perfect prefix *é-*, a subjunctive prefix *á-* and a progressive prefix *mùù-/ì-*, which is the preferred means of marking present tense. It also has a habitual suffix *-ò/-à*.

The verb phrase is characterised by fusion and elision of segments and displacement of tones onto adjacent syllables. For example, when the subject of the verb prefixed with *àá-* is the second singular pronoun *o-*, third singular pronoun *e-* or first plural pronoun *wɔ-*, the segments of *àá-* are deleted, and the pronoun is lengthened to provide a landing dock for the low and high tones of *àá-*. This yields *òó-*, *èé-* and *wòó-*, respectively, as portmanteau morphemes combining the respective pronouns and *àá-*. So *Òkó àá-!yá*

[Oko EP.FUT-go] ‘Oko might go’ becomes *Èé-!yá* [3SG.EP.FUT-go] ‘He might go’. The paradigm below illustrates this phenomenon, as it manifests with the epistemic future prefix *àá-*.

Má!yá	‘I will/might go.’	Wòó!yá	‘We might go.’
Òó!yá	‘You might go.’	Nyè àá!yá	‘You (PL) might go.’
Èé!yá	‘S/he might go.’	Àmè àá!yá	‘They might go.’

Another common phonological change occurs when the first singular pronoun subject occurs with *àá-* or *bàá-*. When the subject of a verb marked for the future is the first person, the first singular takes the form *má*, which is a fusion of the old first singular subject proclitic *mi* and either *bàá-* or *àá-*. The modern first singular subject proclitic, however, is *i-*.

3 Previous work on future expression in Gã

To date, there has not been any study solely dedicated to the investigation of future time expression in Gã. Scholars working on Gã have, however, tangentially touched on the issue of future expression while researching other aspects of the morphology and syntax of the language. For a few authors, the only insight into their analysis of the future morphemes is the glosses assigned to these morphemes. For example, Korsah (2011) and Otoo (2014) both have *bàá-* as future markers in their respective theses. In addition, Otoo (2014), has *àá-* as the “indefinite future” marker.

Adjei (1999, 95) asserts that Gã has one tense contrast between future and non-future. He designates *bàá-* as the “future tense affix.” Following Dakubu (1998), Adjei analyses *bàá-* as a combination of the “dependent ingressive verb,” *ba-* and the “future time marker,” *àá*. He gives the following to illustrate this phenomenon.

ba	-	àá	→	bàá
INGR		FUT		FUT
		MARKER		TNS
				AFF

(Adjei 1999, 95)

In the present work, Adjei’s dependent ingressive verb (INGR) is labelled as a ventive pre-verbal auxiliary (VENT). It is a verbal prefix, which often (but not always) indicates movement of the subject referent towards some deictic centre in order to execute the action encoded by the verb. It is homophonous with and is grammaticalized from the verb *ba* ‘come’ but is unspecified for tone. It is not independent and must always occur with another verb, as (4) below shows.

- (4) *àmè̀=ba-kwé* *kòkòdé!né=!é*
 3PL=VENT-look frog=DEF
 ‘They came and looked at the frog.’ (Campbell 2021)
 [associated audio-2-campbell.MP3]

Adjei (1999, 95) notes that the resultant future affix, *bàá* has no (motional) deictic interpretation. He remarks (p.c.) that the future prefix *àá-* marks uncertainty on the part of the speaker over whether the proposition will be actualized. As such, it is very similar in semantics to English *might* and *may*. It will be shown in Section 6 that *bàá* does not in fact consist of a combination of the ventive prefix *ba-* and the future marker *àá-*. Rather, in Campbell (Campbell, *in press*), I hypothesise that the form *bàá-* is a result of the fusion of future *ba-* (grammaticalized from the verb *ba* ‘come’) and a following morpheme, most likely subjunctive *á-*.

Richter (1998, 99) recognizes the future marker as *àá-* and describes it as a definite potential aspectual marker. This is in opposition to the indefinite potential aspectual marker, *á-*, which in various other works (Adjei 1999; Dakubu 2004, 2008; Campbell 2017) is a subjunctive marker. Like Adjei, she makes the argument that *bàá-* is a coalescence of the ingressive prefix *ba-* and the future marker *àá-*. In addition to the temporal use of *àá-* and *bàá-*, Richter recognizes two non-temporal uses of the future markers; marking intention and prediction. In the following examples from Richter (1998, 100–101), *àá-* in (5) encodes future time, while *bàá-* in (6) encodes “predictability or probability.” Richter is silent on whether she deems the two markers synonymous and therefore interchangeable.

- (5) *Yàò* *àá-dàmò* *bí!é*
 Yao DEF.POT-stand here
 ‘Yaw will stand here.’ (Richter 1998, 100)
- (6) *shiká* *lè* *bàá-hì* *àdé!ká* *!lé* *m̀lì*
 money DEF INGR+DEF.POT-be_at box DEF inside
 ‘The money will be in the box.’ (Richter 1998, 101)

In analysing the future morphemes as aspectual markers, Richter implies that they are neither tense nor modal markers. No explanation is given other than references to previous works (Dakubu 1993 for Gã; Osam 1994 for Akan) which also consider the future an aspectual category. Although Dakubu’s (1993) position was that the Gã future was aspectual, in Dakubu (2008), she argued for a primarily modal characterization, with some temporal semantics. Richter’s choice of label – potential – also suggests a modal rather than an aspectual character.

Dakubu (2008) points out that Gã has no genuine tense system, with the only grammatical distinction in time-expression being that between the future and non-future. Importantly, however, she considers *àá-* to be the main means of marking future in Gã. Specifically, she writes, with respect to the morpheme *àá-* that “it is not interpreted as a simple future, but rather as an unconstrained conditional or subjunctive, that is, as a possible event which is not thought of as subject to or the intended product of an external impulse or force.” (Dakubu 2008, 108). She gives the example in (7) to demonstrate the modal nature of *àá-*.

- (7) a *gbekɛbii* *lɛ* *àá-bí*
 children DEF FUT-ask
 ‘The children might/would/will ask’ (Dakubu 2008, 108)
- b *èé=bí*
 3SG.FUT=ask
 ‘S/he will ask (of his/her own free will)’ (Dakubu 2008, 108)

Dakubu’s caution against the interpretation of *àá-* as a simple future is at odds with her glossing of the same morpheme as (FUT)ure. On the other hand, it simply reflects the age-old problem of categorizing a grammatical marker whose semantics spans so many domains that it could be considered tense, aspect or modality, depending on its syntactic behavior in a particular language or even a particular construction. For more on this issue, see de Brabanter, Kissine, and Sharifzadeh (2014). In Dakubu’s view, *àá-* not only marks an event as yet to occur, and thus future, but also that the speaker is uncertain of its occurrence. It is this same sense of uncertainty that is gleaned from Otoo’s (2014) “indefinite future marker” label and in Adjei’s (p.c.) intuition of the function of *àá*.

Dakubu also acknowledges the use of *bàá-* as a future marker for expressing temporal deixis. However, for her *bàá-* is a combination of the ventive auxiliary verb, *ba-* with the modal future *àá-*. Her analysis of the semantics of *bàá-* is worth quoting in full: “Use of a deictic auxiliary verb, especially the ventive, with the future produces predominantly temporal deixis, so that an English expression like “Kofi will see” is invariably translated in this way, as *Kofi bàá!ná* and most speakers with any knowledge of English grammar regard this form as the “future tense” (Dakubu 2008, 118). In spite of this admission that most speakers express future with *bàá-*, the impression left by Dakubu (2008) via her discussion of the future and the examples she uses, is that *àá-* is the de facto future marker in Gã. This contradictory state of affairs is what has prompted this research. Why do some authors maintain *àá-* as the future marker when, by their own accounts, *bàá-* is more prevalent? My position in this paper is that *bàá-* functions primarily as a marker of future tense and that it has secondary modal and aspectual uses. It meets the criteria for tense made famous by Comrie (1985), which restricts (absolute) tensed languages to only those that have a grammatical means of expressing the time of an event in relation to the

time of utterance. *bàá-* does that. However, it is not strictly a deictic future marker, i.e., it does not always take as its reference point the time of utterance; it may occur with a reference point that is in the past.

There is no justification for viewing *bàá-* as solely aspectual, and so in this regard, I disagree with Richter (1998). The location of an event in time, be it with the time of speech or some other time as reference point, does not meet the various definitions and characterizations of aspects. For example, Comrie (1976, 3) defines aspect as “the different ways of viewing the internal temporal constituency of a situation.” Aspect is therefore unconcerned with situating an event on a timeline; rather it is a means by which speakers indicate which stage of the situation or event is in focus. Shibatani (2006) observes that aspect asks the question of where the vantage point is when viewing the internal temporal structure of an action. If the action is viewed holistically with no regard for its temporal compartmentalization, then it is being viewed perfectly and will be expressed with perfective aspect. If, however, one vantage point is selected and focused on, then we have imperfective aspect. Several different stages of the event may be focused on: before the event (prospective aspect), the beginning (inceptive, inchoative aspects), the end (terminative aspect) and so on. It is hard to see how *bàá-* in Gã fits into such a system, and it will become clear by the end of the paper that a more fitting characterization is that of a grammatical marker with both tense and modal functions, but with the tense function predominating. Habituality is one of the several secondary uses of *bàá-*. So, in this regard, *bàá-* functions aspectually, but this function is context-dependent.

In the next few sections, I fully explore the semantic and syntactic properties of the future markers, *bàá-* and *àá-*.

4 Syntax and semantics of *bàá-*

As Dakubu (2008, 118) observed, many native Gã speakers will identify *bàá-* as the marker of future time in Gã. It is the form that readily mirrors the functions of English, *will*, which in traditional English grammar is held up as *the* means of expressing future. Following Comrie (1985, 19), I acknowledge that a grammatical category may have a basic meaning, which is its most pervasive and characteristic meaning – its prototypical meaning – but it may also have peripheral or secondary meanings. My analysis reveals that *bàá-* has as its basic meaning or function the expression of futurity. In addition, four other secondary meanings are identified. My assessment of what qualifies as basic versus secondary meaning is based on the frequency of occurrence of these functions in a corpus of spoken Gã, which is taken to be representative of Gã use generally. The basic meaning occurs far more frequently than the secondary meanings. Of the 328 clauses containing *bàá-* in the data, 242 (73.8%) had a purely temporal meaning. In addition, the secondary meanings

are not engendered by *bàá-* alone, but by *bàá-* in addition to contextual factors and/or specific syntactic elements such as temporal adverbials and specific verbs or verb types. The future use of *bàá-* is not so restricted.

Thus, the morpheme *bàá-* may be used to express the following, with futurity being the primary use and the rest being secondary uses:

- (a) Futurity
- (b) Epistemic modality
- (c) Deontic and dynamic modalities (ability, permission, and possibility)
- (d) Habits
- (e) Politeness

4.1 Futurity

4.1.1 Absolute/deictic futurity

This is the most common function that *bàá-* is pressed to serve in Gã. This justifies its designation as a future marker, although it performs other, non-temporal functions. The future refers to any time that occurs after the moment of speech. Hence, *bàá-* marks temporal deictic or absolute futures, as the following sentences, as well as (1)–(3) above exemplify:

- (8) *nyǒ̃̃mǒ̃̃ bàá-!nǐ̃ àbèlé bàá-!bá*
 rain FUT-fall corn FUT-come
 ‘It will rain. Corn will grow.’

- (9) *àmǐ̃=bàá-yàgè Tǐ̃mǎ shí wó=!ó wó=!yááá*
 3PL=FUT-go be_at Tema but we=TOP 1PL.NEG=go.NEG
 ‘They will go (to church) in Tema, but as for us, we won’t go.’
 [associated audio-11-campbell.MP3]

- (10) *mǒ̃̃fǐ̃ǐ̃ mǒ̃̃ bàá-ké é á!ké ó ì=kè ì=bí*
 everyone FUT-say COMP INTJ 1SG=take 1SG=child
lé=!é é-!yááá
 DEF=DEF NEG-go.NEG
 ‘Everyone will say, “Oh, I won’t take my child (to the medicine man)”’
 (Campbell 2021) [associated audio-12-campbell.MP3]

These sentences represent the “pure futurity” or “simple futurity” function of the future morpheme, where there is no future temporal adverbial and the only verbal marker is *bàá-*. *Bàá-* here indicates that the activity will occur after speech time. In many instances, the use of *bàá-* constitutes a prediction of future events, and *bàá-* is obligatory for this predictive future meaning. Notably, Dahl (2000) sees obligatoriness in future prediction-based contexts as a major criterion for grammaticalization of a future marker. The deployment of *bàá-* (without any

epistemic adverbs, such as *élkólé*) suggests confidence in the assertion of the future event or commitment to the truth of the predication. Omission of *bàá-* results in a loss of the future temporal meaning (11). As the verbs in (11) are dynamic and unmarked, the default temporal interpretation is past.

- (11) *nyǎ̃mǎ̃ nǎ̃. àbèlé bà*
 rain fall corn come
 ‘It rained. Corn grew.’

A future time adverbial may accompany a construction with *bàá-*, further reinforcing the future function (12–14). However, there is no requirement for temporal adverbs to accompany *bàá-* for future time reference. The time adverbs function as adjuncts and simply provide a more precise specification of the time of the event. Future semantics is therefore inherent in *bàá-*.

- (12) *hèwó=!ó hǎgbàá=!á à=bàá-yà sǎǎmǎ̃*
 SO=TOP Sunday=DEF 3.IMPERS=FUT-go church
 ‘So on Sunday, they will go to church.’ (Campbell 2021)
 [associated audio-6-campbell.MP3]

- (13) *áku-mǎ̃i hú àmǎ̃=bàá-sǎ̃lè àmǎ̃=bí lé=è on the fifteenth*
 Aku-ASSOC too 3PL=FUT-baptize 3PL=child DEF=DEF
 ‘Aku and her associates (i.e. husband) too will baptize their child on the fifteenth.’ (Campbell 2021)
 [associated audio-8-campbell.MP3]

- (14) *ò=bàá-nǎ̃ fǎ̃ǎ̃ gbékè nǎ̃!ǎ̃*
 2SG=FUT-see all evening this
 ‘You will see (it) all this evening.’ (Campbell 2021)
 [associated audio-7-campbell.MP3]

In each of these examples, the speaker specifies the time at which the action coded by the verb is to take place. All the time adverbials (*hǎgbàá* ‘Sunday,’ *gbékè nǎ̃!ǎ̃* ‘this evening’ and the English codeswitched prepositional phrase ‘on the fifteenth’) refer to times that have not occurred yet, that do not coincide with the present, and that are expected to occur after the present. Statements which include a specific time in the future at which an event is to occur also exemplify clearly the notion of prediction often associated with the future tense, as well as the importance of the “plan” (Copley 2008, 2009) to a future interpretation. This is so because commitment or the appearance of commitment to a particular time makes one’s plan or intention of carrying out an action appear more concrete.

interpretation, but in the right pragmatic and syntactic context (as with polar interrogatives) a volitive modal meaning may be conveyed. The upshot of this is that while *bàá-* may convey only future tense without the modal senses of intention or volition, as in (2), (3), (8) and (14) above, it cannot convey volition and intention alone, without any future temporal meaning.

4.1.2 Absolute-relative future

Comrie (1985, 65) describes a situation where the use of a particular verb form establishes a reference point in relation to the moment of speaking (before, at or after) and in addition situates an event relative to that reference point. This gives what he terms absolute-relative tense. In English, the pluperfect and future perfect are examples of absolute-relative tenses. In Gã, there is no special verb form for conveying such temporal categories. Therefore, the “future-in-the-past” may be expressed by the same future morpheme *bàá-* in concert with a time adverbial which establishes the past reference point, as well as another time adverbial *kpàákó* ‘only now, only then.’ *Bàá-* alone cannot express the future in the past, except in subordinate clauses, to be discussed later.

In (16a), the time adverbial *bèní wòshè jě!mě=!ě* ‘when we got there’ establishes the reference point as past in relation to the time of speech; bare verbs like *shè* ‘reach’ are often given a past time interpretation. The speaker then states that at that point in the past, Aku was about to cook cassava, i.e., that the cooking was planned but was yet to happen.

(16) a *bèní wò=shè jě!mě=!ě kpàákó ákú kè*
 when 1PL=reach there=TOP only.then.FOC Aku take
dùàdé=è bàá-mà nǝ
 cassava=DEF FUT-situate top
 ‘When we got there, Aku was just then going to put the cassava on
 (the fire) i.e. boil the cassava.’

b **bèní wò=shè jě!mě=!ě ákú kè dùàdé=è*
 when 1PL=reach there=TOP Aku take cassava=DEF
bàá-mà nǝ
 FUT-situate top
 ‘When we got there, Aku was going to put the cassava on (the fire)
 i.e. boil the cassava.’

c **bèní wò=shè jě!mě=!ě kpàákó ákú kè*
 when 1PL=reach there= TOP only.then.FOC Aku take
dùàdé=è mà nǝ
 cassava=DEF situate top
 ‘When we got there, Aku was going to put the cassava on (the fire)
 i.e. boil the cassava.’

Notably, (16a) would be ungrammatical without the presence of the adverb, *kpàákó* ‘just then,’ as (16b) shows. (16a) will also be ungrammatical without *bàá-*, as can be seen in (16 c). *Kpàákó* is not easily translatable into English. It can be understood as the present moment or some other specified time, which coincides with the reference time. Hence, it could be glossed ‘only now’ or ‘only then.’ The addition of ‘only’ is intended to capture an important semantic component of *kpàákó*, which is the sense that the event it modifies has been delayed so that it occurs or is scheduled to occur at a time different from what was anticipated. Therefore, in (16a) the speaker expected that by the time she got there the process of cooking the cassava would have already been initiated. The use of *kpàákó* therefore marks that counter-expectation about the time the action is executed. It appears then that *bàá-* alone cannot mark the future in the past; it can only do so in the presence of a past time adverbial and *kpàákó*.

The preferred morpheme for marking “future-in-the-past” is the prospective aspectual prefix *yàá-*. *yàá-* is the itive/egressive counterpart of ventive/ingressive *bàá-*. It is developed from the verb *ya* ‘go.’ This prefix normally imparts an immediate or prospective future sense, similar to the meaning of *be going to* in the English translation in (17a). In (17b), in addition to coding future-in-the-past, it codes immediacy. Note that it does not require *kpàákó*.

- (17) a *Ákú kè dùàdé=è yàá-mǎ nǎ*
 Aku take cassava=DEF PROS-situate top
 ‘Aku is going to put the cassava on (the fire) i.e. boil the cassava.’
- b *bèní wǎ=shè jǐ!mǐ=!ǐ Ákú kè dùàdé=è*
 when IPL=reach there=TOP Aku take cassava=DEF
yàá-mǎ nǎ
 PROS-situate top
 ‘When we got there, Aku was going to put the cassava on (the fire)
 i.e. boil the cassava.’

Another constraint on the use of *bàá-* for future-in-the-past is that, if the adverb *kpàákó* is not used, then *bàá-* must occur in a subordinate clause, often one marked by the complementizer *á!ké*, which translates into ‘that’ (or ‘whether,’ when the sentence-final question particle *ló* is present). This is exemplified in (18), where the use of *bàá-* constitutes a prediction, but one that was made in the past (*nyǐ lèé!bí* ‘yesterday morning’). In this example, the evaluation time is also in the past so that what represented a hypothetical situation when uttered can at the same moment be evaluated to see if indeed

the prediction came true. That is, if Oko really did finish the work yesterday evening. Deictic futures cannot be so evaluated, since the reference time is the time of speech and the event is slated to occur in the future.

- (18) *nyè lèl'bí ní wò=kè àkú wié=!é*
 yesterday morning when 1PL=take Aku talk=TOP
wò=kèé !lé á!ké òkó bàá-!gbé nítsumǝ=ǝ nǎǎ
 1PL=tell s/he.OBJ COMP Oko FUT-kill work=DEF mouth
nǎkǎi gbé!ké=!é nǝ́hǝ́
 that evening=DEF exactly
 'Yesterday morning when we spoke to Aku, we told her that Oko
 would finish the work that very evening.'

In (19), the complement construction expressing future-in-the-past is followed by the question particle, *ló*. This conveys uncertainty about the actualization of the event predicated in the complement clause. The subject was peering out of the window, uncertain about whether anyone was going to appear. It is this action that is being relayed by the speaker.

- (19) *nó mǝ́hǝ́=ǝ́ èè=fi!lí sámfèlé=è mǝ́hǝ́ sǝ́hǝ́*
 that inside=TOP 3SG.PROG=peer window=DEF inside constantly
á!ké mǝ́=kò bàá-púè ló
 COMP person=INDEF FUT-emerge QP
 'At that time, she was constantly peering out of the window, (to see)
 whether anybody would appear.'

In (20), *bàá-* occurs in a complement clause to the conative verb, *bò mǝ́dèhǝ́* 'try' (lit: "create strength"). The reference time is established with the adverbial *nò mǝ́hǝ́* 'at that time.' From the narrative, it is clear that the reference time is in the past. The progressive marking on the subordinate verb is therefore interpreted as a past progressive. The speaker conveys, then, that there was an ongoing effort, with the desired outcome being the revival of the patient.

- (20) *nì è=yè four days kè tni!í ní àà- ǝ́ǝ́*
 and 3SG=eat and thing COMP 3.IMPERS.PROG INTJ
àà=bò mǝ́dèhǝ́ á!ké
 3.IMPERS.PROG=create strength COMP
à=bàá-revive lè
 3.IMPERS=FUT- s/he.OBJ
 'And he spent four days etc. during which they. . .err. . .they were
 trying to revive him.' (Lit: ' . . .during which they were trying that they
 would revive him') (Campbell 2021)
 [associated audio-17-campbell.MP3]

4.2 Epistemic modality

Expressing epistemicity is one of the most obvious non-temporal uses of the future marker in Gã. However, this meaning is restricted to the occurrence of *bàá-* with certain stative verbs, e.g., *hì* ‘be at’ and *fèé* ‘be’. With epistemic modality, a speaker indicates their judgment of the factuality of a proposition (Palmer 1990, 6). According to Bybee et al. (1994, 179), epistemic modality “indicates the extent to which the speaker is committed to the truth of the proposition. The unmarked case in this domain is total commitment to the truth of the proposition, and markers of epistemic modality indicate something less than a total commitment by the speaker to the truth of the proposition.” In Gã, the epistemic modal conveys uncertainty about the truth of the proposition. Its use implies that the speaker is only making an assumption about the current state of affairs. The epistemic use of *bàá-* was first noted by Richter (1998), who described this function as the modal function of “predictability and probability.” Examples of epistemic use of *bàá-* are given in (21) to (24).

- (21) *shiká lè bàá-hì àdé!ká !lé m̀lì*
 money DEF INGR+DEF.POT-be_at box DEF inside
 ‘The money will be in the box (at the moment).’
 (Richter 1998, 101; my translation, nasal diacritic added.)

- (22) *òkó bàá-!hí tsú=è sèè*
 Oko FUT-be_at house=DEF back
 ‘Oko will be behind the house (at the moment).’

- (23) *è=bàá-féé ákú*
 3SG=FUT-be Aku
 ‘That will be Aku.’

- (24) *nǎǎ bàá-!lé héní Oko yóò*
 Naa FUT-know where Oko be_at.HAB
 ‘Naa will know where Oko is (at the moment).’

In (21) and (22), the speakers are making a reasonable assumption about the whereabouts of the money and Oko based on certain facts and/or presumptions and experiences. Perhaps, the speaker of (22) knows that at that particular time, it is Oko’s habit to work in the garden behind his house. Or perhaps s/he has heard footsteps from behind the house, and since Oko is the only other person at home, s/he presumes it is him behind the house. So, when someone comes inquiring of Oko, the statement with the epistemic reading in (22) is an acceptable response. (23) may be uttered if there has been a knock at the door

and the addressee asks who it is. Here, the speaker is assuming that it is Aku at the door based on some previous knowledge, such as that Aku promised to come and visit at 5 and it is a few minutes past 5. The epistemic readings in (21)–(24) preclude a future reading. In (22), for example, the speaker is not saying that Oko will be found behind the house at some future time, but that based on certain indicators he has come to the conclusion that Oko is actually there at the time of speech. Conversely, an epistemic reading is voided for a future reading in the presence of a future time adverb (25).

- (25) *shiká lè bàá-hì àdé!ká !lé m̀lì wó*
 money DEF FUT-be_at box DEF inside tomorrow
 ‘The money will be in the box tomorrow.’

The component of uncertainty in the semantics of the verb phrase, *bàáféè*, as was seen in (23) has led to its being used adverbially to express approximation or equivocation in relation to time (26a) and quantity (26b).

- (26) a *è=bàá-féé Thursday à=bàá-!yá-féé*
 3SG=FUT-be Thursday 3.IMPERS=FUT-ITIV-do
è=circumcision=é=!é
 3SG DEF=DEF
 ‘I think it is Thursday that his/her circumcision will be done.’
 Lit: ‘It will be Thursday that his/her circumcision will be done.’
 (Campbell 2021) [associated audio-22a-campbell.MP3]

There is grammaticalization of this phrase into an adverb in (26b), where *bàáféé* occurs without the third singular subject to mean ‘about, approximately’. It would be ungrammatical if it were to occur with the pronominal subject (26c).

- (26) b *m̀èì bàáféé òhá bà yàlá=!á*
 people about hundred come funeral=DEF
 ‘About one hundred people came to the funeral.’
 c **m̀èì è=bàá-féé òhá bà yàlá=!á*
 people 3SG=FUT-be hundred come funeral=DEF
 ‘About one hundred people came to the funeral.’

The epistemic sense is also lost when the subject is the first person (27).

- (27) *m̀á=!hí tsú=è s̀èè*
 1SG.FUT=be_at house=DEF back
 ‘I will be behind the house.’

Even though the sentence in (27) is grammatical, it cannot have an epistemic reading in any context. Perhaps this is because as the speaker, as long as you are of sound mental health, you are aware of your whereabouts at any given time.

Therefore, it is illogical to indicate your own location using a syntactic form that connotes uncertainty about the location. As a result, (27) has only a simple future interpretation. The epistemic reading, therefore, is not possible with a first singular subject. This same situation obtains in Akan, as observed by Boadi (2008, 24).

The use of the future marker *bàá-* to signal speaker uncertainty about certain situations could be explained by adopting Declerck's (2006, 573) notion of "temporal focus". According to him, the temporal focus of a speaker is the time that the speaker decides to focus on, as evidenced by her/his choice of tense. So according to Declerck (2006, 105), when English epistemic *will* is used to indicate reduced confidence in the actuality of an event, as in the sentence *That will be the milkman*, the speaker is indicating that it will be possible in the future to evaluate the statement for its truth at the time that it was spoken. In the same vein, by using *bàá-* in the epistemic sense, speakers are signaling that the "educated guess" they have made can be evaluated in the future. The speaker of (24) could be said to have the following thought process: *Because Naa is almost always with Oko, I think Naa knows where Oko is . . . I'm not sure. But we'll know for sure when we ask Naa at some time in the future.* Although the assertion concerns the present moment, the tense marker displaces the evaluation time of the assertion to a time in the future.

In Gã, the epistemic sense is inextricably tied to particular stative verbs, such as *hí* 'be at', *fèè* 'be', and *lè* 'know'. The epistemic modal meaning is lost with all other verbs. A good illustration of this is seen with the verb *hì*, which, in addition to meaning 'be at', could also mean 'live, stay'. The former is stative, the latter is dynamic. If *hí* is used with the 'live, stay' meaning and is marked by *bàá-*, an epistemic reading is not possible. Instead, *bàá-* imparts a simple future reading (28).

- (28) *òkó* *bàá-hí* *Nàá* *jé!mĕ=ĕ*
 Oko FUT-stay Naa there=DEF
 'Oko will stay at Naa's place (when he comes).'

Gã is not the only language in which the future marker together with the verb, 'be at' results in an epistemic reading. The same is found in English (Giannakidou and Mari 2018; Huddleston and Pullum 2002) and Akan (Richter 1998). A reviewer suggested that the reason why stative verbs marked by *bàá-* lend themselves to epistemic interpretations of present situations, while dynamic verbs do not, is that while dynamic verbs construe events as being made up of successive phases with differentiated times, stative verbs do not. A stative verb construes a situation as an indivisible, temporally unbounded whole. Therefore, reference to a situation by a stative verb, such as *hì* 'be at', even when marked by *bàá-*, can be interpreted as pertaining to the present time

(absent specific temporal adverbs). The sense of uncertainty derives from *bàá-*, whose temporal semantics directs attention to the future, the domain of the ‘unknown’. With dynamic verbs, a present interpretation is incompatible with *bàá-* marking, as such verbs encode situations that comprise distinct temporal phases, one of which is the future.

From the preceding discussion, it is clear that the epistemic sense imparted by *bàá-* is very much dependent on pragmatic factors, such as whether or not the speaker and subject are co-referential, as well as syntactic factors, such as the type of verb involved and the presence or absence of time adverbs.

4.3 Deontic and dynamic modality

The future morpheme *bàá-* may combine with the abilitive verb, *nyé* ‘be able to’ to give the modal meanings of ability, permission and possibility. Following Palmer (1990, 7), permission is categorized as deontic because it requires an external force to grant the permission, while possibility and ability are dynamic, coming from within the individual. It must be stressed that the modal meanings are not conveyed by *bàá-* alone. Indeed, as *nyé* ‘be able to’ itself has abilitive semantics, it invariably contributes to the modal meanings. However, it also must do so in tandem with *bàá-*, and hence one must conclude that neither element is solely responsible for deontic and dynamic modality.

Sentences (29)–(35) show the various modal uses of *bàányé*. In (29) and (30), it indicates ability. (29) is uttered after the speaker has been asked to give the names of some herbs, and he has responded with a few names. In uttering (29), he indicates that he does not have the ability to name all the herbs in question, presumably because he does not know them. In (30), the speaker is indicating that the subject referent does not have the ability or power to help him.

- (29) actually=*lé* *jééé* *fěě* *wò=bàá-nyé* *wò=!tsǒǒ*
 =TOP NEG all.FOC 1PL=FUT-be_able 1PL.SBJV=show
bò *gbèí=!é*
 you.SG.OBJ name=DEF
 ‘Actually, it’s not all of them whose names we can tell you.’ [ABILITY]
 (Campbell 2021) [associated audio-24-campbell.MP3]

- (30) *è=bé nǎ!kónǎ!kó ní è=bàá-nyé é=!féé*
 3SG=have.NEG nothing COMP 3SG=FUT-be_able 3SG.SBJV-do
é=hǎ !mí
 3SG.SBJV=give I.OBJ
 ‘There’s nothing that s/he can do for me.’ [ABILITY] (Campbell 2021)
 [associated audio-25-campbell.MP3]

(31) shows *bàányé* being used to signal possibility. Here, the speaker indicates that it is possible to make full payment at once. In (32), the “possibility” modal function is used to convey a suggestion. The speaker suggests that the subject referent stand at the junction of two roads (in order to have the best spot to view a passing procession). (33) also expresses possibility, but its illocutionary force is that of a polite request. The speaker is not literally asking the addressee if it is possible for her to raise her voice; he knows it is, but (33a) is more polite with *bàányé* than without it (33b).

- (31) *ò=bàá-nyé ó=pay fǎǎ biáné*
 2SG=FUT-be_able 2SG= all now
 ‘You can pay it all now.’ [POSSIBILITY]

- (32) *hèwò è=bàá-nyé é=dámò junction=é=è mǐy*
 so 3SG=FUT-be_able 3SG.SBJV=stand =DEF=DEF inside
 ‘So she can stand at the junction (of the two roads).’ [SUGGESTION]
 (Campbell 2021) [associated audio-27-campbell.MP3]

- (33) a *ófáinǎ è=bàá-nyé ó=wó ó=gbèè nǎ fí!òò*
 please 2SG=FUT-be_able 2SG.SBJV=lift 2SG=voice top little
 ‘Please, can you raise your voice a little?’ [POSSIBILITY/POLITE
 REQUEST] (Campbell 2021)
 [associated audio-28a-campbell.MP3]
 b *ófáinǎ wó ó=gbèè nǎ fí!óó*
 please lift 2SG=voice top little
 ‘Please raise your voice a little.’

Finally, in (34) *bàányé* expresses permission. The speaker is expressly giving permission to the addressees to go back to their business after he interrupted them in search of his frog. In (35), the speaker is granting permission to the addressee to leave.

- (34) *mí=nìnè é=shè mí=kòkòdé!né !nǎ.*
 1SG=hand PERF=reach 1SG=frog top
hèwò nyě=!ě nyě=bàá-nyě nyě=tsá nyě=wèkú nǎ yè
 so you.PL=TOP 2PL=FUT-be_able 2PL=join 2PL=family top be_at
nyě=shí!á=!á
 2PL=house=DEF
 ‘I have got my frog. So as for you, you can continue bonding with
 your family in your home.’ [PERMISSION] (Campbell 2021)
 [associated audio-29-campbell.MP3]

- (35) *ké ó=gbè nǎǎ=á=!á ò=bàá-nyě ó=!yá*
 if 2SG.PERF=kill mouth=DEF=TOP 2SG=FUT-be_able 2SG.SBJV=go
 ‘If you have finished, you can go.’ [PERMISSION]

None of the sentences in (29)–(35) would be grammatical without the prefix *bàá-* on the verb, *nyě* ‘be able’.

With the ability modal meaning, one could interpret *bàányě* to mean literally, ‘will be able to’, so that although the main semantic import of a sentence such as (36) is that the subject referent possesses the sewing ability at the moment of speaking, the syntax of the construction points to some point in the future when the subject may have the opportunity to prove this ability. That is, the temporal focus, as per Declerk (2006), is the future.

- (36) *è=bàá-nyě é=kpè àtálé=!é*
 3SG=FUT-be_able 3SG.SBJV=sew dress=DEF
 ‘S/he can sew the dress.’

There is another construction that also conveys ability but does not suffer from tension between syntax and semantics. It makes use of the verb *lè* ‘know’. The object of *lè* is a nominalized verb referring to some activity. As the examples in (37) and (38) show, it tends to be used for natural talents or skills or abilities acquired via training, while the *bàányě* ‘ability’ construction is used to indicate the ability to do specific tasks at some future time.

- (37) *è=lè ní=kpè-è*
 3SG=know thing-sew-NOM
 ‘S/he knows how to sew’
 ‘S/he can sew.’ i.e. S/he has the ability/skill.

- (38) $\acute{e}=l\acute{e}$ $j\grave{o}-\grave{o}$
 3SG=know dance-NOM
 ‘S/he knows how to dance’
 ‘S/he can dance.’ i.e. s/he has the ability/talent

Use of the *bàányé* construction with verbs indicating natural talents or learned life skills results only in a ‘possibility’ or ‘permission’ interpretation; the abilitive meaning is not an option (39).

- (39) $\acute{e}=b\grave{a}\acute{a}-ny\acute{e}$ $\acute{e}=!j\acute{o}$
 3SG=FUT-be_able 3SG.SBJV=dance
 ‘S/he can dance.’ i.e. it is possible to do so.
 ‘S/he can dance.’ i.e. s/he has permission to do so.
 *‘S/he can dance.’ i.e. s/he has the ability/talent.

Similarly, using *bàányé* to render the meaning in (37) results in a sentence that does not lend itself to an abilitive interpretation; only a possibility or permission interpretation (40).

- (40) $\acute{e}=b\grave{a}\acute{a}-ny\acute{e}$ $\acute{e}=!kp\acute{e}$ $n\acute{i}!i$
 3SG=FUT-be_able 3SG=sew thing
 ‘S/he can sew clothes.’ i.e. it is possible to do so/I suggest she do so/I
 give her permission to do so.
 *‘S/he can sew clothes’ i.e. she has the ability/skill to do so.

If the activity is made more specific, then the ability interpretation is possible:

- (41) $\acute{e}=b\grave{a}\acute{a}-ny\acute{e}$ $\acute{e}=kp\grave{e}$ $\grave{a}t\grave{a}l\acute{e}$ $\acute{e}=h\grave{a}$ $b\grave{o}$
 3SG=FUT-be_able 3SG=sew dress 3SG=give you.SG.OBJ
 ‘S/he can sew a dress for you.’ (ability, possibility, suggestion,
 permission)

From the foregoing, we see that when *bàányé* is used to indicate ability, the temporal contribution of the future marker is quite transparent. While the speaker is asserting that the agent at the time of speech possesses the ability to do something, s/he is also implying that this assertion can only be evaluated after the time of speech or some other time posterior to the reference time, when the action is actually carried out. I propose that ‘ability’ is the basic or primary sense conveyed by the verb phrase, *bàányé*. The possibility and permission meanings are birthed entirely by the context of the discourse. This is in line with Bybee et al.’s (1994, 229) hypothesis that “agent-oriented uses reflect the earliest meanings of modal grams and that subordinate and speaker-

oriented uses develop from these.” In Gã, this is made especially obvious by the fact that the verb involved in the expression of these modal meanings – *nyé* – predicates ability, as is shown in (42), where it occurs without any TAM affixes. This sentence cannot have a possibility or permission interpretation.

- (42) *è=nyé* *è=fèè*
 3_{SG}=be_able 3_{SG}=do
 ‘S/he was able to do (it).’

4.4 Habits

The morpheme *bàá-* can be used to indicate habits or propensities associated with some entity. So, here, *bàá-* takes on an aspectual function. This is possible in specific pragmatic and syntactic contexts. Key to a habitual interpretation of *bàá-* is the use of a temporal adverbial phrase or clause to anchor the time frame of the event. In (43), the speaker is not asserting that a particular event will occur – that “we” would go and ask someone for prayers. Rather, he is asserting that it is a known and common occurrence for people to go and ask for prayers. The habituality is in part conveyed by the adverbial *bè pìì* ‘many a time’, but *bàá-* also contributes to this meaning, and leaving it out results in ungrammaticality (44).

- (43) *bè pìì=lé* *wò=bàá-!yá hé!kó* *ní* *wó=yá-kéé*
 time many=TOP 1_{PL}=FUT-go somewhere PURP 1_{PL}.SBJV=ITIVE-tell
mǎ=kò *á!ké ô sǎlé-mǎ* *ó=hǎ* *wò*
 person=INDEF COMP INTJ pray-IMP 2_{SG}.SBJV=give we
 ‘Many a time, we will go somewhere to tell someone that “Oh, pray for us.”’ (Campbell 2021)
 [associated audio-37-campbell.MP3]

- (44) **bè* *pìì=lé* *wò=!yá hé!kó* *ní* *wó=yá-kéé*
 time many=TOP 1_{PL}=go somewhere PURP 1_{PL}.SBJV=ITIVE-tell
mǎ=kò *á!ké ô sǎlé-mǎ* *ó=hǎ* *wò*
 person=INDEF COMP INTJ pray-IMP 2_{SG}.SBJV=give we
 ‘Many a time, we go somewhere to tell someone that “Oh, pray for us.”’

In the following excerpt, the speaker is describing what one often does when one is given a chair to sit on at a public gathering. Again, the use of *bàá-* is not an assertion that this situation will happen after the speech time, but that it is a common occurrence. The time adverbial *ké àhá bò*

sě́í kẹ̀ òbàátá !shí ‘when you are given a chair and you are going to sit down’ sets the scene as one which happens regularly. Crucially, however, the succeeding verbs must be marked either with *bàá-* or with the habitual morpheme. In (45), they are marked with *bàá-*.

- (45) *kẹ̀ à=hǎ̀ bọ̀ sě́í=!é kẹ̀ ò=bàá-tá*
 when 3.IMPERS=give you.SG.OBJ chair=TOP when 2SG=FUT-sit
!shí=!é ò=bàá-kwé sě́í=!é é!kóńń á!ké
 down=TOP 2SG=FUT-look chair=DEF again COMP
ò=bàá-weigh lè ní ó=kwé á!ké è=yè
 2SG=FUT- it.OBJ PURP 2SG.SBJV=look COMP 3SG=have
hèwàlè ló ní bẹ̀ pìi kẹ̀ ò=bàá-tá !shí
 strength QP and time many when 2SG=FUT-sit down
pó=!é ò=bàá-tá !nń fá kẹ̀ fá ní ó=!féé
 even=TOP 2SG=FUT-sit top half and half ní ó=!féé
sure á!ké è=nǎ-jǐ=é yè hèwàlè
 COMP 3SG=leg-PL=DEF have strength
 ‘When you are given a chair and you are going to sit down, you will check the chair again, I mean, you will “weigh” (examine) it to see whether it is sturdy. And many times when you are even about to sit down you will sit on it gingerly to make sure that its legs are sturdy.’
 (Campbell 2021) [associated audio-38-campbell.MP3]

In the following example, the speaker is describing the rites and rituals performed during the annual twin festival. The habitual nature of the events is established in the second clause of the first sentence, where the verb *ye* ‘eat, celebrate’ is marked with the habitual suffix *-ɔ*. Consequently, the preceding and subsequent verbs marked with *bàá-* are interpreted habitually.

- (46) *dǎ ní à=bàá-yè hńmńwó=!ó à=yè-ò yèyé!yé*
 before 3.IMPERS=FUT-eat Homowo=TOP 3.IMPERS=eat-HAB Yeyeye
 ‘Before Homowo festival is celebrated, Yeyeye festival is celebrated.’

yèyé!yé=é jí hǎǎjǐ-à-yèlé=!é
 Yeyeye=DEF COP twins-PERT-yam=DEF
 ‘It is Yeyeye that is the twin festival.’

à=bàá-!hé yèlè
 3.IMPERS=FUT-buy yam
 ‘Yam will be bought.’

à=bàá-!yá-tsé hǎǎjǐ=!é àmè=sùsùmǎ
 3.IMPERS=FUT-ITIV-call twins=DEF 3PL=spirit
 ‘The spirit of the twins will be summoned.’ (Campbell 2021)
 [associated audio-39-campbell.MP3]

Support for an aspectual habitual reading of *bàá-* in the examples above comes from the fact that the main clauses can be rendered with the habitual marker without a change in meaning. For instance, in (43) the future prefix in the main clauses (not adverbial clauses) can be replaced with the habitual suffix, yielding (47). *kwé* ‘look’ in line 2, ‘weigh’ in line 3 and *ta* ‘sit’ in line 5 are now marked by the habitual suffix instead of the future prefix.

- (47) *ké à=hǎ bò sêí=!é ké ò=bàá-tá*
 when 3.IMPERS=give you.SG.OBJ chair=TOP when 2SG=FUT-sit
!shí=!é ò=kwé-ò sêí=!é é!kóhǎ á!ké ò=weigh-ò
 down=TOP 2SG=look-HAB chair=DEF again COMP 2SG= -HAB
lè ní ó=kwé á!kéè=yè hèwàlè ló
 3SG.OBJ PURP 2SG.SBJV=look COMP 3SG=have strength QP
nì bè pìi ké ò=bàá-tá !shí pò=!é ò=tá-à
 and time many when 2SG=FUT-sit down even=TOP 2SG=sit-HAB
nò fǎ kè fǎ ní ó=!féé sure á!ké
 top half and half PURP 3SG.SBJV-do COMP
è=nà-jǐí=è yè hèwàlè
 3SG=leg-PL=DEF have strength
 ‘When you are given a chair and you are going to sit down, you
 check the chair again, I mean, you “weigh” (examine) it to see
 whether it is sturdy. And many times when you are even about to
 sit down you sit on it gingerly to make sure that its legs are sturdy.’

Replacing the future morpheme with a habitual one in a clause where the future morpheme marks futurity will result in a marked change in meaning, and sometimes ungrammaticality. Example (14) above in which the verb exhibits temporal deixis is repeated below as (48a). When the future is replaced with the habitual it results in an ungrammatical sentence (48b).

- (48) a *ò=bàá-nǎ fǎé gbékè nǎ!é*
 2SG=FUT-see all evening this
 ‘You will see (it) all this evening.’ (Campbell 2021)
 [associated audio-7-campbell.MP3]
- b **ò=nà-à fǎé gbékè nǎ!é*
 2SG=see-HAB all evening this
 ‘You see (it) all this evening.’

There is a semantic and psychological relationship between habitual and future actions. Habitual actions are those that have occurred with frequency in the past and are expected to occur with frequency in the future. Therefore, there is a future temporal sense inherent in the use of the habitual. Psychological studies such as Ouellette and Wood (1998) and Danner, Aarts, and De Vries (2010) also show that past behaviours that are performed frequently and in stable contexts are good predictors of future behaviours.

Cognitively, then, it is not arbitrary that a language coopts the future marker for talking about habitual occurrence. Comrie (1985, 39) explains that English is able to mark habitual events by use of the present tense because the habit or trait that is being assigned to some entity holds at the present moment, even if the action is not happening at the present moment. Therefore, according to Comrie (1985, 39), *John goes to work at eight o'clock every day* is true even if uttered at noon. By the same principle, the future is appropriate for expressing habitual aspectual meaning because the habit is expected to hold in the future. The temporal span occupied by habitual events, from past, to present and future means that present and future tenses are good candidates for habitual expression.

In sum, whether a particular sentence with a predicate marked by *bàá-* is to be interpreted as having habitual or future temporal meaning is contextually and syntactically determined. Habituals marked by *bàá-* are often seen in procedural narratives, where a speaker describes the processes or procedures involved in the execution of an activity. An example is seen in (46) above, where each action is marked by *bàá-*. Descriptions or narrations of a person's (or people's) characteristic behaviours or actions and reactions may also be expressed this way, as is done in (45). Therefore, the type of text is a determinant of whether a habitual interpretation is warranted. Syntactically, a temporal adverbial with habitual semantics must occur in the construction to trigger the habitual aspectual use of *bàá-*.

4.5 Politeness

When the verb *sùmǎ* 'like, love' is marked with *bàá-* and takes a clause as complement, it is a strategy for making a polite request. Example:

- (49) *hèwó=!ṣ má=sùmǎ kóní wó=!ṣ ó=!bá*
 SO=TOP 1SG.FUT=like COMP tomorrow=TOP 2SG.SBJV=come
 'So I'd like for you to come tomorrow.' (Campbell 2021)
 [associated audio-43-campbell.MP3]

- (50) *wǎ=bàá-sùmǎ mòḡ ní ò=kè gbé!kè=!ṣ á-!yá shí!á*
 1PL=FUT-like instead COMP 2SG=take child=DEF SBJV-go home
 'We would like for you to take the child home instead.' (Campbell 2021)
 [associated audio-44-campbell.MP3]

The temporal focus of such constructions is the future, where the speaker is implying that he will be most pleased if the addressees were to carry out the actions in the complement clause.

Bàá- is also used with the verb *bí gbè* ‘ask permission’ as a polite, formulaic means of announcing that one is taking one’s leave. Its use here is reminiscent of Austin’s (1962) performatives.

- (51) *wɔ̀=baá-bí gbè*
 1PL=FUT-ask way
 ‘We will ask permission (to leave).’ (Used to announce that one is leaving)

5 Why *bàá-* is not a modal

In Section 4, I elaborated on the various functions as well as the semantics of the prefix *bàá-*. I showed that it has temporal, modal and even aspectual functions. Future markers that have modal uses are sometimes analysed as modal markers for several reasons. This is the case in Ewe – a related Kwa language – where Essegbey (2008) shows that what had previously been called a future tense marker is actually a potential (modal) marker. The debate over whether English *will* is a tense or modal marker has also been raging for decades, with writers such as Wekker (1976), Comrie (1985), Dahl (1985), Kissine (2008) and Salkie (2010) in the former camp, while Lyons (1977), Perkins (1982), Haegeman (1982), Palmer (2001), Downing and Locke (2002) and Copley (2009) can be found in the latter camp. The diversity of opinion among English linguists points to the difficulty in ascribing one label to a form that essentially carries out both functions. A similar problem presents itself for Gã. While I have shown that future tense is the basic and most prevalent use of *bàá-*, its modal uses cannot be ignored either. Therefore, I prefer to speak of *bàá-* as a marker with a primary future tense function and secondary modal functions. In other words, it is *both* a tense and modal marker. In the following, I outline reasons for rejecting a solely modal characterization of *bàá-*.

The first argument against a modal-only characterization of *bàá-* is simply the dominance of the future temporal use in the language. *bàá-* is overwhelmingly used to assert that an event will unfold after the reference time. The corpus of spoken Gã that provided the data for this work reflects this dominance. Table 1 shows the different senses or functions of *bàá-* and the number and proportion of all *bàá-* containing clauses that exhibit that sense.

Of the approximately 328 clauses containing the prefix, *bàá-*, about 242 (73.8%) were used temporally, i.e., to assert that an action would occur after reference time. This included both relative and absolute future tenses. Only 24 (representing 7.3% of the clauses) occurrences were modal in nature. There were no tokens of *bàá-* being used with epistemic modal meaning. The second most frequent function was the habitual aspectual function, but

this may have been over-represented in the data, as the habitual function is common in procedural narratives and the data contained two recordings of this genre. The paucity of modal interpretations of *bàá-* is very telling. If *bàá-* were a modal marker, then we would expect far more of its tokens to have modal meaning. Instead, in only 24 instances or 7.3% of all clauses does it express deontic/dynamic modality, and these all involve a modal abilitive verb, *nyé* ‘be able’. The rarity of the epistemic modal meaning is not surprising since this meaning is obtained with only a few stative verbs. On the other hand, when *bàá-* is used to mark future tense, it has no such restrictions; it can occur with almost any kind of verb. Although the modal sense of intention can be expressed by *bàá-*, this is restricted to animate subjects and specific contexts. Even so, intention and future time reference are often expressed together by *bàá-*. Future meaning, on the other hand, is not pragmatically and syntactically restrained.

Secondly, Gã has other means of expressing future time, but *bàá-* is the only future marker which can be used for temporal reference only, without any additional semantic modification. *yàá-* – the prospective marker – codes future temporal reference, but it also conveys that the action is imminent. *bàá-* is therefore used more frequently than *yàá-*. It will be shown in Section 6 that another future prefix, *àá-* has largely fallen out of use in present-day Gã and currently has a more modal character in the few instances in which it is used. Future events may also be marked by the progressive prefix *mùù-/ì-* but this also depends on context as there is great potential for ambiguity between progressive and future meaning. As a result, progressives used for future temporal reference are often accompanied by a temporal adverb specifying the time in the future that the action will take place. Furthermore, when the progressive is used for future reference without a time adverb, it often indicates that the event will unfold soon. The progressive, therefore, is not a common means of marking future. This leaves *bàá-* as the preferred future marker in the language.

It may be tempting to say that *bàá-* is a modal marker indicating irrealis or non-actualized situations, hence its suitability for marking future, epistemic modality, deontic/dynamic modality and habituality – all events in the realm of possibility rather than actuality (with the exception of habituality, which straddles both). Such a route, however,

Table 1. Functions of *bàá-* and their proportions in corpus of spoken Gã.

Senses of <i>bàá-</i>	Number of clauses	Proportion (%)
Temporal	242	73.8%
Habitual	57	17.4%
Deontic/dynamic modality (with <i>nyé</i>)	24	7.3%
Politeness (with <i>sùmǎ</i>)	5	1.5%
Epistemic modality	0	0%
Total	328	100%

will greatly undermine what is its most important and most oft-deployed function; its “dominant parameter,” to borrow a phrase from Dahl (1985, 10) – and that is a future time reference. It is simpler to analyse it as primarily temporal and attribute its other less common uses to contextual factors and implicature than to deem it a modal marker, which nevertheless is used temporally the vast majority of the time.

One may also posit that ‘uncertainty’ is the semantic element common to most uses of *bàá-* and therefore *bàá-* is primarily modal. However, this is patently not the case, as most uses of *bàá-* assert an action occurring after the future time without any nuance of uncertainty. Indeed, the use of *bàá-* conveys confidence in the realization of the future event, never mind that knowledge of the future is hardly assured. Uncertainty in Gã is not normally expressed grammatically, but by means of epistemic adverbs such as *éłkólé* ‘maybe’. The exception of course, is the uncertainty expressed when certain stative verbs occur with *bàá-*.

Modality has been defined as the grammaticization of speakers’ (subjective) attitudes and opinions (Bybee et al. 1994, 176). To analyse *bàá-* as a modal marker will imply that this is what it does in its most pervasive function. However, when speakers use *bàá-* in the majority of cases, they are not doing any attitudinal work, but simply predicating that an event will occur after the time of speech. Let us take epistemic modality, for example. Bybee et al. (1994, 179) have noted that epistemic modal markers indicate less-than-total commitment to the truth of a proposition. The unmarked case is total commitment to the truth of a proposition. If one posits that *bàá-* is a modal, then one would have to say that it is a modal which is used most frequently to indicate the unmarked situation, i.e., total commitment to the truth of a proposition. Clearly, this position is not tenable. If certainty or a strong belief in the actualization of an event is considered modal, then all future expressions would be considered modal. Jaszczolt (2009, 50) espouses this view, where all time (including past and future) is modal, and temporal interpretations are simply derived by context. This view is rather extreme, as it unnecessarily removes tense entirely from consideration.

It is my position, therefore, that *bàá-* should not be tagged as a modal marker, to avoid the erroneous impression that its main function is the marking of modal meaning. Rather, it should be viewed as both a tense and modal marker, with the future tense function being most basic and most prominent. This justifies its gloss as FUTURE.

The next section looks briefly at another future marker, *àá-*, which possesses a more modal than temporal character.

6. Syntax and semantics of *àá-*

The most striking thing about this morpheme is that it is rarely heard in conversational Gã. It is considered very formal and stilted and tends to be used in domains where there is a premium placed on speaking hyper-correct Gã. This hyper-correctness often translates into the use of archaic forms. In the Gã discourse corpus, there were just four tokens of *àá-*, with three being produced by the same speaker – a story-teller, while the fourth was produced by a priest during a sermon. With so few discourse tokens and little intuition of its precise semantics, the following analysis is mainly intended to show that *àá-* is not synchronically the future marker, as has been stated by for example, Dakubu and Kropp (2008). Its near absence from the language is one major indicator of that. In terms of semantics, Dakubu and Kropp (2008) and Adjei (p.c.) have noted that *àá-* indicates uncertainty about the actualization of the future event. Thus, *àá-* is sometimes translated with English *may, might*, as in (7a), repeated here as (52). This implies that *àá-* is an epistemic modal.

- (52) *gbekɛbii le àá-bí*
 children DEF FUT-ask
 ‘The children might/would/will ask’
 (Dakubu 2008, 108)

In three of the four examples collected, *àá-* occurs with the epistemic adverb *àléénǎ* ‘maybe, perhaps’ (lit: “one does not know thing”), with the epistemic adverb appearing to reinforce the uncertainty inherent in the verbal prefix. Such combinations are referred to by Halliday (1970) as harmonious combinations and by Downing and Locke (2002, 381) as modal harmony. The following sentences exemplify this phenomenon.

- (53) *nì è=yà-kò tsò klóh!klóh á!ké àléénǎ*
 and 3SG=ITIV-climb tree another COMP perhaps
èé=nà kòkòdé!né=è yè tsó=è nǎ ló
 3SG.EP.FUT=see frog=DEF be_at tree=DEF top QP
 ‘And he climbed another tree in order that perhaps he would see the frog on the tree.’ (Campbell 2021)
 [associated audio-46-campbell.MP3]

- (54) *nì è=kèé gbèé=!é á!ké gbèé=!é á-!féé díóó*
 and 3SG=tell dog=DEF COMP dog=DEF SBJV-do quiet
á!ké àléénǎ kòkòdé!né=è àá-!hí jǎmè ló
 COMP perhaps frog=DEF EP.FUT-be_at there QP
 ‘And he told the dog that the dog should be quiet, that perhaps the frog would be there.’ (Campbell 2021)
 [associated audio-47-campbell.MP3]

The uncertainty conveyed by *àá-* is further reinforced by the question particle, *ló*, in both sentences. In the following example, uttered by a priest during a sermon, *àá-* appears to have only a future temporal meaning, with no epistemic modality involved. It was the only time in the sermon that *àá-* was used. I suspect that this particular use of *àá-* is influenced by the Gã Bible, from which the priest appears to be quoting. The current edition of the Bible, published in 2006, uses *àá-* as its primary future marker, a relic from centuries ago when it was first translated and *àá-* was the prevalent future marker.

- (55) *shì nyǝ̃ɲmǝ̃ jí mǝ̃ ní kǝ̃é lwó álké*
 but God COP person REL tell 1PL COMP
nyǝ̃=bí-à nǝ̃ àá=hǎ nyǝ̃
 2PL.SBJV=ask-IMP.PL and 3.IMPERS.EP.FUT=give you.PL
 ‘But God is the one who said that you should ask and you will be given.’ (Campbell 2021)
 [associated audio-48-campbell.MP3]

It is interesting that *àá-* did not occur in main clauses, except when the speaker appeared to be lifting it out of the Gã Bible, a publication that uses a very conservative version of the language. Givón (1979) has observed that subordinate clauses are more conservative than main clauses and tend to retain older morphology and syntax, while Bybee et al. (1994, 274) also report that subordinate uses of future grams tend to develop much later.

Regarding *bàá-*, Dakubu and Kropp (2008) and others have hypothesized that it is the result of a coalescence of the ventive prefix *ba-* and the epistemic modal *àá-*, resulting in *bàá-*. I contend that this scenario is unlikely because in Gã, the ventive prefix (and its itive counterpart, *ya*) occur in the immediate pre-verb root slot, i.e., after all prefixes have been attached. So, in (56a) and (56b), *ba-* occurs after the perfect and subjunctive prefixes, respectively, and is immediately followed by the verb root, *nǎ*. A combination of the ventive prefix and *àá-* should therefore yield (56 c) and not (56d), as we have now.

- (56) a *ákú é-bà-nǎ mǝ̃*
 Aku PERF-VENT-see I.OBJ
 ‘Aku has come to see me.’
 b *ákú á-bá-nǎ mǝ̃*
 Aku SBJV-VENT-see I.OBJ
 ‘Aku should come and see me.’
 c **ákú àá-bá-nǎ mǝ̃*
 Aku EP.FUT-VENT-see I.OBJ
 ‘Aku might/will come and see me.’
 d *ákú bà-àá-nǎ mǝ̃*
 Aku VENT.FUT-see I.OBJ
 ‘Aku will come and see me.’

bàá- itself can combine with the ventive prefix (57). It can also occur with its semantic opposite – the itive prefix, *ya* without resulting in a contradiction (58).

- (57) *áku bàá-bà-nínà mî*
 Aku FUT-VENT-meet I.OBJ
 ‘Aku will come and meet me.’

- (58) *à=bàá-!yá-míà mî*
 3.IMPERS=FUT-ITIV-squeeze I.OBJ
 ‘I will be groped.’ (Lit: “They will go and squeeze me”) (Campbell
 2021)
 [associated audio-51-campbell.MP3]

This suggests that speakers are oblivious to the original motional semantics of the lexical source of *bàá-*. It should therefore be considered a monomorphemic marker. In Campbell (Campbell, *in press*), I trace the historical trajectory of *bàá-* and *àá-* and propose an alternative analysis for the development of *bàá-*. I show, using various historical records, that it is the result of the fusion of the future prefix *ba-* (from the verb *ba* ‘come’) with a following subjunctive prefix *a-* at a time when both markers could occur together on a verb. A parallel development could have been undergone by the prospective marker *yàá-* (developed from verb *ya* ‘go’), and epistemic future *a* (also developed from *ba* ‘come’). Works by Rask (1828), Hanson (1853) and Zimmermann (1858) all show that *a* and *ba* (or its precursor *wa*) have co-existed for centuries. It is not the case that *bàá-* is a new future marker developed from *àá-*.

7. Conclusion

In this paper, I have shown that Gã has a morpheme *bàá-* whose main function is the marking of future tense. In addition to its temporal function, it indicates epistemic modality as well as deontic/dynamic modal in concert with the verb *nyé* ‘be able’. It also codes habituality and politeness when it occurs with *sùmǎ* ‘like/love’ and other verbs. I have argued against a purely modal characterization of *bàá-* based primarily on the overwhelming frequency of the temporal function in discourse as well as the scarcity of the modal use and the fact that the modal use is restricted to certain verbs or classes of verbs; a restriction that does not apply to the temporal function. The future temporal analysis of *bàá-* is further buttressed by the fact that it is the only marker that can convey future time only, without other semantic nuances. Gã does have a form *àá-*, which marks uncertainty about future events. However, this morpheme is rarely used, and epistemic adverbs are used instead. The two morphemes have an intriguing

diachronic history, which has been analysed in Campbell (Campbell, *in press*), where I show that *àá-* and *bàá-* (or their variants) have for centuries shared the future temporal function, until *àá-* recently took on the epistemic modal use and started receding from use.

This paper has shown that when faced with several possibilities for labelling a particular functional form, one should look to the natural data, which often tells us what speakers do most with the form in question. Frequency of use should be given a prominent role in the analysis if the analysis is to reflect everyday use of the language.

Acknowledgments

An earlier version of this paper was presented at a seminar in the Linguistics Department, University of Ghana. I would like to thank the faculty and students in attendance there for their helpful comments and suggestions for improving the paper.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributor

Akua Campbell is a lecturer in the Department of Linguistics at the University of Ghana. Her research interests are syntax, typology, field linguistics, discourse and African linguistics.

Data Availability Statement

The data that support the findings of this study are openly available in Mendeley at <https://doi.org/10.17632/m46h3xtfng.2>

References

- Adjei, Emmanuel Nii Adjetey. 1999. “*An Aspect of the Syntax and Semantics of Ga: Serial Verb Constructions.*” MPhil thesis, University of Ghana.
- Austin, John L. 1962. *How to Do Things with Words*. Oxford: Clarendon Press.
- Boadi, Lawrence. 2008. “Tense, Aspect and Mood in Akan.” In *Aspect and Modality in Kwa Languages*, edited by M.E. Kropp Dakubu and Felix K. Ameka, 9–68. Amsterdam: John Benjamins.
- Bybee, Joan, Revere Perkins, and William Pagliuca. 1994. *The Evolution of Grammar. Tense, Aspect and Modality in the Languages of the World*. Chicago and London: The University of Chicago Press.
- Campbell, Akua. 2017. “*A Grammar of Gã.*” PhD diss., Rice University.
- Campbell, Akua. 2021. “The Syntax and Semantics of Gã Future Markers.” *Mendeley Data* V2. doi:10.17632/m46h3xtfng.2.

- Campbell, Akua. *in press*. "A Historical Analysis of Gã Future Morphemes." *Frankfurt African Studies Bulletin* 31: 95–123.
- Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.
- Comrie, Bernard. 1985. *Tense*. Cambridge: Cambridge University Press.
- Copley, Bridget L. 2009. *The Semantics of the Future*. New York: Routledge.
- Copley, Bridget. 2008. "The Plan's the Thing: Deconstructing Futurates." *Linguistic Inquiry* 39 (2): 261–274. doi:10.1162/ling.2008.39.2.261.
- Dahl, Östen. 1985. *Tense and Aspect Systems*. Oxford: Basil Blackwell.
- Dahl, Östen. 2000. "The Grammar of Future Time Reference in European Languages." In *Tense and Aspect in the Languages of Europe*, edited by Östen Dahl, 309–328. Berlin: de Gruyter.
- Dakubu, Mary Esther Kropp. 2004. "Ga Clauses without Syntactic Subjects." *Journal of African Languages and Linguistics* 25: 1–40. doi:10.1515/jall.2004.002.
- Dakubu, Mary Esther Kropp. 2008. "Ga Verb Features." In *Aspect and Modality in Kwa Languages*, edited by Mary E. Kropp Dakubu, and Felix K. Ameka, 91–134. Amsterdam: John Benjamins.
- Dakubu, Mary Esther Kropp. 1993. "Ga Verbal Constructions." Unpublished manuscript.
- Dakubu, Mary Esther Kropp. 1998. "Verb Classification for a Ga Verb Dictionary." Unpublished manuscript.
- Danner, Unna, Henk Aarts, and Nanne De Vries. 2010. "Habit vs. Intention in the Prediction of Future Behaviour: The Role of Frequency, Context Stability and Mental Accessibility of past Behaviour." *British Journal of Social Psychology* 47 (2): 245–265. doi:10.1348/014466607X230876.
- de Brabanter, Philippe, Mikhail Kissine, and Saghie Sharifzadeh. 2014. "Introduction." In *Future Times, Future Tenses*, edited by Philippe de Brabanter, Mikhail Kissine, and Saghi Sharifzadeh, 1–25. Oxford: Oxford University Press.
- Declerck, Renaat. 2006. *The Grammar of the English Verb Phrase. Vol 1: The Grammar of the English Tense System: A Comprehensive Analysis*. Berlin: Mouton de Gruyter.
- Downing, Angela, and Philip Locke. 2002. *A University Course in English Grammar*. London: Routledge.
- Essegbey, James. 2008. "The Potential Morpheme in Ewe." In *Aspect and Modality in Kwa Languages*, edited by Mary E. Kropp Dakubu and Felix K. Ameka, 195–214. Amsterdam: John Benjamins.
- Giannakidou, Anastasia, and Alda Mari. 2018. "A Unified Analysis of the Future as Epistemic Modality: The View from Greek and Italian." *Natural Language & Linguistic Theory* 36 (1): 85–129. doi:10.1007/s11049-017-9366-z.
- Givón, Talmy. 1979. *On Understanding Grammar*. Orlando: Academic Press.
- Haegeman, Liliane. 1982. "The Semantics of Will in Present-Day English Usage: A Unified Approach. Some Implications for Pedagogical Grammars." *Interlanguage Studies Bulletin* 6 (1): 121–145. <https://www.jstor.org/stable/43135266>.
- Halliday, M.A.K. 1970. "Language Structure and Language Function." In *New Horizons in Linguistics*, edited by J. Lyons, 140–165. Harmondsworth: Penguin.
- Hanson, A.W. 1853. "On the Grammatical Principles of the Ghã (Accra) Language." *Journal of the Ethnological Society of London* 4: 84–97.
- Huddleston, Rodney, and Geoffrey Pullum. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.
- Jaszczolt, Kasia. 2009. *Representing Time: An Essay on Temporality as Modality*. Oxford: Oxford University Press.

- Kissine, Mikhail. 2008. "Why Will Is Not a Modal." *Natural Language Semantics* 16 (2): 129–155. doi:10.1007/s11050-008-9028-0.
- Korsah, Sampson. 2011. "Transitivity and Inherent Complementation in Gã." MPhil thesis, University of Ghana.
- Lyons, John. 1977. *Semantics*. Cambridge: Cambridge University Press.
- Manfredi, Victor. 1997. "Aspectual Licensing and Object Shift." In *Object Positions in Benue-Kwa*, edited by Rose-Marie Déchaine and Victor Manfredi, 87–122. The Hague: Holland Academic Publishers.
- Mayer, Mercer. 1969. *Frog, Where are You?* New York: Dial Books.
- Osam, Emmanuel K. 1994. "A Functional Grammar of Akan." PhD diss., University of Oregon.
- Osam, Emmanuel K. 2008. "Akan as an Aspectual Language." In *Aspect and Modality in Kwa Languages*, edited by M.E. Kropp Dakubu and Felix K. Ameka, 69–89. Amsterdam: John Benjamins.
- Otoo, Yvonne Akwele. 2014. "Expressing Property Concepts in Ga." PhD diss., University of Ghana.
- Ouellette, Judith A., and Wendy Wood. 1998. "Habit and Intention in Everyday Life: The Multiple Processes by Which past Behavior Predicts Future Behavior." *Psychological Bulletin* 124 (1): 54–74. doi:10.1037/0033-2909.124.1.54.
- Palmer, Frank R. 1990. *Modality and the English Modals*. Second ed. New York: Routledge.
- Palmer, Frank R. 2001. *Mood and Modality*. Second ed. Cambridge: Cambridge University Press.
- Perkins, Michael R. 1982. "The Core Meanings of the English Modals." *Journal of Linguistics* 18 (2): 245–273. doi:10.1017/S0022226700013608.
- Rask, Rasmus. 1828. *Vejledning til Akra-Sproget på Kysten Ginea, med et Tillæg om Akvambuisk*. [Guide to the Akra Language with an Appendix on Akvambu.]. Copenhagen: S.L. Møllers Bogtrykkeri. [Unpublished translation by M.E. Kropp Dakubu.].
- Richter, Joscelyn. 1998. "Posture Verbs in Akan and Ga." MPhil thesis, University of Ghana.
- Salkie, Raphael. 2010. "Will: Tense or Modal or Both?" *English Language and Linguistics* 14 (2): 187–215. doi:10.1017/S1360674310000055.
- Shibatani, Masayoshi. 2006. "On the Conceptual Framework for Voice Phenomena." *Linguistics* 44 (2): 217–269. doi:10.1515/LING.2006.009.
- Wekker, Herman C. 1976. *The Expression of Future Time in Contemporary British English*. Amsterdam: North-Holland.
- Zimmermann, Johannes. 1858. *A Grammatical Sketch of the Akra or Gã Language with Some Specimens from the Mouth of the Natives, and A Vocabulary of the Same with an Appendix on the Adãñme-Dialect*. Vol. 2. Stuttgart: Steinkopf.