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Towards a unified account of *na* in Akan

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Grammatical accounts of *na* in Akan identify two different forms: *nā* with a low tone (LT-*na*) and *ná* with a high tone (HT-*na*). LT-*na* functions in two ways: as a focus marker or a conjunction, the latter of which can take a prefix and be realized as *ɛna*. While some scholars treat them as two different *na*'s, others point to a commonality between the two.

HT-*na* has been analyzed as functioning as past and future tenses, and a logical connector. We argue that these three HT-*na* along with the two LT-*na* are subcategories of a super-category. We propose that the super-category is a non-tonal *na* (call it Root-*na*), with a common basic meaning which explains all five seemingly unrelated interpretations. Root-*na* links the *na*-clause with something in the common ground, i.e., to something that appeared in the previous context or is presupposed. It is spelled out as a LT-*na* or HT-*na*, depending on the kind of linking. LT-*na* marks discourse coherence relations such as focus and narrative-sequence, both of which are shown in the linguistics literature to be anaphoric. HT-*na* is an intensional marker which links times or possible worlds.

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1 Introduction

Grammatical accounts of *na* in Akan identify two different forms. These are *nà* with a low tone (henceforth *LT-na*) and *ná* with a high tone (henceforth *HT-na*). It has been argued in the literature that *LT-na* functions in two ways, namely as a focus marker or a conjunction, the latter of which can take a prefix and be realized as *ena* ‘and then’. Consider the slightly modified examples below from Schwarz and Fiedler (2007: 274) (upper case letters in the English gloss mark a focused element).¹

- (1) a. àdùá nà ò-dí-ì-yé
 beans *LT-na* 3SG.SUBJ-eat-PST-Yé²
 ‘He ate BEANS.’ (Schwarz and Fiedler 2007: ex. 13)
- b. Maame nòá-à àdùá, nà n’-àdámfò dí-ì-yé
 Maame cook-PST beans *LT-na* 3SG:POSS-friend eat-PST-Yé
 ‘Maame cooked beans and her friend ate them.’ (Schwarz and Fiedler 2007: ex. 14a)

The NP *àdùá* ‘beans’ in (1a) is fronted and followed by *LT-na*. The translation suggested by Schwarz and Fiedler shows that *àdùá* ‘beans’ is marked as the focus of the sentence. The two clauses in (1b) seem to be conjoined by *LT-na*. While scholars like Boadi (1974) treat the *LT-na* in examples like (1a) as a different particle from the *LT-na* in (1b), others like Bearth (1999a, 2002) and Schwarz and Fiedler (2007) point to a commonality between the two. Our contention is in accord with the latter studies that consider the two to be related (see discussion in §3 below).

HT-na has been analyzed by Boadi (2008) as three homophones, marking past tense (as in 2a), future tense (as in 2b) or logical connector (as in 2c):

- (2) a. mè bá-è nó ná ò-rè-dìdì.
 1SG come-PST TP³ PST 3SG.SUBJ⁴-PROG-eat
 ‘When I came, he was eating.’ (Boadi 2008: ex. 62)

¹ (a) Tone is not marked in Akan orthography. However, because it is crucial for the discussion (as we show in section 2), we mark tone on all examples, including those taken from other sources that do not have tone marking. We have also modified the glossing of cited examples (where possible) to conform with the Leipzig glossing rules.

(b) Note that not all those who write on Akan agree on what constitutes tense and aspect in the language. For the purposes of this paper, we adopt the tense, aspect and mood categories used in most analyses of Akan and summarized in Boadi’s (2008: 13) Table 1.

² *Yé* occurs on final verbs that take the past tense morpheme and occur without a following complement in the Asante dialect. These include intransitive verbs, transitive verbs whose complements have been fronted and, as in (1b), instances where the complement is a null object. For recent analyses of the phenomenon see Ofori (2018) and Kandybowicz (2015).

³ The word *nó* functions in different ways: as a TP, TOP, or DEF, depending on the sentence.

⁴ Akan distinguishes between the third person singular subject pronoun and the object pronoun. We capture this in the glossing by using 3SG.SUBJ for the former and 3SG.OBJ for the latter.

- b. (wó bé-bá nó) ná Kofi hó á-tò nò.
 2SG FUT-come TP FUT Kofi skin PERF-settle 3SG
 ‘(By the time you come back), Kofi will have enjoyed a state of mental calm.’
 (Boadi 2008: ex. 74)
- c. sè wó hù-ù nò áà⁵ (éndèè) ná
 If 2SG see-PST 3SG COND (in.that.case) it.follows.from.the.aforesaid.that
 ò bà-è.
 3SG.SUBJ visit-PST
 ‘If you saw him, then it logically follows that he visited.’ (Boadi 2008: ex. 79)

We have modified the glosses of these examples to conform to Leipzig glossing rules but kept Boadi’s glosses of HT-*na* to show that he treats them as separate morphemes. We will suggest in Section 4 different glossing according to how we interpret these sentences.

In this paper, we argue that all uses of HT-*na* (as illustrated in 2a–2c), along with the uses of LT-*na* (illustrated in 1a and 1b), are subcategories of one super-category. We propose that the super-category is a non-tonal *na*, call it *Root-na*, with a common basic function which explains all five seemingly unrelated interpretations. Our contention is that *Root-na* links the *na*-clause with something in the common ground, i.e., to something that appeared in the previous context or is presupposed. It is spelled out as a LT-*na* or HT-*na*, depending on the kind of linking.⁶

The paper is organized as follows. In §2, we show that the behavior of tone in Akan supports our proposal that there is one *na* with different realizations. In §3, we show that LT-*na* marks focus (as in 1a above) or discourse coherence relations such as narrative-sequence (as in 1b). In §4, we discuss HT-*na*, showing it to be an intensional marker which links times (as in 2a and 2b above) or possible worlds (as in 2c). In §5, we summarize and conclude the findings of the previous sections.

2 Tone in Akan

Akan is a (New) Kwa language of the Niger-Congo family spoken in Ghana (cf. Boadi 2005). Its dialects include Akuapem, Asante, Fante, Wasa, Agona, Akyem, Bron/Abron, Kwahu and Gomua (cf. Dolphyne & Dakubu 1988). Dolphyne & Dakubu (1988) note that the major non-Fante dialects (i.e., Asante, Akuapem, Akyem and Kwawu) are called Twi. Unless otherwise specified, the examples for this paper are taken from the Asante Twi.

⁵ The conditional which Boadi writes as áà is homophonous with the relativizer which Saah (2010) writes in the same way (see discussion in the next section).

⁶ Our analysis is based on data from the literature, and consultation with native speakers.

Akan is a tone language with two basic tones, i.e., High and Low. Tone plays lexical as well as grammatical functions. The examples below in which tone distinguishes between lexical items are from Dolphyne (1988: 53):

- (3) a. pápá ‘good’
 b. pàpá ‘father’
 c. pàpà ‘fan’
- (4) a. dá ‘day’
 b. dà ‘never’
- (5) a. òbòfó ‘hunter’
 b. òbófó ‘creator’

High and Low tones also occur on the same lexical item and make a grammatical distinction (Dolphyne 1988). Examples are given below:

- (6) a. ò-hyé àtádéé.
 3SG.SUBJ-wear:HT garment
 ‘She wears a dress.’ (Dolphyne 1988: ex.70)
- b. ò-hyè àtádéé.
 3SG.SUBJ-wear:LT garment
 ‘She is wearing a dress.’ (Dolphyne 1988: ex.71)
- (7) a. Kofi dá òpá só.
 Kofi lie:HT bed top
 ‘Kofi lies in bed.’
- b. Kofi dà òpá só.
 Kofi lie:LT bed top
 ‘Kofi is lying in bed.’
- (8) a. tóá nó sí pónó nó só.
 bottle DEF be_on_base:HT table DEF top
 ‘The bottle is usually on the table.’
- b. tóá nó sì pónó nó só.
 bottle DEF be_on_base:LT table DEF top
 ‘The bottle is on the table.’

The High tone on the verbs in the (a) examples of (6)–(8) is analyzed in Akan linguistics as the Habitual while the Low tone is analyzed as the Stative (Dolphyne 1988; Boadi 2008) or the Continuative (Osam 1994). For our purposes, these examples show that the same lemma can take

a different tone and yield a different interpretation. We argue that LT-*na* and HT-*na* also involve the same lemma, and they receive their specific interpretation based on their respective tone.

An anonymous Glossa referee has pointed out that our argument that LT-*na* derives from the underlying Root-*na* (just like HT-*na*) may be challenged by Ofori (2011). According to Ofori, *na* is derived from *ne* /nɪ/ which he treats as the basic focus marker in Akan. Ofori (2011) derives *na* from a construction that involves a relative clause headed by a generic noun (e.g., ‘The girl is the person who took my pen’, where ‘person’ is the generic noun). Ofori argues that when the relative clause is headless (i.e., it does not have a generic noun head), the contiguity of *ne* and the relativizer gives rise to *na*. He provides the following morphophonological rule: “/ɪ/ → /n_∅ /n_ + a/ ([a] being the relativizer), and the fusion of [n] and [a] to derive *na*.” (2011: 251). According to Ofori, the high tone of *ne* is dropped when the vowel is deleted leaving the tone of the relativizer only. While this is an intriguing proposal, it is problematic because the tone of the relativizer is falling, not low. Saah (2010: 93) writes: “Akan uses the particle *àà* (said with a falling tone) to mark the beginning of the relative tone” (referring to the relativizer). He adds in a footnote: “The relative complementizer is represented by the letter a in Akan orthography but I will follow Schachter (1973: 23) in representing it as *àà* to reflect its actual phonetic realization” (Saah 2010: 9, fn. 2). We can conclude that contrary to what Ofori suggests, LT-*na* does not derive from [ne] and argue that it derives from Root-*na*.⁷

The parallelism between the focus marker and the conjunction is not peculiar to Akan alone. Fiedler and Schwartz (2004) discuss similar parallels in two other Kwa languages (i.e., Ewe and Lelemi) in addition to Akan and two Gur languages (i.e., Buli and Dagbani). In section 3.3, we suggest that a “narrative hypothesis” which they propose to account for the parallelism supports our proposal.

3 LT-*nà*: inferential relations

In this section, we show that all the uses of LT-*na* observed in the literature (see, e.g., Amfo 2007; Schwartz & Fidler 2007) have one property in common, namely inferential linking. In subsections §3.1 and §3.2, we discuss its function to mark discourse coherence relations and focus (linking), respectively. In the concluding sub-section §3.3, we include a short account for the “narrative hypothesis” of Schwarz and Fiedler (2007) as support for our proposal.

⁷ There is evidence that when a vowel segment with a high tone is deleted before the relativizer, the falling tone is maintained. Consider the example below:

- (i) Awùràá n(ó) áà òbá-à há nó dè Mary
 Lady DEF REL 3SG:SUBJ-come-PST here TP be_called Mary
 ‘The lady who came here is called Mary.’

Even though the vowel ó of the definite determiner, which carries a high tone, has been elided (as occurs in fast speech), the falling tone of the relativizer remains intact.

3.1 Marking discourse coherence relations

In §3.1.1, we discuss the notion of discourse coherence relations in language, and in §3.1.2, we show that *LT-na* in Akan is used for marking such relations.

3.1.1 Discourse coherence relations in language

Asher (1993), Asher (1998), Lascarides and Asher (1993) and Asher and Lascarides (2003) have developed SEGMENTED DISCOURSE REPRESENTATION THEORY (SDRT) to account formally for discourse coherence relations.⁸

SDRT suggests an analysis of the discourse relations holding between propositions that a (coherent) text consists of. This analysis takes into consideration not only linguistic knowledge, with its logical entailments, but also world knowledge, whose inferences may be defeasible. The following examples from Asher & Lascarides (2003: 6) illustrate:

- (9) a. Max fell. John helped him up. (Narration)
 (Asher & Lascarides 2003: ex. 5)
- b. Max fell. John pushed him. (Explanation)
 (Asher & Lascarides 2003: ex. 6; Lascarides & Asher 1993: ex. 2)

As Asher & Lascarides note, discourses (9a) and (9b) have the same tense forms and aspectual classes (aka ‘Aktionsarten’), yet they seem to imply different coherence relations between their sentences. In (9a), the sentences are interpreted as relating a story in which a certain sequence of events is described; hence they are understood to be temporally ordered. The coherence relation between them is therefore determined to be Narration. In (9b), the event reported by the first clause (Max’s falling) is interpreted as having happened after (and as a consequence of) the event reported in the second (John’s pushing Max). Accordingly, the coherence relation between the first and second clause is understood to be that of Explanation. Other relations include Contrast, Parallel, Elaboration, etc.

Since discourse relations are based in part on world knowledge, they are defeasible, and “one and the same proposition can have different discourse roles in different contexts” (Asher & Lascarides 2003: 136). The relationship between *Max fell* and *John pushed him*, for example, is Explanation in (9b) above but Narration in (10) below:

- (10) John and Max were at the edge of a cliff. Max felt a sharp blow to the back of his neck.
 Max fell. John pushed him. Max rolled over the edge of the cliff.
 (Asher & Lascarides 2003: ex. 16; Lascarides & Asher 1993: ex. 20)

⁸ We will only discuss here what is relevant for this paper. A concise summary of SDRT may be found in Caudal (2012) and other studies adopting this theory.

The different relationships in (9b) and (10) affect the interpretation of the events' temporal order. While in (9b) Max's falling is understood to have followed John's pushing, in (10) it is the other way around.

Crucially for the points made in this section, the analysis can be applied to conjoined sentences. Consider the sentences in (11a) and (11b) below:

- (11) a. Max fell and John helped him up. (Narration)
 Max loves Mary and she hates him. (Contrast)

The conjoined clauses in (11a) are understood to hold the Narration relation between them, as the event depicted in the second clause is understood to follow in time the one depicted in the first. In contrast, the conjoined sentences in (11b) are understood to depict two simultaneous states that contrast each other.

3.1.2 LT-*na* and discourse coherence relations

Amfo (2007) shows that LT-*na* in Akan may imply the same coherence relations as the English 'and' in sentences like (11a) and (11b) above. In particular, she shows that various discourse relations may exist due to the appearance of LT-*na*: Narration (Temporality, in her terminology), Causal, Parallel, Contrastive as well as Explanation. Consider some of her examples:

- (12) Narration (=Temporality)
- a. Agyeman *dī-ì* àdùàné nó nyìnáá nà ò-dá-é. (Asante)
 Agyeman eat-PST food DEF all LT-*na* 3SG.SUBJ-sleep-PST
 'Agyeman ate all the food and (then) he slept.' (Amfo 2007: ex. 1)
- b. ó-yì-ì nè òpàbòwá nyòmá dzè nó nà.
 3SG.SUBJ-take.off-COMPL 3SG:POSS sandal right own 3SG LT-*na*
 ò-dzé nè nán tsíá-à dó (Fante)
 3SG.SUBJ-take 3SG:POSS foot step-COMPL top
 'He took off his right sandal and then stepped on it.' (Amfo 2007: ex. 7)
- (13) Contrast
- a. mē-kò-ò nè fíé nà m'-à-ò-kò tó nò.
 1SG-go-COMPL 3SG:POSS house LT-*na* 1SG-COMPL-NEG-go meet 3SG
 'I went to his house and (but) I didn't meet him.' (Amfo 2007: ex. 2) (Asante)
- b. áhyèsé nó nná òkyè mè-òò-pé nà sèèsé!í dze mè-pè. (Fante)
 beginning DEF then MM 1SG-NEG-like LT-*na* now FM 1SG-like
 'In the beginning, (then) I didn't like (the idea), but now I do.' (Amfo 2007: ex. 12)

(14) Explanation

kò prá dání nó mú hó nà mama bé-bá sèèsé!í árá.
 go.IMP sweep room DEF inside there LT-*na* Mama FUT-come now just
 ‘Go and sweep the room because Mama will come right now.’ (Amfo 2007: ex. 15)

Amfo glosses all the *LT-na* occurrences in examples (12)–(14) as ‘and’, as she understands their respective clause to be syntactically coordinated to the previous clause. Even when a *LT-na* clause appears detached from a previous clause, she takes it to be still conjoined. Consider her example given in (15) below:

(15) nà mó wùrà wóáná nà ò-bó-bòá hèn wò fíé? (Fante)
 LT-*na* 1SG:POSS lord, who LT-*na* 3SG.SUBJ-FUT-help 1PL LOC home.
 ‘And my lord, who will help us at home?’ (Amfo 2007: ex. 26)

In this case, too, Amfo believes that the *LT-na* in sentence initial position functions as a connective that correlates with the English ‘and’. Her contention is that its clause is coordinated with a clause uttered previously by the interlocutor who uttered (15). Based on these and other similar examples, Amfo (2007: 682) concludes:

[The] semantics of *nà* is univocal. It is simply a coordinating connective. Specific communicated inferential relations between conjuncts is the result of collaboration between the univocal lexical semantics of *nà* and the syntactic structure of conjuncts, general world knowledge and other contextually determined information.

While Amfo is adequate in indicating that *LT-na* in examples like (14) and (15), “tells the interlocutor to look out for certain kinds of inferential relations between the conjuncts” (p. 666), she does not connect this function to the focus marker. In sub-section §3.2 below, we discuss the notion of focus, showing it to have linking properties, and in sub-section §3.3, we show that because of that *LT-na* may function as a focus marker.

3.2 Focus marker

It has been observed in linguistic literature that one of the characteristics of focus is implying some relationship with some element(s) in its respective discourse. In §3.2.1 below, we will discuss the notion of focus in language, concentrating on its discourse linking characteristics. Being in general a discourse linking morpheme, we argue that *LT-na* in Akan appears with a focused element to alert the addressee to look for some discourse linking suggested by that element (§3.2.2).

3.2.1 Focus in language

Different kinds of focus have been observed in the literature, usually classified according to their function. (A classification according to a different parameter is suggested by Rooth 2008 – see discussion on example 19 below.) The sentences in (16a–16e) below illustrate (where the focused phrases are capitalized):

- (16) a. (Who painted the shed yesterday?)
JOHN painted the shed yesterday. (Rooth 2008: ex. 1)
- b. (When did John paint the shed?)
John painted the shed YESTERDAY. (Rooth 2008: ex. 2)
- c. (Mary bought some lentils for the soup.)
BEANS Mary bought for the soup (not lentils).
- d. (I know Mary likes lentils, so I made a pot full of lentils.)
Mary likes BEANS (not lentils).
- e. It was A HAT that Mary picked up for herself. (Kiss 1998: ex. 8)

The focused phrase in each of the question-answer pairs in (16a) and (16b) is referred to in the literature as ‘completive focus’ or ‘information focus’ (see, e.g., Rooth 2008), as it aims to fill missing information. The sentences in (16c) and (16d) illustrate what is usually called ‘contrastive focus’, as it stands in contradiction with what is stated or presupposed in its respective discourse. And (16e) is an example of ‘exhaustive focus’, which “represents a subset of the set of contextually or situationally given elements for which the predicate phrase can potentially hold” (Kiss 1998: 249). In these and other examples, a focused phrase may be distinguished from the other phrases in its respective clause phonologically, syntactically, and semantically/pragmatically.

Phonologically, a focused phrase is distinguished from the other phrases in its respective clause by having stress prominence (Jackendoff 1972), and, in some African languages, by pitch accent (Ameka 2010). Syntactically, a focused phrase may remain in situ, as in (16d), or be moved to the front of its respective clause, as in the English example (16c) and (all) the Akan examples in the preceding sections.⁹ We will not discuss word order here, as it does not affect the semantic/pragmatic points we are trying to make.

⁹ Note that some studies argue that focused phrases in Akan are always fronted (Boadi 1974; Saah 1988; among others), while others disagree (Ameka 2010; Schwarz & Fiedler 2007). Bearth (1999b, etc.) tends to agree with the former studies, acknowledging, however, that sometimes the focused element remains in its original position. He explains the difference between in-situ and ex-situ focus in terms of counter-value, where one element is asserted at the expense of the other (p. 261). Since word order does not seem to affect our analysis of *na*, we will not discuss the different views in this paper.

It is well acknowledged that a focused phrase adds some new information to its respective discourse. Rooth (1985; 1992, etc.) shows that such a phrase, furthermore, evokes a set of alternatives, which he refers to as “focus semantic value” (Rooth 2008: 283) and Harbour (2008) calls it “(alternatives) focus set”. By way of illustration, compare example (17a) below with (17b = 16c) and (17c):

- (17) a. Mary bought beans.
 b. Speaker A: Mary bought lentils for the soup.
 Speaker B: BEANS Mary bought for the soup (not lentils).
 c. Speaker A: I know Mary doesn't like beans, but that's all I have.
 Speaker B: Mary LIKES beans (but she's allergic to them).

By fronting the NP object ‘beans’ and giving it prominent stress, Speaker B in (17b) induces a set of alternative propositions of the form ‘Mary bought x’: {Mary bought beans, Mary bought lentils, Mary bought peas ...}, from which one element is picked out (‘Mary bought beans’). The prominent stress on the verb ‘like’ in (17c) functions to focus it, inducing an alternatives-set of the form ‘Mary x beans’: {Mary likes beans, Mary hates beans, Mary is allergic to beans...}. In contrast to (17b) and (17c), the sentence in (17a), with the original word order and with no prominent stress on any of its constituents, does not evoke a set of alternatives and merely asserts a proposition, adding some new information. To put it in Harbour’s (2008: 863) words, “focus both asserts the sentence and evokes a set of alternatives, the focus set.” The (open) proposition with the variable, e.g., ‘Mary likes x’, is referred to as the “focus skeleton” (Rooth 2008).¹⁰

3.2.1.1 Focus and linking

As reflected by the examples given so far, a speaker may focus a phrase only against some background within its respective discourse, where the speaker answers a question (as in 16a and 16b), expresses disagreement with the interlocutor (as in 17b and 17c), etc. In other words, focusing a phrase is only felicitous if its clause is linked to some element(s) in its respective discourse. It is not surprising, then, that Bearth (1999a: 148) asserts that “The primary contribution of focus to discourse is to ensure its coherence.” Building on Halliday’s (1967) analysis, Rooth (2008) suggests a syntactic-semantic interface account for the focus’ property of being linked to some element in its respective discourse.

Rooth (2008: 282) hypothesizes that “the semantics and pragmatics of focus involves a relation to context, which is a kind of anaphora.” Following Jackendoff (1972), Rooth considers

¹⁰ Jackendoff (1972) calls it Presupposition, but as Rooth (2008: 279) notes, this term may result in confusion with the notion of presupposition in natural language, which is why he avoids using it and suggests the term ‘focus skeleton’ instead.

focus to be a syntactic feature F, such that F marks the focused phrase as in examples (18a) and (18b) below, corresponding to (16a) and (16b), respectively:

- (18) a. [_S[_{NP} John]_F [_{VP}[_{VP} painted [_{NP} the shed]] [_{NP} yesterday]]]
 b. [_S[_{NP} John] [_{VP}[_{VP} painted [_{NP} the shed]] [_{NP} yesterday]_F]]

Crucially for the current discussion, “The point of the F feature is to link the phonology of focus with the semantics and pragmatics of focus” (2008: 278). This linking is done by matching the variable in the focus skeleton, e.g., ‘x’ in ‘Mary likes x’, to the focused element in the discourse. Rooth suggests adding an index to match the focus with its “antecedent”. Consider one of his examples.

The following example (Rooth’s ex. 20) contains an instance of contrastive focus, which Rooth calls “substitution focus”, to reflect the fact that the speaker substitutes a phrase in the “antecedent” with another:

- (19) Speaker A: [John wrote the report]₄
 Speaker B: [No [Mary_{F4} wrote it]]
 (Rooth 2008: ex. 20)

According to Rooth’s analysis, the focused NP (‘Mary’) of Speaker B is coindexed with the whole clause of Speaker A. As B’s utterance contradicts the part of A’s assertion that attributes to John the writing of the report, Rooth claims that “*John* in the antecedent substitutes for the F-marked *Mary*” (p. 282).

3.2.1.2 Wh-questions

As noted by Titov (2019), a number of scholars have noted that *wh*-categories exhibit a linguistic behavior identical to that of foci, proposing that *wh*-elements are inherently focused (Rochemont 1978; Culicover & Rochemont 1983; Beck 2006; Sandler & Lillo-Martin 2006; to mention just a few).¹¹ As summarized by Eckardt (2007: 211), in a number of typologically unrelated languages, the same means mark *wh*-phrases in questions and focused constituents, including prosody, position and particles. What is most relevant for the present paper is the semantic/pragmatic parallel observed for focus and questions.

According to the standard semantic theory of questions (Hamblin 1973; Karttunen 1977), the denotation of a question is the set of answers to that question. According to the standard theory, *wh*-phrases, like focus, introduce a set of alternatives (hence the term ‘alternatives

¹¹ A contrary position is Erteschik-Shir (1986), who argues explicitly that the *wh*-phrase in a *wh*-question does not function as the focus of the question.

semantics' given to the framework within which Hamblin's analysis of questions and Rooth's analysis of focus were developed). For instance, the question 'where did Mary go' introduces the set {Boston, New York, Miami ...}. The semantic parallel has inspired semanticists to derive the interpretations of questions and focus the same way (Hamblin 1973; Ramchand 1997; Rullmann & Beck 1998; Kratzer & Shimoyama 2002; Beck 2006; and others). Accordingly, some authors offer a semantic motivation. To give one example, Sandler & Lillo-Martin (2006: 434) argue that "[s]emantically, the interpretation of WH-questions involves a presupposition (the known information) and a gap (the question). Thus, it is not surprising that **WH-phrases should occur in structures used for focus**" (emphasis added). In other words, like focus, a *wh*-question is linked to something in its respective discourse. As shown by Titov (2019), this explains the appearance of the *LT-na* in *wh*-questions in Akan (see discussion in §3.2.2.2 below).

3.2.2 *LT-na* as a focus marker

Studies such as Boadi (1974), Bearth (1999a, 1999b), Schwarz and Fiedler (2007), Ameka (2010), among others, acknowledge the use of *LT-na* in Akan as a focus marker (henceforth FM). Most of these accounts, notably Bearth (1999b), show that a phrase followed by this FM is linked to some other phrase in the previous discourse or to some implied set of propositions. As this was already shown in §3.2.1.1 to be a general characteristic of focus in language, in this section we can just illustrate the phenomenon in Akan.

3.2.2.1 *LT-na* in focus constructions

The discourse in (20) below is interpreted as containing some disagreement between the interlocutors, suggesting that utterance (20b) is an instance of a contrastive focus. In this case, the focused phrase in (20b) substitutes a phrase within the other speaker's utterance in (20a):

- (20) Contrastive focus (= Substitution focus)
- a. Akwasi ðì-ì èmó
Akwasi eat-PST rice
'Akwasi ate rice.'
- b. dààbí àdùá nà ò-dí-ì-yé
no beans *LT-na* 3SG.SUBJ-eat-PST-YE
'No, he ate BEANS.'

The speaker of (20a) states that Akwasi ate rice. Disagreeing only with the 'rice' part, the speaker of (20b) "corrects" it, claiming that what Akwasi ate was rather beans. Hence the fronting of the NP *àdùá* 'beans', and the focus (linking) marker *LT-na* following it.

The example in (21) from the play *Guasohantan-* (Koranteng 1991: 35) discussed by Bearth (1999b; ex. 2) illustrates an inferentially derived set focus (see Rooth 1992 for a discussion on this kind of focus)

(21) Inferentially derived set (Glosses are Bearth's, *ibid*)

- a. mé nà mé-ré-hyíá wò àyèfóró
 1SG LT-*na* 1SG-PRG-meet 2SG wedding
- b. nà è-n-yé wó nà wó-ré-hyíá mè.
 LT-*na* 3SG:INAN-NEG-be 2SG LT-*na* 2SG-PROG-meet 1SG
- c. éntí wó dè hwè mé árá.
 therefore 2SG as.for look-to 1SG simply
- 'It is me who is marrying you, and not you who are marrying me. As for you, just depend on me.' (Koranteng (1991: 35) as given in Bearth (1999b: ex 2))

As Bearth (*ibid*) notes, a grammatical focus in (21a) is indicated by fronting (a copy) of the focus element – *mé* 1SG – and attaching the focus marker *LT-na* to its right. As he further indicates, the F-marking invites the focus skeleton (though he does not use this term) 'x organizes the wedding', where the variable (x) takes its value from the possible candidates in this discourse, namely the male protagonist Osei Bonsu and his fiancée Akyere. In other words, we may conclude that the "antecedent" of the focused phrase *mé* in (21b) is Osei Bonsu. The second *LT-na* in (21b) is also indicated by Bearth to function as an F-marker. In this case, the "antecedent" of the focused phrase 'you' is Akyere. (The first *LT-na* in 21b is adequately glossed by Bearth as 'and', reflecting its linking to 21a). As Bearth adequately argues, the focus sets of both the first and second focused phrases are inferred from the context.

(22) Completive focus

- a. [hwáń nà ò-kó-ò páátì nó ásé?]₆
 Who LT-*nà* 3SG.SUBJ-go-PST party DEF under
 'Who went to the party?'
- b. [[Akwasi]₆ nà ò-kó-ò páátì nó ásé]
 Akwasi LT-*nà* 3SG.SUBJ-go-PST party DEF under
 'AKWASI went to the party.'¹²

The focus skeleton suggested by the question in (22a) is 'x went to the party'. The value of x in (22b) is the proper name Akwasi, which means that it is the focused phrase, to be coindexed with the question in (22a). As expected, it is followed by the FM *LT-na*.

¹² Recall that indexes, 6 in our example, are to indicate the relationship between the two constituents that share the same index.

Note that the *wh*-word in question (22a) is also followed by a *LT-na*. In light of the discussion in section 3.2.1.2 above, this is to be expected. The next section is devoted to the *LT-na* in *wh*-questions.

3.2.2.2 *LT-na* and *wh*-questions

Titov (2019) discusses the appearance of *LT-na* in *wh*-questions. She shows that only when the *wh*-word is moved from its original position does the *LT-na* appear. She compares the question-answer pairs in (23) and (24) below (hers: 25 and 26, respectively), from Saah (1994: 136–137):¹³

- (23) Q: wó-hù-ù héná?
 2SG-see-PST who
 ‘Who did you see?’
- A1: mè-hù-ù Adwoa
 1SG-see-PST Adwoa
- A2: #Adwoa ná mè-hú-ù nó
 Adwoa *LT-na* 1SG-see-PST 3SG.OBJ
 (Titov 2019: ex. 25)
- (24) Q: héná nà wó-hú-ù nó?
 who *LT-na* you-see-PST 3SG.OBJ
 ‘Who was it that you saw?’
- A1: Adwoa nà mè-hú-ù nó.
 Adwoa *LT-na* I-see-PST 3SG.OBJ
 ‘Adwoa was who I saw.’
- A2: mè-hù-ù Adwoa.
 1SG-see-PST Adwoa
 ‘I saw Adwoa.’
 (Titov 2019: ex. 26)

The position Titov takes is that the *wh*-questions in (23Q) and (24Q) differ with respect to the nature of the alternatives set that the *wh*-phrases quantify over.

Adopting Pesetsky’s (1987) [\pm D-linked] feature, Titov claims that the *in-situ* and the left *wh*-objects in (23Q) and (24Q), respectively, have distinct values of the [\pm D-linked] feature. The *ex-situ wh*-object in (24Q), she argues, is [+D-linked] in that it consistently quantifies over a discourse-salient set of alternatives. This means that (24Q) “does not merely ask to provide a value for x in ‘I saw x’ ... [but] to select a candidate that is the most likely member of its set to

¹³ Note: we gloss *nà* as *LT-na* (unlike Titov). Note also that Saah’s original examples gloss it as FOCUS.

fulfil the relevant proposition” (p. 13). Echoing Saah (1994), Titov continues: “There is a feeling that the speaker is already aware of potential candidates that can fulfil this proposition and *insists* on the hearer telling *which exactly* candidate of this set can do so” (ibid). (Cf. Kiss 1998.) This discourse linking requires the appearance of *LT-na*. In contrast, according to Titov, the *in-situ wh*-object in (23Q) may open a new unlinked set, and, therefore, the *LT-na* is not licensed.

Titov’s analysis finds support in examples like (25) below, analyzed by Bearth (1999b: 259).

- (25) a. hwán nà wó-bé-wàré ònó?
 who *LT-na* 2SG-FUT-marry 3SG:IND
 ‘(Of the two), whom do you want to marry?’
- b. ɔhéné nó nà mè-pé sé mè-wàré nó-ò
 chief DEF *LT-na* 1SG-want that 1SG-marry 3SG-TP
 ‘It is the chief whom I want to marry.’
 (Bearth 1999b: ex. 9)

Bearth glosses the *LT-na* both in the question part (25a) and the answer part (25b) as F, suggesting that it is an FM in both cases. The *LT-na* in the answer (25b) is licensed because it follows a phrase that seems to be an exhaustive focus. As for the *LT-na* in (25a), Bearth claims that it is licensed because the girl in question faces two suitors, one of which is a chief. In other words, the *wh*-question in (25a) is linked to what is known from the context.

3.3 Summary

In §3.1.2, we showed that *LT-na* may be used to indicate some discourse coherence relation with previous or inferred clauses, where in some cases it corresponds to the English coordinator ‘and’. In §3.2.2, we showed that *LT-na* functions as a focus marker. The two functions are seemingly two different phenomena. However, as shown by Asher (1998) and Asher & Lascarides (2003), SDRT-based accounts of the two phenomena show that they display similar discourse constraints. In the case of sentences with no focused elements, an SDRT-account shows them to interact via discourse coherence relations like Narration or Explanation, whether they include the conjunction ‘and’ or not. Adopting Rooth’s (1992, etc.) claim that a focused element induces an alternatives-set, they suggest an SDRT-account of focus, considering the set of alternatives to be *anaphoric* in nature. Accordingly, (Asher 1998: 263) claims that the set of alternatives “must be either bound anaphorically or accommodated”. The idea that coordination has something in common with focus constructions finds some syntactic support in Fiedler and Schwarz’s (2005) and Schwarz and Fiedler’s (2007) “narrative hypothesis”.

Examining morpho-syntactically marked focused constructions in five Ghanaian languages, including Akan, Schwarz and Fiedler show that there is formal parallelism between the out-of-focus

part of *ex-situ* (i.e., fronted) focus and narrative clauses. In Fiedler and Schwarz (2005: 136) they write: “[There] are striking similarities on the morpho-syntactic level between the non-focal part of the focus constructions and [Narrative Clauses]”, and in Schwarz and Fiedler (2007: 277) they propose that “a narrative clause constitutes the non-focal part of such *ex-situ* focus constructions”.

Claiming that LT-*na* functions as a discourse linking marker in general, we could explain why it is used in both kinds of constructions, namely, to conjoin sentences or mark focus.

4 HT-*ná*: intensional linking marker

Richard Montague, notably in Montague (1973), defines the denotation of a sentence as a function from possible worlds and moments of time to truth values, calling it an ‘intension’. Accordingly, he argues that the truth-value of a sentence must be determined with respect to a time and world (in addition to other parameters). This is because a certain sentence may be true with respect to a time *t* but false with respect to some other time *t'*, or true in a world *w*, but false in some other possible world *w'*.

In what follows we will show that HT-*na* is an intensional anaphora marker, which functions to link times (§4.1) or worlds (§4.2) within its respective discourse.

4.1 Temporal anaphora

The idea of temporal anaphora was first introduced by Partee (1973) and developed further in Partee (1984), where she implements the notion of *reference-time* introduced by Reichenbach (1947). Her idea, adapted by linguists such as Bonomi (1995), was to deal mainly with the behavior of tenses in discourse.

Partee argues that tenses are like pronouns, such that their (temporal) interpretation may be dependent on an antecedent. Consider one of her examples, depicted in (26a) below, along with one of Bonomi’s (1995) examples, depicted in (26b):

- (26) a. Sheila had a party last Friday and Sam got drunk. (Partee 1973: ex. 10)
 b. When I turned off the stove, Leo turned off the light. (Bonomi 1995: ex. 6)

Determining the temporal interpretation of the sentence in (26a), Partee (1984: 245) writes: “a time is specified in the first clause and the second clause is most naturally understood as referring to the same time” and, therefore, “the past tense can be viewed as an anaphoric element”.

Adapting Partee’s analysis, Bonomi (1995) suggests talking about the anaphoric referential nature of tense in a weaker sense, claiming that its antecedent is a temporal framework suggested by the context (rather than an exact time). Therefore, the *when*-clause in (26b), for example, “contributes to the temporal location of the event described by the main clause”, but “there is no reference (in the strong sense) to a specific moment” (p. 6). This seems to us to be a more adequate characterization of the phenomenon.

As we mentioned in the introduction, Boadi considers HT-*na* as three homophones, two of which are tenses: past-tense (29a) and future-tense (29b). Boadi's motivation for considering HT-*na* to be a tense marker in those sentences seems to be due to the temporal interpretation of its clauses. Both clauses in (29a) are understood to refer to the past. Yet only the verb in the first clause carries a past-tense morpheme. However, Boadi glosses also HT-*na* as a past-tense marker.

Similarly, both clauses in (29b) are interpreted to refer to the future, but only the first clause has a verb with a future tense morpheme. In this case, Boadi glosses the HT-*na* appearing in the second clause as a future-tense marker. Boadi's analysis for HT-*na* as a tense marker raises several related difficulties.

First, note that Boadi's analysis suggests that there are two different markers for each tense (a morpheme on the verb and a HT-*na*), on the one hand, and that the same HT-*na* particle is ambiguous between two (incompatible) tenses, on the other hand. Ignoring this twofold problem and adopting Boadi's account, one would still wonder how an Akan speaker would know when to inflect the verb for tense and when to use the HT-*na* marker. Descriptively speaking, it is always the case that a HT-*na* clause comes second in a two-clause sentence.¹⁵ This descriptive rule raises, in turn, the following question: why is it the case that a HT-*na* clause cannot be cataphoric?

Our contention is that HT-*na* is not a tense, so in sentences like (29a) and (29b) the clause in which it appears is tenseless. Instead, in such sentences it functions as a temporal anaphora marker, linking the time of its clause to the time of the previous one. Accordingly, the HT-*na* clauses get their temporal interpretation via the occurrence of HT-*na*, which functions to indicate that their reference-time is the same one indicated by the previous clause. Accordingly, we predict that a single clause sentence would always have a tense morpheme on the verb and never the HT-*na* particle, which is, indeed, the case (cf. discussion on examples 31 and 32 below).

Our analysis may find some support in how studies such as von Stechow (1991), Ogihara (1996) and Kratzer (1998) account for the phenomenon of sequence-of-tenses in languages like English. Consider the English sentence in (30) below:

(30) John thought that Mary was pregnant.

¹⁵ Note, however, that HT-*na* can occur in monoclauses like the one below:

- (i) ná m-à-dá
 HT-*na* 1SG-PERF-sleep
 'I was asleep.'

But this is not incompatible with what is described here, as in a sentence like this, HT-*na* always takes temporal reference from an immediately preceding utterance.

Temporally speaking, (30) is ambiguous between two readings. On one reading, the time of Mary's being pregnant depicted in the subordinate clause precedes the time of John's thinking depicted in the matrix. This interpretation is not problematic, as the past tense is defined to locate a situation in the past of its respective reference-time. On the second reading, however, the time of Mary's pregnancy overlaps with John's thinking time. This reading is problematic, as the time indicated by the embedded past-tense clause overlaps the reference-time of the matrix (rather than preceding it). Most semanticists dealing with this problem believe that on its latter (simultaneous) reading, the second clause in (30) is tenseless at the LF (Logical Form) level. Ogihara (1996), for example, suggests that it is deleted at the LF level, and Kratzer (1998) argues that it was not generated in the first place, but added later in the derivation.

Inspired by Kratzer's theory, we may contend that the second clause of sentences like (29a) and (29b) is generated without tense both in English and Akan. But while in English such a clause is assigned a tense later in its derivation, in Akan it remains tenseless. Therefore, such Akan clauses cannot be given any independent temporal interpretation but only via the anaphoric relationship to their respective previous clause. We argue that this temporal anaphoric relationship is marked by *HT-na*. *HT-na* serves as a temporal anaphora marker also in case of bound tenses (cf. the English examples in 27 and 28). Consider sentence (31) below:¹⁶

- (31) sè yè-kyè-è nó áà ná wó-á-wíá sika
 If 3PL-catch-PST 3SG COND *HT-na* 2SG-PERF-steal money
 'If he was caught, then he stole money.'¹⁶

Both the protasis (the 'if' part) of the conditional and the apodosis (the 'then' part) are understood to depict situations in the past, but only the verb of the protasis is inflected for past tense. Our contention is that the apodosis is tenseless and the *HT-na* appearing in it indicates that its temporal interpretation is to be determined by its "antecedent", namely the time of the protasis.

- (32) sè wó-fré nó áà ná ò-rè-sú
 if 2SG-call 3SG COND *HT-na* 3SG-PROG-cry
 'Whenever you call him, he will be crying.'

The sentence in (32) reports habitual events whose times overlap. Following Boadi (2008), we consider the protasis verb to be in present tense. The apodosis is tenseless, but due to the presence of *HT-na* we conclude that its reference-time is the same as that of the protasis.

Our analysis will resolve the difficulties observed above with respect to Boadi's analysis of sentences like (29a) and (29b). First, as indicated above, we predict that a single clause sentence

¹⁶ As noted in FN. 5 above, the morpheme *áà* which is glossed here as 'conditional', is homophonous with the relativizer (see discussion of Saah 2010 above).

would always have a tense morpheme on the verb and never the *HT-na* particle, which is, indeed, the case. Second, we can explain why *HT-na* cannot appear in the first clause of a two-clause sentence. And third, the peculiar ambiguity indicated by Boadi, namely a morpheme denoting two incompatible semantic values (past and future reference) disappears.¹⁷

The property of *HT-na* to function as a temporal anaphora marker is a subcategory of a more general property, namely an intensional linking marker, which explains its function also as a modal-linking marker, to which we turn now.

4.2 *HT-na* as a modal-linking marker

As shown in studies of modality in natural language, speakers do not speak only about the actual world, but often make statements about other possible worlds as well (cf. Palmer 2001; Lewis 1973; Kratzer 1981, among others). Compare the sentence in (33) below with the sentences in (34) and (35):

(33) John lives in Boston.

- (34) a. I wish John were happy.
 b. It is necessarily the case that John is on the beach.
 c. Mary may be at the library.
 d. If John enters the room, he'll trip the switch. (Heim 1982: 95, ex. 19)
 e. If kangaroos had no tail they would topple over. (Lewis 1973: 1)

- (35) a. Since her car is here, Mary must have been back.
 b. Mary is no longer sick. She must have seen her doctor.
 c. Mary must have been out of town.

The sentence in (33) reports some situation the speaker claims to be taking place in the actual world. In contrast, the sentences in (34) are all modal, taking into consideration other possible worlds. Sentence (34a) implies that John is not happy in the actual world and indicates that he is happy in those worlds where the speaker's wishes come true. Sentence (34b) reports that in all possible worlds, including the actual one, John is on the beach. Sentence (34c) asserts that in some worlds, which may or may not include the actual one, Mary is at the library. The conditionals in (34d) and (34e) imply some relationship between worlds. The indicative conditional in (34d) indicates that the set of worlds where John enters the room restricts the set of worlds where he trips the switch; one of those worlds may or may not be the actual world. The counter-factual

¹⁷ A Glossa reviewer lends some more support to our analysis, showing that it is in accord with Clements (1982: 8), who points out that "the function of this particle is to 'key' the temporal interpretation of the clause it occurs into a time established in the preceding discourse context." As we do not have access to Clements' manuscript, we cannot comment on it any further.

conditional in (34e) indicates that the set of worlds in which kangaroos have no tail restricts the set of worlds where kangaroos topple over; none of those worlds is the actual one.

The sentences in (35) illustrate what is referred to in the literature as evidentiality (De Haan 1999; Aikhenvald 2004; among others). Those sentences, too, involve possible worlds, but unlike the sentences in (34), they also report some situation in the actual world that is taken to be evidence for the modal part. For instance, the subordinate clause in (35a) ('since Mary's car is here') presupposes that Mary's car is here (in the actual world). This presupposition is taken as evidence for the speaker's conclusion that Mary is back. Similarly, the first sentence in (35b) reports some situation in the actual world (Mary's being healthy), which is taken by the speaker to be evidence that Mary has seen her doctor. Finally, (35c) is felicitous only if there is some situation understood from the context, which can be taken as evidence for the speaker to conclude that Mary is out of town. In other words, what the speaker seems to be saying is something like "from what is stated/presupposed by the previous clause/sentence/context, it logically follows that (e.g., 'Mary is back')". By that, the speaker seems to be linking some "logical" worlds with the actual world.

Cross-linguistically, it has been shown that languages may mark evidentiality by grammatical means: affixes, clitics, particles, and the like (see, Palmer 2001: 8, 9, etc. for discussion and examples from a variety of languages; Hammer 1983: 231, 232 for evidential means in German, among many others). The sentences in (35) above show that English uses the modal 'must' for that purpose. In Akan, we argue, it is the job of HT-*na*. Reconsider Boadi's example (2c), reproduced below under (36):

- (36) sè wó-hù-ù nò àà (éńdèè) ná ò-bà-è.
 if 2SG-see-PAST 3SG COND (in.that.case) HT-*na* 3SG.SUBJ-visit-PAST
 'If you saw him, then it logically follows that he visited.'

Taking the addressee's word that s/he (the addressee) saw him, the speaker concludes that (in that case) he visited (otherwise the addressee could not have seen him). The linking of the actual world with the "logical" worlds is marked by HT-*na*. We argue that the HT-*na* is used for this purpose because it is in general an intensional linking marker.

5 Summary and conclusions

In this paper, we have proposed a toneless super-category *na* in Akan, which we call Root-*na*.

Drawing from theories within the approach of truth-conditional semantics and the semantics/pragmatics interface, we argued that this abstract toneless morpheme is used in Akan to link the *na*-constituent with something in the common ground. An Akan speaker would never pronounce such toneless particle, but add a Low or High tone, generating what we called a LT-*na*

or a HT-*na*, respectively, according to the kind of linking the speaker wishes to indicate. To appreciate the abstract toneless morpheme Root-*na* in Akan, compare it to the abstract tenseless morpheme *woll* suggested by Abusch (1997) for English. As analyzed by Abusch, the tenseless (modal) morpheme *woll* is never pronounced by English speakers and is realized as ‘will’ or ‘would’, depending on the tense of the said clause.

LT-*na* has been shown in the Akan literature to be used in conjunction or focus constructions. Adopting Asher’s (1993, etc.) SDRT for discourse coherence relations and Rooth’s (1985, etc.) alternatives semantics account for focus, we have shown that what looks like two different uses of the LT-*na* are actually two sub-uses of one super function, namely relating the proposition of the LT-*na* clause to a proposition uttered by a previous sentence or presupposed by the context.

HT-*na* has been shown to be anaphoric within an intensional discourse. Adopting Montague’s (1973) intensional semantics and theories developed within its approach, we have argued that HT-*na* is used to link its clause to some intensional expression. Accordingly, it may function as a temporal anaphoric expression, similar to the function Partee (1973; 1984) attributes to tenses in English, or as a modal anaphoric expression that links the actual world with some other possible (“logical”) world(s).

Abbreviations

1 = first person, 2 = second person, 3 = third person, COMPL = completive, COND = conditional, DEF = definite, FM = focus marker, FUT = future, HT = High tone, IMP = imperative, IND = independent, INT = intensifier, LT = Low tone, MM = modal marker, NEG = negation, PERF = perfective, PL = plural, POSS = possessive, PST = past, PROG = progressive, RED = reduplication, SG = singular, SUBJ = subject, TOP = topic, TP = terminal particle.

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Competing interests

The authors have no competing interests to declare.

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