

Deriving (anti)-uniqueness: demonstratives in Ga (Kwa)

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Abstract

There is a long line of previous research arguing for a tight connection between the meaning of definites and demonstratives, see e.g. Ahn (2019); Dayal and Jiang (2022); Ebert *et al.* (2020); Elbourne (2008); King (2001); Roberts (2003); Wolter (2006). New data from Ga (Kwa), an under-researched language spoken in Ghana, directly supports the view that demonstratives are kind of marked definites: the meaning of demonstratives is transparently composed from the meaning of the definite determiner and the meaning of the particle restricting the interpretation of the DP. This transparent structure raises, however, a general compositional problem, i.e. how the anti-uniqueness inference of the demonstrative is derived, if the definite determiner conveys uniqueness. The paper solves this issue, addressing therefore one of the most pertinent issues in the semantics of demonstratives and definites across languages.

Keywords: demonstratives; definites; Ga language; cross-linguistic semantics

1 Introduction

It has been claimed in the previous literature that the meaning of demonstratives comprises the meaning of definites combined with some additional meaning component (see e.g. King 2001; Roberts 2002; Wolter 2006; Elbourne 2008; Ahn 2019; Dayal and Jiang 2022). The data from Ga, an under-researched language spoken in Ghana, directly support this view: adnominal demonstratives *nakai NP lɛ* and *neke NP neɛ* in Ga are built from the definite determiner *lɛ/neɛ* and a particle *nakai/neke*, as illustrated for distal demonstrative *nakai NP lɛ* in (1).¹

¹ The following glosses are used in the paper: PRT = particle, DEF=definite determiner, DEM=demonstrative, PROG=progressive, CONJ=conjunction, 1,2,3=1st, 2nd, 3rd person, SG=singular, PL=plural, NEG=negation, COMP=complementizer, COP=copula, PERF=perfective, IMP=imperative, ITER=iterative, IMPERS=impersonal, FUT=future, SUBJ=subjunctive, TOP=topic, REL=relative, COP=copula, DIST=distal, PROX=proximal. An example marked with ‘#’ means that the example was judged to be unacceptable in the given context and we hypothesize that it is for semantic or pragmatic reasons; in the case of ‘?’ the judgments were mixed. Finally, examples without any diacritics were judged as acceptable in the given context.

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- (1) CONTRASTIVENESS TEST WITH THE DEMONSTRATIVE *nakai NP le*:
Nakai gbee le mii-wɔ ni nakai gbee le mii-jo foi.
 DEM.DIST dog DEF PROG-sleep CONJ DEM.DIST dog DEF PROG-run race
 ‘That dog is sleeping and that dog is running.’
 ∼ *there is a potentially non-unique dog* NON-UNIQUENESS

This morphologically transparent structure poses serious challenges for the theories of the semantics of demonstratives available on the market regarding the source and the status of the uniqueness inference triggered by definite determiners on the one hand, and the status of the anti-uniqueness inference triggered by demonstratives, on the other. That is, whereas the definite determiner *le* in Ga presupposes uniqueness, as shown in (2), in combination with *nakai* it does not give rise to the uniqueness inference, as demonstrated in (1).² Thus the uniqueness inference of *le* seems to be neutralized in that case.

- (2) CONTRASTIVENESS TEST WITH THE DEFINITE DETERMINER *le*:
#Gbee le mii-wɔ ni gbee le mii-jo foi.
 dog DEF PROG-sleep CONJ dog DEF PROG-run race
 ‘The dog is sleeping and the dog is running.’
comment: this sentence is unacceptable because the same dog cannot sleep and run at the same time
 ∼ *there is a unique dog* UNIQUENESS

We argue, following [Simonenko and Carlier \(2022\)](#), that the role of demonstratives is to bring a situation into prominence.³ To preview the analysis to come, we argue that the uniqueness inference is presupposed by determiners *le* and *nee*. This presupposition seemingly disappears when *le* and *nee* co-occur with *nakai/neke*, due to the domain restriction mechanism induced by *nakai/neke*. *Nakai/neke* restricts the interpretation of the NP *le/NP nee* to the prominent situation with the unique discourse referent denoted by the NP *le/NP nee* chosen by the choice function denoted by *nakai/neke*. The anti-uniqueness inference then arises at the level of the situation, i.e. there might be another situation with the unique discourse referent denoted by the NP *le/NP nee* as in the situation chosen by the CF denoted by *nakai/neke*. The paper thus contributes to the ongoing lively discussion on the building blocks of the definites and demonstratives across languages and their combinatorial possibilities, addressing one of the most pertinent issues in the meaning of definites/demonstratives, i.e. the source of the (anti)-uniqueness inferences triggered by determiners.⁴

Before we dive into a description and analysis of definites and demonstratives in Ga, let us spell out some theoretical background we assume. There is an ongoing discussion in the literature on whether the meaning of definiteness can be fully described in terms of uniqueness, familiarity, or both (see e.g. [Russell 1905](#); [Roberts 2003](#); [Elbourne 2005, 2013](#); [Schwarz 2009](#); [Heim 2011](#), among many others). Uniqueness is a requirement that

² In fact, we will show in Section 3 that demonstratives in Ga give rise to a stronger anti-uniqueness inference.

³ See also [Elbourne \(2008\)](#); [Owusu \(2022\)](#), among others, for an idea that situations are involved in the meaning of demonstratives.

⁴ Interestingly, an opposite compositional problem is addressed in [Simonenko \(2014\)](#), in which the disappearance/neutralization of the anti-uniqueness inference of the strong articles and demonstratives in combination with restrictive relative clauses is accounted for. By contrast, what we are doing in this paper is to account for the neutralization/disappearance of the uniqueness inference triggered by the determiners *le/nee* when combined with *nakai/neke*. Many thanks to a reviewer for pointing our attention to this issue.

the nominal predicate holds of exactly one individual in the given domain, e.g. that there is exactly one chair in (3-a) and that there is exactly one chancellor in Germany in (3-b).⁵

- (3) a. IMMEDIATE SITUATION UNIQUENESS
the chair (uttered in a room with exactly one chair)
b. LARGER SITUATION UNIQUENESS
the chancellor (uttered in Germany)

As for familiarity, we assume Roberts' (2003) notion of familiarity, which comprises both strong and weak familiarity uses, listed below.

- (4) Taxonomy of familiarity:
- a. strong familiarity: the NP has as antecedent a discourse referent introduced via the utterance of a (usually) preceding NP
 - b. weak familiarity:
 - (i) the entity referred to is perceptually accessible to the interlocutors
 - (ii) the entity referred to is globally familiar in the general culture or at least among the participants in the discourse, although not mentioned in the immediate discourse
 - (iii) introduction of the NP's discourse referent is licensed solely by contextual existence entailments
 - (iv) weak familiarity is guaranteed by giving a functional interpretation to the definite description (which function may have to be accommodated) with the intended argument(s) both familiar and highly salient (Bridging)
- (Roberts 2003, p.304)

Examples of strong and weakly familiar uses of definites are given below:

- (5) a. STRONG FAMILIARITY (ANAPHORIC USES):
Mary read a book. The book was interesting.
b. WEAK FAMILIARITY:
- (i) PERCEPTUAL ACCESS
The dog is running. (the dog is visible to the interlocutors)
 - (ii) GLOBAL FAMILIARITY
The chancellor arrived to Berlin. (uttered in Germany)
 - (iii) BRIDGING
Mary read a book. The author is Polish.
Mary was driving through the forest. The steering wheel was cold.

The meaning of demonstratives is often characterized by the term of anti-uniqueness, i.e. an inference that the property denoted by the NP does hold of more than one entity in a given domain, see e.g. Simonenko (2014) and Owusu (2022) for a discussion. For example, *this* cannot be felicitously used in (6) as the property of being a chancellor of Germany holds of one individual only:

- (6) #This chancellor of Germany arrived.

We follow Dayal (2023) who defines anti-uniqueness in terms of contrast potential: in order to felicitously use demonstratives, there must a potential for contrast, which is not

⁵ Terms *larger situation* and *immediate situation* uses come from Hawkins (1978) who proposes four major uses of definites: immediate situation uses, larger situation uses, anaphoric uses, and bridging, see also e.g. Schwarz (2013) for a discussion on the meaning of definites in a cross-linguistic perspective.

there in (6) (since there is a unique chancellor of Germany) and thus a demonstrative is not acceptable in (6).

The structure of the paper is as follows. Section 2 presents a family of demonstratives in Ga. Subsequently, the semantic properties of the Ga adnominal demonstratives are discussed in Section 3. The data are analysed in Section 4, where a compositional analysis of the determiners is presented. A Ga system of definites/demonstratives is discussed in a broader cross-linguistic perspective in Section 5. Special attention is given to St'at'imcets (Lilloet Salish) and Akan (Kwa); they show the same transparent structure as demonstratives in Ga but their semantics (and/or the semantics of their building blocks) is very much different than in Ga. Section 6 concludes.

2 Intro: Family of demonstratives in Ga

Ga (Kwa) is an under-researched Ghanaian language spoken in the Greater Accra Region by about 700 000 speakers (see e.g. [Dakubu 1992, 2004](#); [Wentum 1997](#); [Korsah 2016](#); [Renans 2016](#); [Campbell 2017](#)). Its basic word order is SVO and it has two lexical tones: Low and High. The data come from original data collection in Accra, Ghana in 2016 with three Ga native speakers—students at the University of Ghana at the time of the data collection, and retrospective data from two authors, native speakers of Ga. Some data were further checked with eight–sixteen other Ga native speakers from August till October 2023 in Accra. The employed methodology follows standard semantic fieldwork methods ([Matthewson 2004](#)). The tasks comprised mostly acceptability judgment tasks in context.

Ga has a rich system of definites and demonstratives (see [Campbell 2017](#) for an overview). This paper focuses on two determiners, i.e. *le* and *nee*, as well as on two adnominal demonstratives, i.e. a proximal demonstrative *neke NP nee* and a distal demonstrative *nakai NP le*. Importantly, in order to form an adnominal demonstrative in Ga, *nakai* has to co-occur with the definite determiner *le*, while *neke* has to co-occur with *nee*. Often, *neke* is omitted giving rise to a short form of the proximal demonstrative NP *nee*.^{6,7} Adnominal demonstratives *nakai NP le* and *neke NP nee*, which are at the heart of this paper, are discussed in detail in Section 2.2 and Section 3. Before we dive into them, we shall briefly discuss pronominal and adverbial demonstratives: *nakai* and *neke* in isolation, i.e. without a determiner *le* or *nee*.

2.1 Pronominal, adverbial, and type identification demonstratives: *Nakai* and *neke* in isolation

Nakai, but not *neke* and *nee*, can be used pronominally, as exemplified in (7):

- (7) Wɔ-be hewale ni wɔ-baa-fee #neke/nakai/#nee.
 1PL-have.NEG strength PRT 1PL-FUT-do DEM.PROX/DEM.DIST/DEM.PROX
 ‘We don’t have the strength to do that.’ (based on [Campbell 2017](#))

As for adverbial uses, both *neke* and *nakai* can be used adverbially to refer to a physical demonstration of an action. While *neke* is used when the action is performed by the speaker,

⁶ Note that we argue that *nee* is a short form of *neke NP nee* only in the case of adnominal demonstratives. Out of the adnominal demonstratives, there are cases in which a distribution of *nee* and *neke... nee* is not alike. For example, while *nee* in isolation can combine with temporal expressions, such as *gbekke nee* ‘this evening’, *neke... nee* cannot. Moreover, *nee* in isolation, unlike *neke... nee* but like the definite determiner *le*, can function as a clausal determiner. While clausal determiners are briefly discussed further in this section, see also [Renans \(2016, 2021\)](#) and [Korsah and Murphy \(2019\)](#), adverbial demonstratives are left for future research.

⁷ While *neke* in *neke NP nee* is often omitted, *nakai* in *nakai NP le* is not. We propose that it is due to the fact that *le* in isolation is used as a definite determiner so it would not be clear whether a demonstrative or the definite meaning is intended. NP *nee* on the other hand is always a shortcut for *neke NP nee* and thus no confusion occurs.

as in (8), *nakai* is used when the action is being performed by someone other than the speaker, as in (9) (Campbell 2017).

- (8) ni e-fee e-nine neke ee-bo-lo
and 3SG.PERF-do 3SG-hand DEM.PROX 3SG.PROG-shout-ITER
'And he's made his hands like this (puts hands to mouth in shouting gesture) and he's shouting.'
(Campbell 2017, p.86)
- (9) Fo-lo-mo le nakai non.
cut-ITER-IMP 3SG.OBJ DEM.DIST just
'Keep cutting it up just like that.' [said to someone cutting up onions, for example]
(Campbell 2017, p.87)

Nakai and *neke* can also function as degree adverbs, as demonstrated in (10):

- (10) Mi-kee ga-mei le maaba nye-lu neke/nakai?
1SG-say Ga-people DEF why 2PL-be.foolish DEM.PROX/DEM.DIST
'I say, Ga people, why are you so foolish?'
(Campbell 2017, p.89)
- (11) Yoo feefeo neke/nakai
Woman beautiful DEM.PROX/DEM.DIST
'such a beautiful woman'

Neke and *nakai* can also be used for type identification, to identify the head noun as a member or example of a larger category. The demonstrative may precede or follow the noun, as shown in (12) and (13):⁸

- (12) Neke nuu e-sa ni o-ke hi shi.
DEM.PROX man 3SG-fit REL 2SG-take live down
'This is the type of man you should marry.'
(Campbell 2017, p.83)
- (13) Moko nakai le a-ke le be-ee.
Someone DEM.DIST TOP 3PL.IMPERS-take 3SG.OBJ quarrel-NEG
'Such a person, you don't quarrel with them.'
(Campbell 2017, p.83)

We leave pronominal and adverbial demonstratives for future research, concentrating in this paper on adnominal demonstratives *nakai NP le* and *neke NP nee*.

2.2 Adnominal demonstratives: *nakai NP le* and *neke NP nee*

Nakai NP le is a distal demonstrative determiner, while *neke NP nee* is a proximal demonstrative determiner. Campbell (2017) reports that whereas *nakai NP le* may indicate referents that are relatively distant from the interlocutors, *neke NP nee* indicates close proximity.⁹ For example, *nakai NP le* in (14-a) is used deictically to indicate that the car is at

⁸ Note that *le* in (13) is not a definite determiner but its first occurrence is a topic marker and its second occurrence is the third person pronoun, see Renans (2016) and Campbell (2017) for discussion.

⁹ There is an ongoing discussion in the literature of what contrast is encoded by so-called proximal and distal demonstratives. It seems that the relative distance from the speaker/addressee does not suffice to fully account for the distribution of proximal/distal demonstratives across languages. For example, it has been proposed that the contrast between them is demarcated by the ability to act on the pointed object or not (see e.g. Bufacchi and Iannetti 2018), by reachability of the object (e.g. Caldano and Coventry 2019), intense vs. neutral indicating (e.g. Piwek et al. 2008), or the attention of the speaker and the addressee (e.g. Küntay and Özyürek 2006), see also Coventry et al. (2023); Næss and Treis (2020); Rocca and Wallentin (2020) for a discussion. Since we do not have data that could distinguish between these various approaches in Ga and since this contrast does not directly bear on the main focus of the paper, we leave an exact account of a distinction between proximal and distal demonstratives in Ga for future research. Many thanks to a reviewer for pointing our attention to this issue.

- c. ?*Nakai gbee le mii-wɔ ni nakai gbee le mii-jo*
 DEM.DIST dog DEF PROG-sleep CONJ DEM.DIST dog DEF PROG-run
 foi.
 race
 ‘That dog is sleeping and that dog is running.’

The judgments regarding (16-b) and (16-c) were mixed: while some of the language consultants accepted them saying that there are two dogs and thus (16-b)/(16-c) are acceptable, some of the language consultants did not accept them, commenting that it cannot be that the same dog is sleeping and running at the same time. In particular, we asked 16 Ga native speakers for acceptability of sentence (16-b): six clearly accepted the sentence, three clearly rejected the sentence, and seven found the sentence pragmatically odd but commented that there might be two dogs in the context. These seven native speakers would prefer to utter a short version *gbee neε* instead of *neke gbee neε*. As for (16-b), we asked ten native speakers in total for its acceptability. Five found the example acceptable and five unacceptable. Our analysis of *nakai NP le* and *neke NP neε* developed in Section 4 correctly predicts mixed judgments in these cases.¹⁰

The view that *neke NP neε* and *nakai NP le* do not encode uniqueness, while the definite *le* does is further supported by the results of the test in (17), taken from Dayal (2025).

- (17) Context A: There is a bunch of roses and the speaker points to one of the roses in the bunch and says:
- a. #*Ma-he fɔfoi le.*
 1SG.FUT-buy flower DEF
 ‘I’ll buy the flower.’
 - b. *Ma-he neke fɔfoi neε.*
 1SG.FUT-buy DEM.PROX flower DEF
 ‘I’ll buy this flower.’
 - c. *Ma-he nakai fɔfoi le.*
 1SG.FUT-buy DEM.DIST flower DEF
 ‘I’ll buy that flower.’ (but *flower* must be a bit distant)

Since the definite *le* encodes uniqueness, it is unacceptable to use it when there is more than one rose in the context. It is however acceptable to use demonstratives in that case as they do not encode uniqueness.

3.2 Larger situation uniqueness

The data presented in this section show that *neke NP neε* and *nakai NP le* cannot be used in the context in which there is a unique discourse referent in the larger, contextually restricted situation, such as *manhiεnyielɔ* ‘president’ or *hulu* ‘sun’ in (18) and (19), respectively. By contrast, the definite determiner *le* is perfectly fine in these contexts. These results together with the data presented in Section 3.1 suggest that while the definite determiner *le* encodes uniqueness, the demonstratives *neke NP neε* and *nakai NP le* convey anti-uniqueness.

- (18) There was a Ghanaian national day yesterday and there was a big celebration ceremony in Accra which was visited by the Ghanaian president and town elders. I met my friend. We talked about how beautiful the celebration was (but we didn’t talk about who was there). He asked me, whether I saw any famous person. I reply:

¹⁰ We asked several other speakers for judgments, as the native speaker authors have noticed a potential split in the acceptability of (16-b) and (16-c). We haven’t noticed such a split in other cases.

- a. Mi-na **maɣhiɛnyielɔ** lɛ.
1SG-saw president DEF
'I saw the president.'
- b. #Mina **nɛkɛ** **maɣhiɛnyielɔ** nɛɛ.
1SG-saw DEM.PROX president DEF
'I saw this president.'
- c. #Mina **nakai** **maɣhiɛnyielɔ** lɛ.
1SG-saw DEM.DIST president DEF
'I saw that president.'

(19) context: Kofi is sitting in a bus when a man he does not know sits down beside him. The stranger says:¹¹

- a. **Hulu** lɛ mii-tso waa ɣmɛnɛ.
sun DEF PROG-shine very today
'The sun is strong today.'
- b. #**Nɛkɛ** **hulu** nɛɛ mii-tso waa ɣmɛnɛ.
DEM.PROX sun DEF PROG-shine very today
'This sun is strong today.' (acceptable under affective reading)
- c. #**Nakai** **hulu** lɛ mii-tso waa ɣmɛnɛ.
DEM.DIST sun DEF PROG-shine very today
'That sun is strong today.'

Before we move to discuss further data, let us comment shortly on the affective reading that is available in (19-b), under which (19-b) is acceptable. It has been observed in the previous literature that an affective reading of demonstratives conveys an inference of the speaker–hearer solidarity and evaluative meaning, see for example Bowdle and Ward (1995); Lakoff (1974); Potts and Schwarz (2010); Wolter (2006). Simonenko and Carlier (2022) proposes that the affective reading of demonstratives arises with singleton extensions (such as the extension of *sun*). Across languages, the affective reading is also associated with proximal demonstratives.¹² These observations hold also for Ga: the affective reading is conveyed by the proximal demonstrative *nɛkɛ NP nɛɛ* and arises with the unique discourse referents. This explains why the affective reading is possible in (19), as there is a unique sun in our universe, but not in (18), as there is more than one president on Earth and in principle the sentence in (18) can be reinterpreted as 'I saw this, not another, president'.¹³

The prediction is that the affective reading should arise when the interpretation of *the president* is clearly restricted to the unique president of the given country, such as *the president of Ghana*. This prediction is borne out, as demonstrated in (20), where *wɔ-maɣhiɛnyielɔ* (lit. 'our president') clearly refers to the president of Ghana only.

- (20) **Nɛkɛ** **wɔ-maɣhiɛnyielɔ** nɛɛ, e-yitso-ɣ wa.
DEM.PROX 3SG-president DEF 3SG-head-inside be.hard
'This president of ours, he's wicked.'

¹² However e.g. in English both *this* and *that* can obtain affective reading, see e.g. Potts and Schwarz (2010).

¹³ Note however that the most natural environment to obtain an affective meaning with *nɛkɛ NP nɛɛ* is the one in which the nominal is fronted/topicalized and then followed by a comment with its own subject. So the most natural construction to obtain the affective reading with *nɛkɛ hulu nɛɛ* 'this sun' would be:

- (i) **Nɛkɛ** **hulu** nɛɛ, ee-tso tso
DEM.PROX sun DEF 3SG.PROG-shine too.much
'This sun, it's scorching!'

3.3 Immediate situation uniqueness

The demonstratives *neke* NP *nee* and *nakai* NP *le* cannot refer to the unique entities in the immediate situations. Unlike the definite determiner *le*, which is perfectly fine in this context, as exemplified in (21), modeled after Simonenko (2014), p. 88, ex. (54).

- (21) Context: There is only one car in the household.
- Mi-kεε Dede ake e-shi **tsone** le.
1SG-tell Dede COMP 3SG.SBJV-leave car DEF
'I told Dede to leave the car.'
 - #Mi-kεε Dede ake e-shi **neke** **tsone** nee.
1SG-tell Dede COMP 3SG.SBJV-leave DEM.PROX car DEF
'I told Dede to leave this car.'
 - #Mi-kεε Dede ake e-shi **nakai** **tsone** le.
1SG-tell Dede COMP 3SG.SBJV-leave DEM.DIST car DEF
'I told Dede to leave that car.'

This finding corroborates the previous observation that while *le* conveys uniqueness, *neke* NP *nee* and *nakai* NP *le* convey anti-uniqueness.

3.4 Anaphoric Uses

Both the definite determiner *le* as well as all the adnominal demonstratives in Ga can be used anaphorically, as illustrated in (22) and (23):

- (22) Context: beginning of the conversation
- Mi-kane wolo nyε. **Wolo** le ηᵛᵛ waa.
1SG-read book yesterday book DEF interesting very
'I read a book yesterday. The book was really interesting.'
 - Mi-kane wolo nyε. **Neke** **wolo** nee ηᵛᵛ waa.
1SG-read book yesterday DEM.PROX book DEF interesting very
'I read a book yesterday. This book was really interesting.'
 - Mi-kane wolo nyε. **Nakai** **wolo** le ηᵛᵛ waa.
1SG-read book yesterday DEM.DIST book DEF interesting very
'I read a book yesterday. That book was really interesting.'

All of them can also be used in anaphoric contexts with non-matching antecedents, as demonstrated below:

- (23)
- Maria fᵔ nine e-tse osofo le. Mi-jwε-εε ake gbᵔmᵔ
Maria throw hand 3SG-call priest DET 1SG-think-NEG COMP human
kpakpa ji **nuu** le.
good COP man DEF
'Maria invited the priest. I do not think the man is a good person.'
 - Maria fᵔ nine e-tse osofo le. Mi-jwε-εε ake gbᵔmᵔ
Maria throw hand 3SG-call priest DEF 1SG-think-NEG COMP human
kpakpa ji **neke** **nuu** nee
good COP DEM.PROX man DEF
'Maria invited the priest. I do not think this (very) man is a good person.'

- c. Maria fɔ nine e-tɛ ɔsɔfo lɛ. Mi-jwɛ-ɛɛ akɛ gbɔmɔ
 Maria throw hand 3SG-call priest DEF 1SG-think-NEG COMP human
 kpakpa ji nakai nuu lɛ.
 good COP DEM.DIST man DEF
 ‘Maria invited the priest. I do not think that man is a good person.’

3.5 Bridging

While the definite determiner *lɛ* can occur in all kinds of bridging contexts, demonstratives *nɛkɛ NP nɛɛ* and *nakai NP lɛ* cannot, as demonstrated for a product-producer relation in (24) and a part-whole relation in (25).

(24) PRODUCT-PRODUCER BRIDGING

- a. Kofi he wolo nyɛ. Woloŋmalɔ lɛ jɛ Kumase.
 Kofi bought book yesterday author DEF be.from Kumasi
 ‘Kofi bought a book yesterday. The author is from Kumasi.’
 b. #Kofi he wolo nyɛ. Nɛkɛ woloŋmalɔ nɛɛ jɛ
 Kofi bought book yesterday DEM.PROX author DEF be.from
 Kumase.
 Kumasi
 ‘Kofi bought a book yesterday. This author is from Kumasi.’
 c. #Kofi he wolo nyɛ. Nakai woloŋmalɔ lɛ jɛ
 Kofi bought book yesterday DEM.DIST author DEF be.from
 Kumase.
 Kumasi
 ‘Kofi bought a book yesterday. That author is from Kumasi.’

(25) PART-WHOLE BRIDGING

- Wɔ-na sɔɔmɔtsu lɛ yɛ akrowa lɛ teŋ.
 ‘We found the church (building) in the middle of the village.’
 a. Ziŋle lɛ e-bɔ ŋkanale.
 roofing DEF PERF-become rust
 ‘The roofing is rusty.’
 b. #Nɛkɛ ziŋle nɛɛ e-bɔ ŋkanale.
 DEM.PROX roofing DEF PERF-become rust
 ‘This roofing is rusty.’
 c. #Nakai ziŋle lɛ e-bɔ ŋkanale.
 DEM.DIST roofing DEF PERF-become rust
 ‘That roofing is rusty.’

To sum up, the definite determiner *lɛ* can be used in a context in which there is a unique discourse referent in a larger and immediate situation, it can refer to the discourse referent anaphorically and can be used in bridging. However, *lɛ* cannot be used in the context in which there is a non-unique discourse referent. By contrast, demonstratives *nɛkɛ NP nɛɛ* and *nakai NP lɛ* can be used in contexts in which a discourse referent is non-unique but they cannot be used in bridging contexts or in contexts in which there is a unique discourse referent (except where there is an affective reading with the proximal demonstrative *nɛkɛ NP nɛɛ*). Demonstratives can also be used anaphorically. A summary of the semantic properties of the definite determiner *lɛ* as well as the demonstratives *nɛkɛ NP nɛɛ* and *nakai NP lɛ* is presented in Table 2.

Table 2. Semantic properties of the definite determiner *le* as well as the demonstratives *neke NP nee* and *nakai NP le*. ‘sit. uniq.’ stands for ‘situation uniqueness’ and ‘non-uniq.’ for non-uniqueness’.

	non-uniq.	global sit. uniq.	immediate sit. uniq.	anaphora	bridging
<i>neke NP nee</i>	✓	—	—	✓	—
<i>nakai NP le</i>	✓	—	—	✓	—
<i>le</i>	—	✓	✓	✓	✓

A question that arises immediately by looking at Table 2 is: how does the meaning of the demonstratives *neke NP nee*, and *nakai NP le* arise compositionally from the meaning of the particles *neke/nakai* and *le/nee*? In particular, any analysis of demonstratives in Ga would have to answer the following questions: (1) where do the anaphoric uses of *le/nee* and the demonstratives *nakai NP le* and *neke NP nee* come from, (2) what happens with the uniqueness inference conveyed by *le* (and *nee*, as we will show in Section 4.1.2) when combined with *nakai/neke* in the demonstratives *nakai NP le* and *neke NP nee*, (3) why do some participants prefer to use the short form *NP nee* over the long form *neke NP nee*? A compositional analysis of demonstratives in Ga that answers these questions is put forward in the next section.

4 Analysis

In this section, we develop a compositional analysis of demonstratives in Ga. We start by sketching an analysis of the definite determiner *le* and *nee* in the next section, followed by an account of *nakai NP le* and *neke NP nee* in Section 4.2. To preview the analysis to come, we argue that both *le* and *nee* convey that a discourse referent is unique and familiar in bearing the property in question, giving rise to the uniqueness inference. The role of *nakai/neke* is to restrict the interpretation of the DP to the prominent situation (usually determined by ostentation). The anti-uniqueness of *nakai NP le* and *neke NP nee* is then derived at the level of the situation (if there is another situation with a unique familiar discourse referent).

4.1 Definite determiners *le* and *nee*

4.1.1 The definite determiner *le*

The definite determiner *le* conveys the information that a discourse referent is both familiar and unique in bearing the property in question (Renans 2016, 2021; Campbell 2017). For illustration, as the president is unique and familiar due to general knowledge in (26), (26-a) is acceptable in the context of (26). By contrast, (26-b) is unacceptable in the context of (26) as the town elder is neither unique nor familiar in (26).

- (26) context: Yesterday was the Ghanaian national day and there were a lot of celebrations in Accra, which were visited by one president and many town elders.
- a. Mi-na maɸhienyieɓ le.
1SG-see president DEF
‘I saw the president.’
- b. #Mi-na maɸ onukpa le.
1SG-see town elder DEF
‘I saw the town elder.’

Example (26-b) becomes acceptable however, if the interlocutors had talked about one of the town elders before, as in (27-a). It is still unacceptable though if the interlocutors had

talked about more than one elder, as it is the case in (27-b). These observations support the idea that the definite determiner *le* picks up a discourse referent that is both familiar and unique in bearing the property in question.

- (27) a. context: There were five town elders at the celebrations. We've talked about one of them. $\Rightarrow$ (26-b) is acceptable
- b. context: There were five town elders at the celebrations. We've talked about two of them. $\Rightarrow$ (26-b) is unacceptable (Renans 2016, 2021)

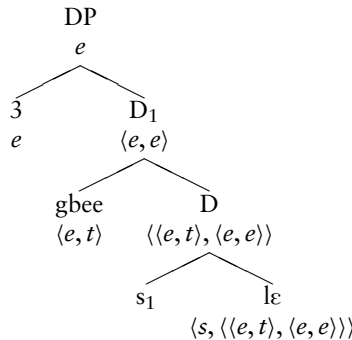
Note however that the definite determiner *le* encodes weak familiarity (in the sense of Roberts 2003), not only strong familiarity defined in terms of anaphoricity (see Renans, 2016, 2021, for data and discussion).

Following Renans (2016, 2021), we propose that *le* takes three arguments (see also Elbourne 2005; Schwarz 2009; Arkoh and Matthewson 2013): the situation pronoun, the property denoted by the NP, and the pronominal index, as shown in (28). The situation pronoun is analysed as a variable of type *s*, which gets its value from the context via the assignment function. Its role is to restrict the interpretation of the NP to the contextually given situation. The pronominal index is formally analysed as a variable of type *e*. The assignment function maps the covert index to weakly and strongly familiar entities and thus it accounts for weak and strong familiar uses of *le*.¹⁴

$$(28) \quad \llbracket le \rrbracket = \lambda s. \lambda P. \lambda y : \exists! x [P(x)(s) \wedge x = y]. \iota x [P(x)(s) \wedge x = y]$$

For illustration, the structure of *gbee le* 'the dog' is presented in (29) and its interpretation is given in (30).

- (29) *gbee le* 'the dog'



- (30) $\llbracket DP \rrbracket^g = \text{defined iff } \exists! x [gbee(x)(s_1) \wedge x = g(3)]$
 if defined: $\iota x [gbee(x)(s_1) \wedge x = g(3)]$
 $\approx$ the unique individual *x* in situation *s*₁ such that *x* is a dog and *x* is identical to *g*(3)

This correctly accounts for the observation that *gbee le* 'the dog' conveys the information that there is a unique and familiar dog in the context.

¹⁴ In proposing that the assignment function maps the covert index to both weakly and strongly familiar entities we follow Renans (2016, 2021). She admits that assuming the pronominal index to capture both strong and weak familiar uses of the definite determiner departs from the previous accounts that tend to associate the presence of the pronominal index with the strong familiar uses. For discussion, see Renans (2016) and Renans (2021).

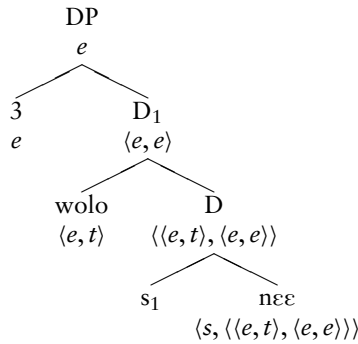
4.1.2 The definite determiner $n\epsilon\epsilon$

We propose that on its adnominal uses, $NP\ n\epsilon\epsilon$ is actually a short form of $n\epsilon k\epsilon\epsilon\ NP\ n\epsilon\epsilon$, in which $n\epsilon k\epsilon\epsilon$ is often omitted. In this section however, we are focusing on the meaning of $n\epsilon\epsilon$ in isolation.

In the previous literature, it has been proposed that etymologically $n\epsilon\epsilon$ derives from a presentational particle $n\epsilon$ and the definite determiner $l\epsilon$, e.g. [Campbell \(2017\)](#). We propose that, just as the definite determiner $l\epsilon$, $n\epsilon\epsilon$ takes three arguments: the situation pronoun, the property denoted by the NP, and the pronominal index, as shown in (31).

$$(31) \quad \llbracket n\epsilon\epsilon \rrbracket = \lambda s.\lambda P.\lambda y : \exists! x[P(x)(s) \wedge x = y].\iota x[P(x)(s) \wedge x = y]$$

$$(32) \quad wolo\ n\epsilon\epsilon$$



$$(33) \quad \llbracket DP \rrbracket^g = \text{defined iff } \exists! x[wolo(x)(s_1) \wedge x = g(3)]$$

if defined: $\iota x[wolo(x)(s_1) \wedge x = g(3)]$
 $\approx$ the unique individual x in situation s_1 such that x is a book and x is identical to $g(3)$

Thus, it follows that, just like the definite determiner $l\epsilon$, $n\epsilon\epsilon$ in isolation gives rise to familiarity and uniqueness. It is difficult however to show it empirically in the nominal domain, as adnominal $NP\ n\epsilon\epsilon$ is actually a short form of $n\epsilon k\epsilon\epsilon\ NP\ n\epsilon\epsilon$, which gives rise to anti-uniqueness. Therefore, we cannot show data parallel to the one presented in Section 4.1.1 on the semantics of the definite determiner $l\epsilon$. A suggestive piece of evidence that $n\epsilon\epsilon$ indeed conveys the meaning that a discourse referent is unique and familiar in bearing the property in question comes however from the verbal domain in which $n\epsilon\epsilon$ occurs in isolation.

Both $l\epsilon$ and $n\epsilon\epsilon$ in isolation are cross-categorical determiners with the same semantics across domains, see [Renans \(2016, 2021\)](#) for semantics and [Korsah and Murphy \(2019\)](#) for syntactic analysis. In the verbal domain, they function as determiners that influence an aspectual and evidential interpretation of the sentence, as demonstrated below in (34) and (35): Imperfective clefted sentences with the final $l\epsilon/n\epsilon\epsilon$ invariably convey a progressive and direct evidential interpretation, the interpretation that is not there without $l\epsilon/n\epsilon\epsilon$.^{15,16}

¹⁵ Ga native speakers report that with final clausal $n\epsilon\epsilon$ an event is unexpected, surprising, in contrast to final clausal $l\epsilon$ that gives rise to a neutral inference. A similar observation was made in Blackfoot, in which a proposition can be marked as expected, predictable, or familiar to the addressee by the speaker-proximal form. By contrast, the proposition can be marked as unexpected, surprising, or new to the addressee by the addressee-proximal form, see [Bliss and Wiltschko \(2020\)](#) for a discussion.

¹⁶ *Nakai* and *neke* can also occur clause-finally but they do not function as clausal determiners but as adverbs. In particular, they do not interact with an evidential and aspectual interpretation of the sentence, as demonstrated below, i.e. (i) does not convey a progressive aspectual reference but habitual:

- (34) PROGRESSIVE INTERPRETATION:
 Kofi ni sele-ɔ lɛ/nɛɛ.
 Kofi PRT swim-IMP DEF/DEF
 'It is Kofi who is swimming.'
 PROGRESSIVE CONTEXT: Tom and his family (wife, two sons, and two daughters) are on the beach. Tom and his wife can see a child swimming.
 ⇒ Tom can utter (34) in this context
 HABITUAL CONTEXT: Tom's youngest son and daughters do not like swimming and they do not do it, but his oldest son, Kofi, loves swimming and he does it regularly.
 ⇒ Tom cannot utter (34) in this context
- (35) DIRECT EVIDENTIALITY:
 Kofi ni sele-ɔ lɛ/nɛɛ.
 Kofi PRT swim-IMP DEF/DEF
 'It is Kofi who is swimming.'
 DIRECT EVIDENCE CONTEXT: Tom and his family (wife, two sons, and two daughters) are on the beach. Tom can see that his youngest son and two daughters are playing with sand and his oldest son, Kofi, is swimming.
 ⇒ Tom can utter (35) in this context
 INDIRECT EVIDENCE CONTEXT: The same as before but this time Tom cannot see his oldest son, but the younger one told him that Kofi was in the process of swimming.
 ⇒ Tom cannot utter (35) in this context

Aspectual and evidential properties of (34) and (35) are derived from the semantics of *nɛɛ* and *lɛ*, i.e. from the fact that they convey that a discourse referent is unique and familiar in bearing the property in question. In particular, uniqueness derives the progressive interpretation in (34) and (35). The analysis of the progressive interpretation is based on the idea that in the progressive a singular/unique event is quantified over (Ferreira, 2005, 2016). This uniqueness of the events in the VP denotation in (34) and (35) is caused by the presence of the *lɛ/nɛɛ*, as (34) and (35) without a clause-final *lɛ/nɛɛ* invariably give rise to the habitual interpretation, as presented below:

- (36) Kofi ni sele-ɔ.
 Kofi PRT swim-IMP
 'It is Kofi who swims.'
- a. PROGRESSIVE CONTEXT: Tom and his family (wife, two sons, and two daughters) are on the beach. Tom can see that his two daughters and the youngest son are playing with sand and his oldest son, Kofi, is swimming.
 ⇒ Tom cannot utter (36) in this context
 - b. HABITUAL CONTEXT: Tom's younger son and daughters do not like swimming and they do not do it, but his oldest son, Kofi, loves swimming and he does it regularly.
 ⇒ Tom can utter (36) in this context
- (i) Kofi ni sele-ɔ nɛkɛ/nakai.
 Kofi PRT swim-IMP DEM.PROX/DEM.DIST
 'It is Kofi who swims like this/that.'

Nɛkɛ/nakai can also co-occur with *lɛ/nɛɛ* clause-finally. In that case *lɛ/nɛɛ* function as clausal determiners, interacting with the aspectual and evidential interpretation of the sentence, whereas *nɛkɛ* and *nakai*, just as in (i), function as adverbs:

- (ii) Kofi ni sele-ɔ nɛkɛ nɛɛ/nakai lɛ.
 Kofi PRT swim-IMP DEM.PROX DEF/DEM.DIST DEF
 'It is Kofi who is swimming like this/that.'

The fact that $le/nεε$ encodes familiarity of the discourse referent, on the other hand, leads to direct evidentiality in progressive contexts (see Renans 2016, 2021 for details).

To sum up, both le and $nεε$ convey the interpretation that a discourse referent is unique and familiar in bearing the property in question. The uniqueness inference, however, is not conveyed by the demonstrative *nakai* NP le and $nεke$ NP $nεε$. We present their compositional analysis in the next section.

4.2 *Nakai* NP le and $nεke$ NP $nεε$

There is a long line of previous research arguing for a tight connection between the meaning of definites and demonstratives, see e.g. Ahn (2019, 2022); Dayal and Jiang (2022); Ebert *et al.* (2020); Elbourne (2008); King (2001); Roberts (2002); Wolter (2006), among many others. In particular, under some of the former analyses, the meaning of demonstrative is argued to be the meaning of definite determiner plus an additional restriction, which is operationalized differently under various analyses, e.g. as anti-uniqueness (Dayal and Jiang 2022), proper restriction (Nowak 2021), or a demonstration (Roberts 2002; Ebert *et al.* 2020). While the Ga data directly support the view that demonstratives are kind of marked definites, they raise a compositional problem for these analyses as well. Namely, the existing analyses cannot account for the observation that the meaning of demonstratives in Ga, which gives rise to anti-uniqueness, compositionally stems from the meaning of the determiner that presupposes uniqueness.

Our analysis is built on the observation that demonstratives bring situations into prominence, see Simonenko and Carlier (2022).¹⁷ In particular, we follow their idea that demonstratives encode a prominence-based choice function (CF) that picks out a situation out of a set of situations, usually (but not always) via ostentation. Distal and proximal demonstratives differ in the situation chosen by the CF: proximal demonstratives have proximal CF in their denotation, which picks the most prominent (usually pointed to) situation out of a set of situations that the Speaker considers to be part of their situation. By contrast, distal demonstratives have distal CF in their denotation, which picks up the most prominent (usually pointed at) situation out of a set of situations that the Speaker considers not to be part of their situation (Simonenko and Carlier 2022, following Marchello-Nizia 2006).

We argue that demonstratives in Ga also bring situations into prominence. In particular, the role of *nakai/nεke* in *nakai* NP $le/nεke$ NP $nεε$ is to restrict an interpretation of the NP le /NP $nεε$ to the most prominent situation picked up by a distal CF in the case of *nakai* and a proximal CF in the case of *nεke*. Lexical entries of *nakai* and *nεke* are given below in (37), where S is a set of situations and the f_{dist} and f_{prox} are prominence based CFs, distal and proximal, respectively.

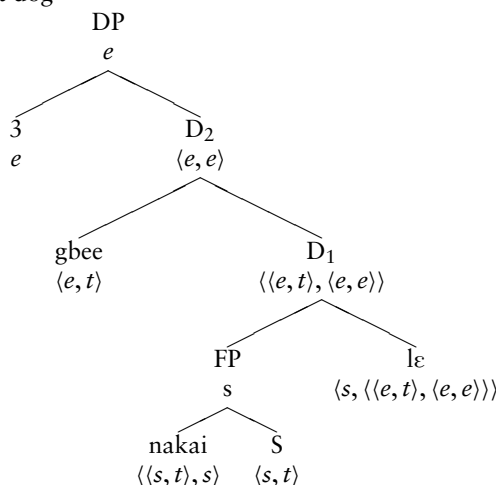
- (37) a. $\llbracket nakai \rrbracket = \lambda S.f_{dist}(S)$
 b. $\llbracket nεke \rrbracket = \lambda S.f_{prox}(S)$

A syntactic structure of *nakai gbee le* ‘that dog’ is presented in (38) and its interpretation is presented in (39):

¹⁷ Even though we follow this idea of Simonenko and Carlier (2022) as well as their proposal that demonstratives encode choice functions, a lexical entry and the syntactic analysis of demonstratives in Ga differ from the one proposed by Simonenko and Carlier (2022). For ease of reference, we provide here their lexical entry of demonstratives:

(i) $\llbracket dem_{dist} \rrbracket = \lambda S.\lambda P.\lambda x.P(x)(f_{dist}(S))$
 ‘property of individuals to have the nominal property in the unique situation pointed at by the Speaker which the Speaker considers not to be part of their situation’

(38) *nakai gbee le* ‘that dog’



- (39) a. $\llbracket I_e \rrbracket = \lambda s. \lambda P. \lambda y : \exists! x [P(x)(s) \wedge x = y]. \iota x [P(x)(s) \wedge x = y]$
 b. $\llbracket nakai \rrbracket = \lambda S. f_{dist}(S)$
 c. $\llbracket FP \rrbracket = f_{dist}(S)$
 d. $\llbracket D_1 \rrbracket^g = \llbracket I_e \rrbracket(\llbracket FP \rrbracket) =$
 $= \lambda P \lambda y : \exists! x [P(x)(f_{dist}(S)) \wedge x = y]. \iota x [P(x)(f_{dist}(S)) \wedge x = y]$
 e. $\llbracket gbee \rrbracket = \lambda x. gbee(x)$
 f. $\llbracket D_2 \rrbracket^g = \llbracket D_1 \rrbracket(\llbracket gbee \rrbracket) =$
 $\lambda y : \exists! x [gbee(x)(f_{dist}(S)) \wedge x = y]. \iota x [gbee(x)(f_{dist}(S)) \wedge x = y]$
 g. $\llbracket DP \rrbracket = \llbracket D_2 \rrbracket(g(3))$
 defined iff $\exists! x [gbee(x)(f_{dist}(S)) \wedge x = g(3)]$,
 if defined: $\iota x [gbee(x)(f_{dist}(S)) \wedge x = g(3)]$
 $\approx$ the unique individual x in the most prominent situation such that x is a dog
 and x is identical to $g(3)$ and the Speaker considers herself not to be part of
 that situation

A derivation of *neke gbee nee* would be the same, just that the Speaker would consider herself to be part of the situation.¹⁸

A structure we propose for *nakai NP le* and *neke NP nee* is parallel to the structure of *NP le/NP nee* in (29). The difference is that the interpretation of *NP le/NP nee* is restricted to the pronominal situation, while the interpretation of *nakai NP le/neke NP nee* is restricted to the situation picked up from the set of situations by a CF denoted by *nakai/neke*. Importantly, the situation pronoun and *nakai/neke* compete for the same syntactic position so whenever there is *nakai/neke*, there is no situation pronoun in the structure and whenever there is a situation pronoun, there is no *nakai/neke*.

Finally, an analysis where *nakai* and *neke* denote a distal/proximal CF picking up a situation that the Speaker considers to be part of their situation (in the case of proximal CF) or not (in the case of distal CF) neatly aligns with the properties of *nakai* and *neke*

¹⁸ A question that arises is why *nakai* invariably combines with *le*, while *neke* with *nee*. While we do not have a definite answer for this question, we speculate that it might have to do with the fact that *nee* etymologically is comprised of the demonstrative particle *ne* and *le*. So it might be that the proximal feature has been present in the denotation of *nee* and therefore it combines with *neke* that denotes a proximal CF, rather than with *nakai* that denotes a distal CF. We would like to leave however an issue of a distal/proximal distinction and their formation in Ga for future research. Thanks to a reviewer for asking about it.

in the adverbial domain. That is, Campbell (2017) observed that in the case of adverbial demonstratives, *nakai*, which is argued to denote a distal CF, is used when the action is being performed by someone other than the speaker, whereas *neke*, which is argued to denote a proximal CF, is used when the action is performed by the speaker, as in (40) and (41):

- (40) fo-lo-mə lɛ **nakai** nɔŋŋ
cut-ITER-IMP 3SG that just
'Keep cutting it up just like that.' [e.g., said to someone cutting up onions]
(Campbell 2017, p.87)
- (41) ni e-fee e-nine **neke** ee-bo-lo
and 3SG.PERF-do 3SG-hand this 3SG.PROG-shout-ITER
'And he's made his hands like this (puts hands to mouth in shouting gesture) and he's shouting.'
(Campbell 2017, p.86)

In the next two sections we will show how the presented analysis accounts for the empirical generalizations presented in Section 3: anaphoricity and a potential anti-uniqueness inference.

4.3 Anaphoric uses of *nakai NP lɛ* and *neke NP nee*

As shown in Section 3.4, repeated below for convenience, both *nakai NP lɛ* and *neke NP nee* can be used anaphorically:

- (42) context: beginning of the conversation
- a. Mi-kane wolo nyɛ. **Neke** **wolo** nee ŋɔɔ waa.
1SG-read book yesterday DEM.PROX book DEF interesting very
'I read a book yesterday. This book was really interesting.'
- b. Mi-kane wolo nyɛ. **Nakai** **wolo** lɛ ŋɔɔ waa.
1SG-read book yesterday DEM.DIST book DEF interesting very
'I read a book yesterday. That book was really interesting.'

The anaphoric uses of the determiners are due to the pronominal index in the denotation of *lɛ* and *nee*. The covert index is mapped by the assignment function to familiar entities and thus it accounts for anaphoric uses of *lɛ/nee* as well as *nakai NP lɛ* and *neke NP nee*.

4.4 Anti-uniqueness of *nakai NP lɛ* and *neke NP nee*

Demonstratives *nakai NP lɛ* and *neke NP nee* give rise to anti-uniqueness effects, as discussed in detail in Sections 3.1 and 3.2, which is puzzling since both *lɛ* and *nee* clearly give rise to the uniqueness inference. Consider (16-b) and (16-c), repeated below in (43):

- (43) a. ?**Nakai** **gbee** lɛ mii-wɔ ni **nakai** **gbee** lɛ mii-jo
DEM.DIST dog DEF PROG-sleep CONJ DEM.DIST dog DEF PROG-run
foi.
race
'That dog is sleeping and that dog is running.'
- b. ?**Neke** **gbee** nee mii-wɔ ni **neke** **gbee** nee mii-jo
DEM.PROX dog DEF PROG-sleep CONJ DEM.PROX dog DEF PROG-run
foi.
race
'This dog is sleeping and this dog is running.'

Examples in (43-a-b) were accepted by some native speakers, who commented that there are two different dogs in (43-a-b) and thus they are acceptable. However, the same examples were not accepted by other native speakers who commented that there is one dog in (43-a) and (43-b) and it cannot be that one and the same dog is sleeping and running at the same time. Therefore, (43-a-b) are not acceptable.¹⁹

The particles *nakai* and *neke* denote a CF that picks up a prominent situation out of a set of situations and restricts the interpretation of *NP le/NP nee* to this situation, e.g. to the situation with a unique familiar dog in case of *gbee le/gbee nee*. The anti-uniqueness arises as there might be another situation (which is not picked by *nakai/neke*) in which there is a unique and familiar dog as well. This accounts for the observation that while *nee/le* in isolation gives rise to the uniqueness inference, it is neutralized in *neke NP nee/nakai NP le*. Dayal (2023) proposes that demonstratives encode a presupposition for contrast potential (i.e. anti-uniqueness). Actually, the term *contrast potential* nicely characterizes demonstratives in Ga: they just show a potential for contrast, which then is operationalized in terms of a situation picked out by the CF.

The CF-based analysis of *neke/nakai* accounts also for the mixed judgments in (43). There are two CFs in (43-a) and (43-b), i.e. two situations will be picked up: one by each of the two CFs denoted by *nakai/neke*. One CF will pick up a situation in which there is a unique and familiar dog (which is sleeping) and one in which there is a unique and familiar dog (which is running). Now, the CFs pick up blindly and thus there is a possibility that both CFs will pick up the same situation. If this is the case, then (43) is unacceptable, as the meaning would be that there is a unique and familiar dog that is sleeping and running in the same situation. If however the CFs denoted by *nakai/neke* pick up different situations, then the meaning would be that there is a unique and familiar dog that is sleeping in one situation and there is a unique and familiar dog that is running in another situation.

This analysis also captures the observation that *nakai NP le* and *neke NP nee* cannot combine with globally unique entities, such as ‘sun’, see Section 3.2. Here, the CF would invariably pick up an element that contains a unique sun. Since, there is no another sun in our solar system, there cannot be another situation with another unique sun and thus a contrast-potential (anti-uniqueness) is not satisfied. In that case a reinterpretation in favor of an affective meaning is required: the sun today is very bright (in comparison for example to the sun yesterday); see also Simonenko and Carlier (2022).

Summing up this section, the proposed compositional analysis of demonstratives in Ga captures the empirical generalizations presented in Section 3. In particular, it accounts for the anaphoric uses of *nakai NP le* and *neke NP nee* and for the fact that they give rise to anti-uniqueness effects. In the next section we give an answer to the last empirical generalization

¹⁹ For some speakers even the one conjunct was unacceptable, as in (i):

- (i) #Nakai gbee le mii-wɔ
DEM.DIST dog DEF PROG-sleep
‘This dog is sleeping.’

We argue that it comes from the fact that *neke NP nee* as well as *nakai NP le* and *NP nee* can obtain a kind-reading interpretation, as presented in (ii):

- (ii) a. Ameo nee e-bu.
tomato DEM PERF-be.in.wide.supply
‘This tomato is very common.’
b. Neke ameo nee ebu.
‘This (very variety of) tomato is very common.’
c. Nakai ameo le ebu.
‘That tomato is very common.’

Since kind readings are dispreferred with progressive aspectual reference, the language consultants who got a kind interpretation in (i) preferred to change the aspectual interpretation of the sentence. We leave the matter of kind readings in Ga for future research.

presented in Section 3.1, i.e. why in some cases *NP nɛɛ* is preferred over *nakai NP nɛɛ*, at least by some native speakers.

4.5 *nɛkɛ NP nɛɛ* vs. *NP nɛɛ*

We reported in Section 3.1 that some of the language consultants preferred (44-a) over (44-b):

- (44) a. **Gbee** *nɛɛ* mii-wɔ ni **gbee** *nɛɛ* mii-jo foi.
 dog DEM PROG-sleep CONJ dog DEM PROG-run race
 ‘This dog is sleeping and this dog is running.’
 b. **?Nekɛ** **gbee** *nɛɛ* mii-wɔ ni **nɛkɛ** **gbee** *nɛɛ* mii-jo
 DEM.PROX dog DEF PROG-sleep CONJ DEM.PROX dog DEF PROG-run
 foi.
 race
 ‘This dog is sleeping and this dog is running.’

There are two (not mutually excluded) reasons why (44-a) might be preferred over (44-b). One is the economy reason: if *NP nɛɛ* is a short form of *nɛkɛ NP nɛɛ*, then a short form should be preferred. Second, an insertion of *nɛkɛ* should be associated with some pragmatic effects (the reason for using a longer form should be pragmatically justified). Since *nɛkɛ* restricts the interpretation of *NP nɛɛ* to the prominent situation that the Speaker considers herself to be part of, there should be a stronger familiarity effect with *nɛkɛ* in comparison to the cases in which *nɛkɛ* is omitted. And this is precisely what was revealed in some of the language consultants’ comments. For example, one language consultant shared an intuition that by uttering *nɛkɛ gbee nɛɛ* ‘this dog’ a speaker signals that she is in some way acquainted with the dog, an effect that is not there (or is there to a lesser degree) with *gbee nɛɛ*. We admit that it would be good to test these intuitions in an experimental setup; however, we are leaving it for future research.

5 Cross-linguistic perspective

There are other languages described in the theoretical literature that show similar morphological patterns as Ga, i.e. languages in which a demonstrative meaning arises transparently from a combination of the definite determiner and some other element, such as Akan, a Kwa language spoken in Ghana, or in which a demonstrative obligatorily co-occurs with a definite determiner, such as in St’at’imcets (Lilloet Salish), spoken in British Columbia, Canada.^{20,21} Example (45) exemplifies a use of demonstratives in St’at’imcets.

- (45) **Á7hen! Á·7·ma ti7 ta=t’ánamten=a** lhkúnsa ku=sgáp.
 look good·CRED DEM DET=moon=EXIS today DET=evening
 ‘Look! The moon looks beautiful tonight.’ (Matthewson 2022)

The semantics of demonstratives in St’at’imcets is however very much different from the semantics of demonstratives in Ga, i.e. demonstratives in St’at’imcets encode uniqueness but not familiarity (Matthewson 2022). It is actually a mirror image of what happens in Ga, as demonstratives in Ga encode familiarity and anti-uniqueness.

²⁰ Other languages, in which a demonstrative has to co-occur with a definite determiner includes e.g. Greek and Irish, see for example Panagiotidis (2000) for a syntax of this construction in Greek. Thank you to Carla Bombi (p.c.) for discussing these issues with us.

²¹ See also Jenks and Konate (2022) for a discussion on definiteness in Marka-Dafing, in which an overt definite marker can co-occur with an overt pronominal index marker. This system is however different from Ga, in which an index is introduced by the definite determiner *le*.

A very similar pattern as in Ga is also found in Akan, as shown in (46). In Akan as well, demonstratives are composed of the particle *saa* and the definite determiner *no*. Moreover, demonstratives in Akan show very similar semantics as demonstratives in Ga: they encode anti-uniqueness and familiarity.

- (46) **Saa** car **no** yɛ Toyota.
 DEM car DEF COP Toyota
 ‘That car is a Toyota.’ (Owusu 2022, from p.54)

However, the mechanism that derives this meaning is different from that of Ga, according to previous literature. In particular, Owusu (2022) argues that anti-uniqueness is already encoded in the meaning of the definite determiner *no* and the particle *saa* introduces a domain restriction.²² This is very much different from Ga, in which the definite determiner *le* clearly encodes uniqueness and anti-uniqueness arises only when *nakai* is introduced. Thus, the Ga data system of demonstratives widens the cross-linguistic picture of the semantics of determiners across languages.

6 Summary

The demonstratives *nakai NP le* and *nekε NP nεε* in Ga encode familiarity and anti-uniqueness. We showed that the demonstrative meaning is derived compositionally from the meaning of *NP le/NP nεε*, restricted to the situation picked up by the distal or proximal CF denoted by *nakai/nekε*, respectively. Importantly, the Ga data demonstrate that the anti-uniqueness triggered by demonstratives in Ga is compatible with the uniqueness inference triggered by *le* or *nεε* in isolation. Thus, the data from Ga add to the cross-linguistic picture of what the building blocks of demonstratives are as well as their combinatorial possibilities.

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Conflict of interest

The authors have no competing interests.

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²² See Bombi (2018); Bombi *et al.* (2019) and Dayal (2023) for a competing analysis of *no* and *saa... no* in Akan.

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