

**BELIEF-OF-EXISTENCE DETERMINERS: EVIDENCE
FROM THE SYNTAX AND SEMANTICS OF NATA
AUGMENTS**

by

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Abstract

This thesis makes two inter-related claims about the augment (a.k.a pre-prefix or initial vowel) based on evidence from Nata (Eastern Bantu, E45). Syntactically, the Nata augment is the realization of the functional category D(eterminer). The view that the augment is D is consistent with the claim that argument expressions are DPs, while predicate nominals obligatorily lack the D shell (cf. Longobardi 1994; Matthewson 1998; Déchaine and Tremblay 2011 and others). Semantically, I argue that the D distinction in Nata is solely based on speaker's belief of existence.

Beyond Nata, I claim that the core notion of existence is pertinent to other Bantu languages as well. The thesis challenges the widely held view that the D position is necessarily related to specificity or definiteness. I demonstrate that, once definiteness and specificity are controlled for in a precise fashion, the true contribution of Nata Ds as belief-of-existence Ds can be discerned.

Cross-linguistically, the Bantu belief-of-existence D intersects with Salish assertion-of-existence Ds. In Salish, existence is asserted based on the speaker's personal knowledge (Matthewson 1998). In Nata, this requirement is lacking. The Nata belief of existence D thus behaves as “the weakest D”, as it does not require a speaker to have personal knowledge of the individual. The theoretical implications of this analysis are twofold. First, existence Ds come in (at least) two guises, belief-of-existence versus assertion-of-existence. Second, existence Ds—in both Bantu and Salish—differ from “common ground” Ds of the type found in English, with the latter (but not the former) coding definiteness/specificity.

Lay Summary

In this thesis I studied the determiner systems of the Nata (Bantu) language. I concluded that common semantic features of definiteness and specificity found in other well-studied languages are missing in Nata. My work opens up the notion of existence as it relates to the article system of Lillooet (Salish) following Matthewson's (1998) study. While the similarities between Bantu and Salish – two unrelated families – suggest that the notion of existence is robustly available as a determiner distinction, I proposed that existence determiners come in (at least) two guises, one is a system like Nata in which a speaker's personal knowledge of the referent is not required (belief of existence), the second is a system like Lillooet in which a speaker's personal knowledge of the referent is required (assertion of existence). I have argued that existence determiners are also found in other Bantu languages.

Preface

This dissertation consists of original and independent work by the author, Joash Johannes Gambarage, and is mainly based on fieldwork data from native speakers of Nata spoken in Tanzania and from the introspective judgments of the researcher. This fieldwork is covered by UBC Ethics Certificate number H16-01163 under the title “Weak Determiners in Bantu: Evidence from the Syntax and Semantics of Pre-prefixes in Nata”.

A version of Chapter 2 of this dissertation, *The Nata augment: now you see it, now you don't!* appeared earlier as a qualifying paper under the UBC Working Papers in Linguistics volume 34, pages 45–59. Some sections of the same chapter also appeared earlier as an article entitled *The Pre-prefix in Nata: An Interface Account* in the Selected Proceedings of the 43rd Annual Conference on African Linguistics, University of Kansas volume 30, pages 194–266.

The picture presented as Figure 1.1 was taken with permission from the Scope Fieldwork Project directed by Dr. Benjamin Bruenning (University of Delaware). Map 1, *The Ikoma-Nata-Isenye Cline*, is from Higgins (2011) who cites the Survey Department of SIL’s Uganda-Tanzania Branch for providing her with such maps.

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List of Abbreviations

ACC	accusative
AOE	assertion of existence
APL	associative plural
APPL	applicative
AUG	augment
BOE	belief of existence
C	noun class
CAUS	causative
COMP	complementizer
COP	copula
DAT	dative
DEF	definiteness
DEIX	deictic
DEM	demonstrative
D(ET)	determiner
DST	distal
EC	Expletive construction
ERG	ergative

EXIS	assertion-of-existence
FEM	feminine
FOC	focus
FUT	future
FV	final vowel
GEN	genitive
IPFV	imperfective
INCIP	incipient
INF	infinitive
INTERM	intermediate
LOC	locative
MASC	masculine
MOD	modal
NEG	negation
NMLZ	nominalizer
NOM	nominative
NT	number neutral
OBJ	object
OBL	oblique marker
OCC	occupation
OM	object marker
PART	partitive
PASS	passive
PROG	progressive

PROX	proximal
PST	past
PFV	perfective
PL	plural
POSS	possessive
PRES	present
PROX	proximal
RED	reduplicant
REFL	reflexive
REL	relative
REM	remote
SA	subject agreement
SG	singular
SUB	subject
SUBJV	subjunctive

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Dedication

To my beautiful wife Neema and to my two awesome boys: Jones and Eli.

Chapter 1

Introduction

If I have seen farther it is by standing on the shoulders of giants.
— Sir Isaac Newton

This thesis explores the syntactic and semantic properties of the augment (a.k.a the pre-prefix) in Nata (Eastern Bantu, E45). The augment is the leftmost element of the noun domain labelled as AUG in (1a). The augment precedes the noun-class prefix (the element marked as C; see §1.5.2 for details about noun classes). Thus, traditionally the Nata noun template is presented as in (1b).

- (1) a. o= mú-nwa
AUG = C3-mouth
'a/the mouth'
- b. AUGMENT = CLASS PREFIX–NOUN STEM

In this thesis I investigate the syntactic status of the augment in cases such as (2), where nominals denoting an entity appear with the augment, but nominals denoting a property lack the augment, (3).

[Context: Bahati is a gender neutral name. A woman and a man are standing before us. M is wondering which person is Bahati:]

(2) a. Bahati n = o = mo-subhe
 Bahati n = o = mo-súbhe
 Bahati COP = AUG = C1-man
 ‘Bahati is the man.’

b. #Bahati m = mo-subhe
 #Bahati n = mo-súbhe
 Bahati COP = C1-man
 ‘Bahati is a man.’

(3) [Context: M is describing Bahati’s gender:]

a. #Bahati n = o = mo-subhe
 #Bahati n = o = mo-súbhe
 Bahati COP = AUG = C1-man
 ‘Bahati is the man.’

b. Bahati m = mo-subhe
 Bahati n = mo-súbhe
 Bahati COP = C1-man
 ‘Bahati is a man.’

Largely, in this thesis, I investigate the semantic principle that forces Nata speakers to use an overt augment in sentences such as (4), and not in contexts such as (5a).

(4) a. n-a-a-roçh-e o = mo-subhe
 n-á-á-rot]-e o = mo-súþe
 FOC-PST-see-FV AUG = C1-man
 ‘S/he saw a/the man.’

- b. ta-a-ɾoçh-e o = mo-subhe
 ta-a-rotʃ-é o = mo-súʃe
 NEG-PST-see-FV AUG = C1-man
 ‘S/he didn’t see a/the man.’

(5) [Context: The speaker does not believe that X saw any man:]

- a. ta-a-ɾoçh-e mo-subhe
 ta-a-rotʃ-e mo-súʃe
 NEG-PST-see-FV C1-man
 ‘S/he didn’t see a/any man.’

- b. *n-a-a-ɾoçh-e mo-subhe
 *n-a-a-rotʃ-e mo-súʃe
 FOC-PST-see-FV C1-man
 Intended: ‘S/he saw a/*any man.’

In order to provide an analysis of the Nata augment, I adopt the hypothesis that nominal arguments are DPs, and predicate nominals are φ P/NP (Stowell 1989; Longobardi 1994, 2001, 2008; Déchaine 1993). I provide evidence that the augment instantiates the category of D, whose surface form may vary according to whether D is overt as in (4) or covert (D_{\emptyset}) as in (5a) (see Longobardi 1994, 2001, 2008; Déchaine 1993; Déchaine et al. 2018). I claim in this thesis that the cases in (2) and (3) involve a partition between a DP argument and a nominal predicate which lacks a D layer. I will therefore gloss the augment as D from now on.

While I argue in this thesis that syntactically the augment is D, the Nata augment does not seem to encode definiteness or specificity as widely assumed in the literature on the semantics of Ds. Rather, the contrast between the overt D in (4) and the covert D in (5a) is forced by the speaker’s commitment to existence of a referent for the NP. I show that the Nata augment system is strikingly similar to the D system of St’át’imcets (Salish) which encodes the notion of ‘assertion-of-existence’ (see Matthewson 1998, 1999).

The rest of Chapter 1 highlights the goals of this thesis and the theoretical framework in which the notion of the augment/D is couched. I introduce the Nata language and people and discuss why studying Nata is important.

1.1 The goals of the thesis

This thesis explores various syntactic and semantic properties of the augment in Nata. The thesis has four main goals:

- (6) a. To present a syntactic-semantic analysis of the augment/D system in Nata.
- b. To compare Nata's augment/D system with the strikingly similar D system of St'át'imcets (Salish) and other Bantu languages.
- c. To revisit previous semantic hypotheses and show that none of the previous semantic accounts are capable of accounting for what forces augment/D choices in Nata and Bantu more generally.
- d. To account for the locus of parametric variation between the Nata augment/D and other Ds (in Bantu and in Salish).

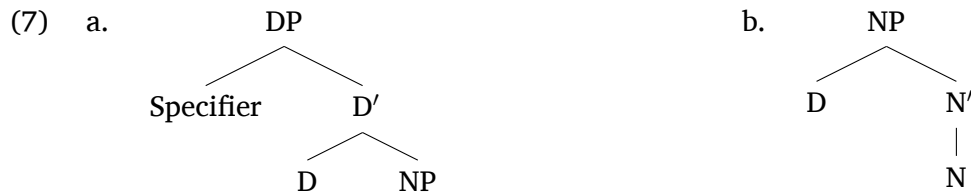
1.2 Theoretical assumptions

I briefly review the relevant frameworks for the current proposal about the augments in Nata. I employ the following frameworks: (i) the DP hypothesis, (ii) the assertion of existence account, (iii) syntactic licensing accounts, and (iv) the choice function account. While I will not attempt to review all the details of each account, I do present the main insights that resonate with my proposal. I start with the DP hypothesis.

1.2.1 The DP hypothesis

The DP hypothesis was developed in the wake of Brame (1982), Szabolsci (1983), and Abney (1987); its basic assumption is that the determiner is

the functional category D that selects an NP as its complement, (7a). This view is consistent with the current proposal that the augment is the morphosyntactic realization of the functional category D. As such, I will not adopt the earlier version of the internal structure of the NP which assumes the noun is the head of the phrase and the D sits in the specifier of the NP (Jackendoff 1977; Chomsky 1981), (7b).



In Chapter 3, I show that the DP hypothesis is supported by the internal structure of Nata DPs.

1.2.2 The predicate/argument hypothesis

Longobardi (1994), following Stowell (1989), explicitly argues that a common noun must have a D to function as an argument. This assumption makes a distinction between argument and predicate nominals:

- (8) D and argumenthood (Longobardi 1994: 620, 628)
- a. A ‘nominal expression’ is an argument only if it is introduced by a category D (p.620).
 - b. DP can be an argument, NP cannot (quoting Stowell 1989).

I adopt Longobardi’s predicate/argument contrast and argue that, in Nata, Ds are not only necessary for projecting a DP but are also required for argumenthood (i.e., making an entity-denoting argument of type *e*).

1.2.3 The assertion-of-existence hypothesis

Matthewson (1998) unearths a new typology of indefinite Ds in St’át’imcets whose function is encoding assertion of existence. She illustrates that St’át’imcets Ds encode the following distinction:

- (9) Determiners in St'át'imcets (Matthewson 1998: 53-54)
- a. The non-polarity Ds ($X...a$) encode assertion of existence.
 - b. The polarity D encodes failure to assert existence.

Matthewson illustrates that the overt Ds, $X...a$ (where X refers to different elements encoding deictic distinctions), consistently encode assertion of existence, while the D *ku* fails to encode existence. A major motivation for adopting the assertion-of-existence account is the observation that Ds in both Nata and St'át'imcets encode whether the speaker believes the NP's referent exists. I provide a semantic analysis of the D system in Nata and compare it with the strikingly similar D system in St'át'imcets.

1.2.4 Choice function accounts

I claim that Nata Ds require an analysis involving choice functions which is consistent with various works on indefinite Ds (Reinhart 1997; Winter 1997; Kratzer 1998; Matthewson:1999; and others). The definition of a choice function is as follows:

(10) **A choice function definition:**

A function f is a choice function ($CH(f)$) if it applies to any non-empty set and yields a member of that set. Reinhart (1997: 372)

I argue in Chapter 4 that Nata augments are all analyzable as indefinites. Thus, in Reinhart's (1997) formulation, D is a function, $f_{\langle e,t \rangle e}$ which takes a nominal expression of type $\langle e,t \rangle$, and yields an entity from the NP set it is applied to. The preview of my analysis for an example like (11a) is given in (11b):

- (11) a. Makuru a-ka-ghoor-a e = ghi-tabho
 Makurú a-ka-yór-a e = yí-taþo
 Makuru SA1-PST-buy-FV D = C7-book
 'Makuru bought a book.'

b. $\exists f$ [CH(f) & [Makuru bought f(book)]]

There is a choice function (f) which picks out a book from the set of books and Makuru bought the book chosen by f.

In chapter 4, I discuss the specific properties of choice functions that I adopt, and the implication of choosing one approach over the other.

1.3 Methodology

Though I speak Nata natively, to avoid building a theory based only on my own judgments, I adopted Featherston's (2007) standards for collecting linguistic data by verifying attested data with multiple informants. I conducted fieldwork in the village of Nata Mbisso (the heartland of the Nata language) in July and August 2016. I worked with 6 speakers (3 males and 3 females). Five of the speakers were born and raised in Nata village, and one female speaker was born and raised in Mugeta village. Their ages ranged between 40 and 60 and they all spoke Nata natively¹.

Semantic fieldwork is a challenging enterprise. Therefore, well-designed elicitation techniques have to be employed, which include but are not limited to spontaneous discourse and direct elicitations (Dimmendaal 2001; Matthewson 2004; and others). Matthewson (2004) argues further that one cannot gather adequate information about meaning from spontaneous discourse alone, but must also include direct elicitation, asking consultants for grammaticality, felicity and truth value judgments. The findings of the current research resulted from these methodological practices.

In spontaneous elicitations, speakers were asked to tell their own stories and narratives like folktales. In directed elicitations, I primarily used two methods. One was setting up a relevant context of use. For instance, to verify whether the augment can be used in new discourse contexts, the consultants in their individual elicitation sessions were

1. One of the language consultants was my older sister, whom I grew up with in the same household until her late teenage years when she got married and moved to Nata-Mbisso village. The reason I included her is because I was interested to see if there would be any differences between her grammaticality and felicity judgements and mine. I did not come across any.

asked to pay attention to the context of use and provide a relevant response. An example of a context used in directed elicitations is given below:

[**Context:** Suppose Wanchota goes to school and on her way back she meets a man who stops her to ask for directions. When she gets home, the first thing she says to her mom is about what happened on her way home. She goes: Mama, guess what?...(please continue)].

I also employed the option of using the Totem Field storyboard model (cf. Burton and Matthewson 2015), and Bruening's (2008) storyboards for quantifier elicitation. These were presented as powerpoint slides on a laptop. For instance, using Bruening's image 003 (<http://udel.edu/~bruening/scopeproject/scopeproject.html>), I asked the consultants if it was at all possible to say *all (the) birds are sitting in the tree* in Nata given the scenario below. In turn, as the answer was no, I asked them to give the correct sentence one would use in this scenario:



Figure 1.1: 003-Not-All-Birds-In-Trees

My role as a speaker-linguist was clear in this undertaking. I produced sentences and asked the consultants to give their judgements in relation to the context. This was fun! I also noticed that when some consultants had a 'foggy head', they would give responses that were infelicitous and counter-

intuitive; however, they rejected such responses in the following elicitations as if they had never said anything like that. As a speaker-linguist I could easily tell that a consultant's mind was not on task, and I would ask them to take a break, or drink something refreshing to help them keep focussed on the task.

For the other Bantu languages I report on in Chapter 5—Runyankore-Rukiga, Kinande, Xhosa, Zulu, Bemba, and Dzamba—I used phone interviews and asked speakers to help with checking my transcriptions. For Haya and Luganda, the elicitations were done here at UBC with native speakers who are UBC students.

1.4 The language and the people

Nata is an endangered Bantu language spoken in Tanzania by approximately 7000 speakers. Speakers of the language call themselves *a = βanáata* and refer to their language as *e = kináata*. In the context of Swahili, which does not have augments, all languages are referred to by using the *Ki-* prefix; thus, Nata is called *Kináata*. In the English text, I have omitted the augment *e =* and the *ki-* prefix to be consistent with the meta-language (English). Thus, throughout I refer to the language under study as 'Nata'.

Nata is spoken in several villages in the two districts of the Mara Region, namely Serengeti and Bunda. The majority of Nata speakers are found in the Mara Region, particularly in the villages of Nata-Mbiso, Nata-Motukeri, Makondose and Bwanda. Nata people claim that their first ancestors lived in Bwanda (a.k.a Rakana), but today, the heartland of Nata is the villages of Nata-Mbiso and Nata-Motukeri. There are a number of villages which combine Nata speakers and speakers of other languages. These include the villages of Mugeta and Kyandege in the Bunda district, and the villages of Nyiichoka, Ikoma and Burunga in the Serengeti district.

1.4.1 Language classification

In the wider typology of African languages, Greenberg (1963) shows that Nata belongs to the Bantu family, which falls under the Niger-Congo family. The latter falls under a major group known as the Benue-Congo group.

There have been attempts to classify Bantu languages into zones of related languages. Guthrie (1948) places Nata under group E.40 (Ragoli-Kuria Group) where Nata and Ikoma are coded as E45 (Zone E, Group 40, Index 5). The languages under the Ragoli-Kuria Group are listed in (21):

(12) **Ragoli-Kuria Group (E.40)**

E.41 Logooli (Ragoli)

E.42 Gʊsʲi (Kisii)

E.43 Korja

E.44 Zanakɪ

E.45 Nata (Ikoma)

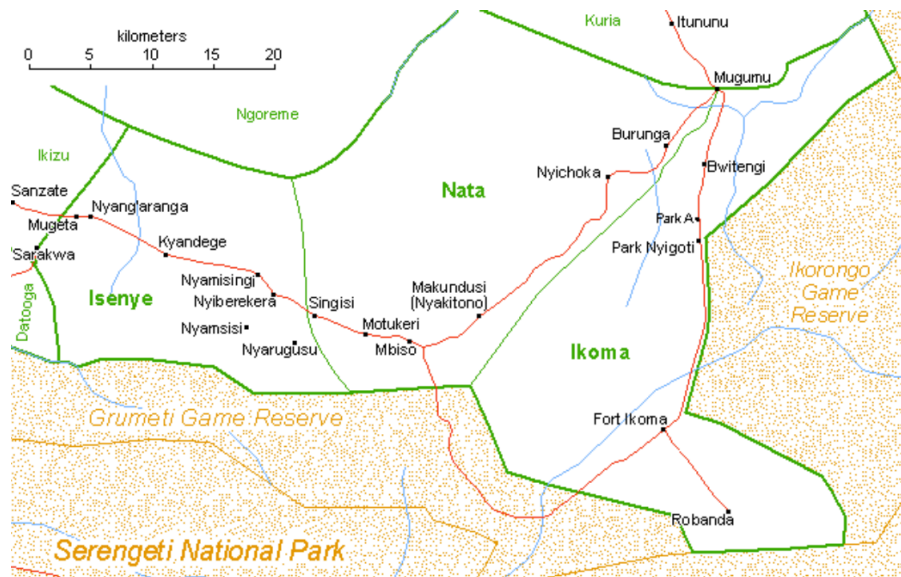
E.46 Sonjo (Sonyo)

Guthrie (1971) maintains the above classification in which Nata and Ikoma are treated as one and the same language. A number of classifications treat Nata and Ikoma as the same language, where Nata and Ikoma consistently belong to the East Nyanza subgroup which is comprised of Gusii, Kuria, Zanake, Ngoreme and Shashi (see Nurse (1977), as well as Nurse and Philippson (1980)). Nata, Isenye and Ikoma are also treated as one language in Heine's (1976) classification.

Maho (2003) attempts a new classification where he moves some language groups placed in Guthrie's (1948) zone E, to the new group named JE.40, which has a total of 19 languages. For instance, Guthrie's E.20 (Kwaya-Ruuri) and E.40 (Lagooli-Kuria) groups are now in the JE.40 group.

Surprisingly, Isenye, which is a sisterlect to Nata, is only mentioned in Heine's classification. In the most current classification by Ethnologue, Nata, Isenye and Ikoma share the same code (E.45) and ISO number (ISO-639-3: NTK). These three lects together constitute an east-west Ikoma-

Nata-Isenye cline as shown in Map 1 below. Present-day Nata is bordered to the west by Isenye, to the east by Ikoma, to the north by Ngoreme and Kuria, and to the south by the Gurumeti river and the Serengeti National Park.



Map 1: The Ikoma-Nata-Isenye cline

1.4.2 Dialect continuum and Nata neighbours

During Nata data collection, I noticed that speakers exhibited some minor variations in certain sounds (e.g. *o* = *yóyoro* vs *o* = *kóyoro* ‘leg’), and in H-tone placements (e.g. *e* = *keróóngoori* vs *e* = *kéroongoori* ‘porridge’). The elders remarked that the differences stem from a split between a Southern dialect and a Northern dialect. However, these differences are not predictable based on a Southern/Northern split.

Nata is mutually intelligible with languages of zone E which are found in the Kuria Group, e.g. Kuria, Isenye, Ikoma, Zanaki, Ikizu, Sizaki and Shashi to mention a few. There is controversy about whether these are dialects or different languages. I hold the view that Nata, Ikoma, and Isenye are closely related dialects, and are distinct from the rest. Hill et al. (2007:42) show,

for instance, that Ikoma and Nata share 89% lexical similarity, Ikoma and Isenye 85%, and Nata and Isenye 88%. It should be noted, however, that the major linguistic differences between the three lects (Nata, Ikoma, and Isenye) do not relate to lexical items, but rather to the phonology; e.g. Dahl's Law (a voicing dissimilation rule where a voiceless obstruent becomes voiced when immediately followed by a syllable with another voiceless obstruent, Meinhof (1932)) applies differently, and tonal melodies and vowel harmony rules are also different (cf. Aunio 2010 and Higgins 2011).

Shetler (1996) gives two views on migration and settlement of the Kuria Group in the present-day Mara Region. One view is that south Mara groups all came together to Mara from the Great Lakes (Nyanza or Lake Victoria). According to this view, the Great Lakes family was one big language family that included the Haya, Kerewe and the Jita-Kwaya-Ruuri languages, which now share few cognates with Nata-Ikoma-Isenye. Shetler contends that due to increasing pressure on the land, the Kuria group started moving east and split into small groups. The groups which crossed the Mara river and proceeded to the east became what is today the east Mara, Lagooli-Kuria; and the group that proceeded south of the Mara river formed the Nata-Ikoma-Isenye cline. Shetler also presents an alternative view supported by the indigenous people that the Ikoma and Temi (Sonjo) were one group that lived at the eastern side of the Serengeti Plain (Arusha), and that the Ikoma broke off and traveled west across the Serengeti Plain. According to this view, later the group was further divided into the present-day Ikoma, Nata, Isenye and Ngoreme tribes. This happened around 300-400 AD. Maho's (2003) classification, where he collapses Guthrie's E.20 and E.40 groups into JE40, may have possibly followed this historical path.

There are notable differences in cultural practices among these groups, especially as regards marriage ceremonies, male circumcision, dance forms, and musical instruments. Shetler (1996:12) argues that although the Bantu people speaking these lects claim that they are separate languages, linguistically and culturally they are closely related to each other, suggesting that the Nata-Ikoma-Isenye people had a common heritage in the past.

1.4.3 Language endangerment

Nata is classified by the Ethnologue as a language that is in trouble or "threatened", as the intergenerational transmission is in the process of being broken. This corresponds to yellow on the language cloud display at <http://www.ethnologue.com/cloud/ntk>.

Although Nata is presently used for communication at a family level, the language is partially used by the child-bearing generation but not by children. Children and adolescents can understand Nata but they always speak Swahili to their parents and peers. There are a number of factors that present a threat to the future of Nata. One is language contact, particularly with Swahili, which is a dominant language. The second one is the lack of policies that support minority language learning. This has led children and adolescents to pay no attention to minority languages; as a consequence they only speak Swahili both when socializing with their peers and at home.

As noted in Mekacha (1993) and Hill et al. (2007), Nata children grow up speaking Swahili as their first language. This change has been drastic and rapid: within the same family, siblings in their 30s have Nata as their first language, while siblings in their late teens have Swahili as their first language. Hill et al. (2007:34) note that Nata "has a certain amount of prestige attached to it by its speakers, but [...] its functional value and use are declining, possibly signalling the death of the language variety in the coming generations." Nata is at a tipping point, and timely documentation is needed to stabilize and revitalize the language. In terms of the endangerment status of related lects, the rate of endangerment is higher for Isenye than Ikoma, based on the fact that Ikoma has many more speakers (19,000), than Isenye (8,000). By comparison, Nata has only 7,000 speakers (see Muzale and Rugemalira 2008).

1.4.4 Previous literature on Nata

Nata is an understudied language. There are three theses on Nata that I know of: Mekacha's (1985; 1993) on the phonological processes affecting Nata vowels and the sociolinguistic impact of Swahili on Nata, respec-

tively, and Johannes (2007) on the Nata nouns structure. Currently, Andrei Anghelescu is writing a PhD thesis on Nata tone and vowel harmony.

Other existing publications on the language include a few papers published as Qualifying Papers (from UBC) or conference proceedings. These include: Gambarage (2012) and Gambarage (2013) on augmented and unaugmented N-stems in Nata and vowel harmony in Nata, respectively; The morphophonology of tone in Nata by Anghelescu (2013); Verbal morphotonology of Nata by Lam (2013); and Quantification and Freedom of Choice in Nata by Osa-Gomez (2016). There are also several book chapters in the recently published OUP volume *Africa's Endangered Languages: Documentary and Theoretical Approaches*. This book included four chapters on Nata: Gambarage and Pulleyblank (2017) on vowel harmony; Déchaine et al. (2017) on deverbal nouns; Anghelescu et al. (2017) on tone; and Gambarage et al. (2017) on documenting Nata. Lastly, the UBC Nata Working Group (NaWoG) is working to produce a record of the grammar of Nata in the form of a descriptive grammatical sketch.

1.4.5 Orthography and transcriptions

Nata does not have a standard orthography. As a member of the Nata community, I am making efforts to assist the Nata community to develop and standardize an orthography which would best represent the sound system of the language. As noted by Mekacha (1993), Swahili has a detrimental effect on local languages, such that speakers of Nata think that Nata sounds are similar to Swahili ones. Since tense /e,o/ and lax mid /ɛ,ɔ/ vowels contrast and have a high functional load, I have proposed to mark the lax mid vowels with a subdot in the orthography, hence <ɛ̣,ɔ̣>. The subdot system is very common amongst Africanists from west Africa. This is in line with the Summer Institute of Linguistics (SIL) efforts in the Mara region to promulgate the spelling systems for the local languages (see Higgins 2010). Special graphemes used in Nata are presented in Table 1.1; all other graphemes are common Roman forms.

Table 1.1: Useful orthographic symbols

Orthography	IPA.	Ex. Orthography	Ex. IPA	Gloss
gh	ɣ	ghóra	ɣóra	buy
bh	β	bhára	βára	count
ng'	ŋ	ang'amá	aŋamá	cyst
ng	ŋg	anguhá	aŋguhá	tick
ny	ɲ	anyáma	aɲáma	meat
ɔ	ɔ	rɔra	róra	see
ɛ	ɛ	rɛra	rera	babysit

Nata is a tone language. I use the diacritic (´) to mark high tone, as seen in the examples in Table 1.1. For a discussion of tone realization in Nata see Anghelescu et al. (2017).

Lastly, in this thesis I use a four-line system when presenting data. These consist of the orthography, a broad phonetic transcription, a morpheme gloss and a free translation. Any relevant context of use will appear in square brackets before the relevant example.

1.5 Why study Nata?

Nata is a language that is woefully under-researched (compared to the languages of more economically-developed regions). This research presents an in-depth examination of the syntactic and semantic properties of DPs. Unearthing these aspects will contribute greatly to the typological and theoretical understanding of the structure of DPs and the syntactic and semantic features encoded in the Nata D system. This dissertation is the first exploration that reports on the syntax and semantics of the D in Nata or any related Zone E45 language.

Furthermore, Nata augment data provide new evidence for augments as Ds that encode existence, as opposed to being inherently definite or specific or lacking a semantic function as claimed in previous accounts. This suggests a deep typological split between Bantu languages and languages

like English, whose D system contrasts for definiteness. Crucially, Nata augments compare with D systems in some Salish languages, which introduce a whole new area of inquiry regarding the “Bantu-Salish connection”².

Moreover, the current Nata work is not only an investigation and documentation of a particular linguistic phenomenon related to augments, but is also a contribution to the linguistic theory of the human faculty of language, hence it shapes our understanding of universal grammar (UG). Furthermore, the diagnostic tests used in this thesis could be used to test for the linguistic function of augments in other Bantu languages.

Finally, as a Nata speaker-linguist I have always wished to contribute to Nata language documentation. This special motivation is based on the fact that I was born and raised in the Nata-speaking community, where for the past two decades I have witnessed drastic social changes that pushed Nata to the verge of extinction. Writing a thesis on Nata is a fulfilment of one of the many promises I have committed myself to through Nata language documentation.

In the rest of this section I outline some basic phonological, morphological and syntactic characteristics which define Nata typologically as a Bantu language. Familiarity with these properties will facilitate our understanding of the proposal I present in the later chapters.

1.5.1 Phonology of the augment

Here I discuss the different phonological forms/structures of the augment as the left-most element of the nominal structure. Unlike Bantu augment languages like Luganda which have only simple V(owel)-type augments (a.k.a initial vowels, see Hyman and Katamba 1993), Nata augments come in different syllable structures. I discuss four augment structures: the V-type augment, the VV-type, the CV-type, and the CVV-type. I start with the V-type.

2. This is not the first work to claim a linguistic connection between widely-separated language families: there is work on the ‘Romance-Bantu connection’, De Cat and Demuth (2008), as well as a ‘Salish-Japanese connection’ Kratzer (2005), Kiyota (2009).

1.5.1.1 The V-type augments

Examples of V-type augments are given in (13). As one can see, the V-type augments are manifested in seven surface/phonetic forms /i e ε a ɔ o u/, consistent with Nata as a seven vowel system³.

(13) V-augment types

- a. i = kj-ɔɔde ‘a/the honey badger’ C7
- b. i = βj-andá ‘(the) intestines’ C8
- c. e = me-kéra ‘(the) tails’ C4
- d. e = βí-taβo ‘(the) books’ C8
- e. ε = κε-réεɔ ‘a/the relish’ C7
- f. a = βa-aná ‘(the) children’ C2
- g. ɔ = mɔ-rɔɔ ‘a/the fire’ C3
- h. o = mo-síimo ‘(the) bone marrow’ C14
- i. o = βu-sóɔhu ‘(the) greediness’ C14
- j. u = mw-aaká ‘a/the year’ C3
- k. u = βw-ɔɔŋgɔ ‘a/the brain’ C14

Note that augments are manifested with different vowel heights (high, mid and low) and/or tongue root qualities (advanced [ATR] or retracted [RTR]) based on vowel harmony phonotactics. For discussions of Nata vowel harmony rules see Gambarage (2013), Gambarage and Pulleyblank (2017), and Anghelescu (2019).

1.5.1.2 The VV-type augment

The next case concerns the Nata VV augment form which is found with monomoraic/monosyllabic class 9 nouns, (14a-c) but not with longer N-stems (i.e., disyllabic or polysyllabic), (14d-f):

3. In Johannes (2007), it was claimed, based on impressionistic vowel quality, that Nata augment vowels preceding the prefixes (Cj/Cw) (where C is a consonant) are variants of high vowels (i.e., are the lax high vowels [ɪ ʊ]). Further research has confirmed that there are no lax high vowels in Nata (see Gambarage (2013, 2017); Gambarage and Pulleyblank 2017; Higgins 2011).

(14) The C9 VV vs V augments

- a. áa = n-da 'a/the stomach'
- b. aa = n-dá 'a/the lice'
- c. aa = ø-swé 'a/the fish'
- d. a = m.borí 'a/the goat'
- e. a = ø-kaβirá 'a/the tribe'
- f. a = ø-kurú 'a/the tortoise'

For class 9 monosyllabic N-stem cases such as in (14a-c), I propose that the augment is a long vowel due to the word minimality constraint in (15):

(15) *Noun minimality constraint in Nata:*

A noun must consist of at least three moras.

The minimal noun size requirement is three moras in Nata. However, when the interpretive component requires the covert augment to be used, for the reasons I make clear in Chapter 4, the minimal noun size requirement cannot over-rule this semantic requirement:

- (16) a. Maria t-a-it-ire aa = swé
Mariá t-a-it-ire aa = ø-swé
Maria NEG-PST-kill-PFV DET = 9-fish
'Maria did not kill any fish.'
- b. Maria t-a-it-ire swé
Mariá t-a-it-ire ø-swé
Maria NEG-PST-kill-PFV 9-fish
'Maria did not kill any fish.'

1.5.1.3 The CV-type augment

The CV-type augment is found with class 5 nouns; class 5 nouns; it has the form *ri-*, beginning with a trill or tap, (17)⁴:

4. A few monosyllabic class 5 nouns (about 3 in number) occur with the V-type augment and a long form of the C5 prefix *ri-*, as in (i).

(17) The CV form *ri-* with mono- and polymoraic stems

- a. *rí* = i-to 'a/the leaf'
- b. *ri* = i-rú 'a/the knee'
- c. *ri* = i-sé '(the) cow dung'
- d. *rí* = í-βohe 'a/the stone'
- e. *ri* = i-βurúuŋga 'an/the egg'
- f. *ri* = i-kuβáte 'a/the stalk'

In Bantu historical linguistics, it is claimed that the augments and prefixes were CVs in Proto-Bantu (see Meinhof 1932; Guthrie 1967-1971; Maho 1999; see Diercks 2010 on Bukusu which still has a CV augment in most noun classes with an exception in classes 1 and 9 which have a V-type.). If this is correct, then the cases in (17) retain the old augment shape. The prefixes seem to have lost their initial consonant, *-r-* (cf. De Blois 1970; De Wolf 1971; Williamson 1993; Maho 1999; Ndayiragije et al. 2012)⁵. As we saw for the VV-type, the CV type also would be realized as a covert D in contexts where the covert D is required semantically. See Chapter 4 for discussion of such contexts.

1.5.1.4 The CVV-type augment

The CVV-type augment occurs with the class 10 nouns and begins with a voiceless palatal affricate *tʃ*, (18). While the VV-type only occurs with monosyllabic stems as a result of the noun minimality constraint given in (15), the CVV prefix is invariable as it occurs with all sorts of class 10 nouns:

- (i) The V-type with the *V-rii-* in monomoraic noun stems
 - a. *e* = rii-nó 'a/the tooth'
 - b. *e* = rii-kó 'a/the kitchen'
 - c. *e* = rii-só 'an/the eye'

It is not clear to me why these nouns still maintain a V-type augment and not the CV-type as we saw above. Apparently, some grammaticalization process is happening with the class 5 augment and prefix but the direction of the change is unknown. Since when the covert augment is semantically required, it is the only the initial vowel which deletes and not the *rii* prefix, as I will show in Chapter 4, I will treat the *rii-* element in (i) as a prefix and not part of the augment.

5. In Nata, if there are two syllables containing an /r/ sound, the second /r/ will delete.

(18) The CV form *tʃaa* with mono- and polymoraic stems

- a. *tʃáa* = \emptyset -ka' '(the) lions'
- b. *tʃáa* = n-dá '(the) lice'
- c. *tʃaa* = η -gɔkɔ́ '(the) chickens'
- d. *tʃaa* = m-baráħe '(the) Thomson's gazelles'

The *tʃaa* = augment will also be realized as a covert augment when used in semantic contexts requiring the use of a covert D, as (19b) below shows:

- (19) a. Maria t-i-it-ire *tʃáa* = ka
 Mariá t-a-it-ire *tʃáa* = \emptyset -ka
 Maria NEG-PST-kill-PFV D = \emptyset -lions
 'Maria did not kill the lions.'
- b. Maria t-i-it-ire ka
 Mariá t-a-it-ire ka
 Maria NEG-PST-kill-PFV lions
 'Maria did not kill any lions.'

As I show in this thesis, regardless of the augment structure, all the augment structures discussed here behave the same syntactically and semantically, consistent with the proposal I make in Chapters 3 and 4.

1.5.2 Morphology of the augment

In this section, I present the Nata noun class prefixes, the prefixal material following the augment. As with many other Bantu languages, noun stems in Nata are marked with prefixal morphology that corresponds to the noun class of the nominal. Following the Bantu tradition, a list of the noun classes with their prefixes in Nata is given in Table 1.2 below (cf. Meeussen 1967; Denny and Creider (1986); Maho 1999; and others). I have included the version of each nominal without an overt augment, which occurs in certain syntactically and semantically-defined environments. In chapters 3 and 4, I will argue that such nominals need to be licensed by a non-factual operator.

Table 1.2: The Nata N-prefixes

CL	N-prefix	Overt AUG + N	Gloss	Covert AUG + N	Gloss
1	/mo-/	o = mo -súβe	‘a/the man’	mo -súβe	‘any man’
2	/βa-/	a = βa -súβe	‘(the) men’	βa -súβe	‘any men’
3	/mo-/	o = mu -téréβi	‘a/the ladle’	mu -téréβi	‘any ladle’
4	/me-/	e = mi -téréβi	‘(the) ladles’	mi -téréβi	any ladles’
5	/re-/	ri = i -βáβa	‘a/the wing’	i -βáβa	‘any wing’
6	/ma-/	a = ma -βáβa	‘(the) wings’	ma -βáβa	‘any wings’
7	/ye-/	e = ye -túumbe	‘a/the chair’	ye -túumbe	‘any chair’
8	/βe-/	a = βe -túumbe	‘(the) chairs’	βe -túumbe	‘any chairs’
9	/N-/	a = m -bǝréte	‘a/the goat’	m -bǝréte	‘any goat’
10	/N-/	caa = m -bǝréte	‘(the) goats’	m -bǝréte	‘any goats’
11	/ro-/	o = ro -síri	‘a/the rope’	ro -síri	‘any rope’
10	/N-/	caa = ∅ -síri	‘(the) ropes’	∅ -síri	‘any rope’
12	/ka-/	a = ya -síri	‘a/the rope’ (dim.)	ya -síri	‘any rope’ (dim.)
13	/to-/	o = to -síri	‘(the) ropes’ (dim.)	to -síri	‘any ropes’ (dim.)
14	/βo-/	o = βu -kaanó	‘(the) sesame’	βu -kaanó	‘any sesame’
15a	/yo-/	yo -tuka	‘to dig’	yo -tuka	‘to dig’
15	/yo-/	o = yo -twe	‘a/the ear’	yo -twe	‘any ear’
16	/ha-/	a = há -se	‘a/(the) place(s)’	há -se	‘any place(s)’
19	/he-/	e = he -síri	‘(the) ropes’ (dim.)	he -síri	‘any ropes’ (dim.)
20	/yo-/	o = yo -síri	‘a/the rope’ (aug.)	yo -síri	‘any rope’ (aug.)
21	/ye-/	e = yes irí	‘(the) ropes’ (dim.)	yes irí	‘any ropes’ (dim.)

Nata has a total of 19 N-classes, but traditionally 21 if the classes 17 *ko* and 18 *mo*, which I analyze here as prepositions, would be added⁶. Class 15a is an infinitive class; as a nominal/verbal predicate it appears here with no augment (see Schadeberg 2006). Note that the augment vowel always agrees with the [+/-back] feature value of the N-prefix vowel. Obviously, this rule does not apply with defective prefixes in C9 and C10 nouns, whose noun prefix has no vowel. The chart does not present all prefixal allomorphs resulting from vowel phonotactic conditions (see Gambarage and Pulleyblank 2017 for a fuller vowel harmony account).

6. Classes 17 and 18 in Nata behave as prepositions rather than regular N-classes or locative classes. They do not trigger concord or number morphology, and they do not take modifiers like regular N-classes. See chapter 6 for further discussion.

The N-prefix has been argued to have both a descriptive and an evaluative function (cf. Fortune 1984; Déchaine et al. 2014). In the descriptive dimension, the N-prefix hosts some semantic concepts (class features) (cf. Denny and Creider 1986; Maho 1999; Contini-Morava 2000 and others) and it also marks number (see Carstens 2001; Déchaine et al. 2014). In its evaluative dimension, the N-prefixes encode the speaker's perspective (Déchaine et al 2014, Déchaine and Gambarage (2016), see also Potts 2007 for a general discussion of evaluatives). I do not discuss the properties of the N-prefixes any further (see Déchaine and Gambarage 2016 for discussion). In chapter 3, I return to the issue of noun decomposition and the syntactic function of the augment.

1.5.3 Syntax

For the purpose of the discussion of augments in Chapter 3, in §.1.5.3.1, I briefly outline what syntactic categories are present in Nata and which ones may take an augment. Then, in §.1.5.3.2 I briefly touch on the issue of agreement, which is crucial in understanding both phrasal and sentence structures. Finally, in §.1.5.3.3 I finish with the verb structure, which will help us to understand the various morphemes that may appear in the verb complex.

1.5.3.1 Syntactic categories

Nata appears to have the following syntactic categories: nouns, adjectives, possessives, demonstratives, numerals, adverbs and verbs. In Table 1.3, I list each category with their possibility of taking an augment. Note that nouns, adjectives, and possessives may or may not occur with the augment depending on the syntactic status as shown in Table 1.3⁷.

7. In Chapter 3, I will show that weak quantifiers behave syntactically as a subclass of adjectives, but strong quantifiers behave differently, eg., consistently they do not take an augment. Additionally, proper names and pronouns do not take augments. In Chapter 6, I will return to the issue of proper names and pronouns where I will discuss the implication of my proposal for these categories.

Table 1.3: Nata syntactic categories and augment possibilities

Category	With AUG	Gloss	Syntactic status
Nouns	o = mo-súβe	‘a/the man’	argument DP
Adjectives	o = mo-koro	‘a/the big one’	argument DP
Possessives	u = w-ane	‘mine’	argument DP
Category	Without AUG	Gloss	Syntactic status
Nominals	mo-súβe	‘a man’	predicate
Adjectives	mo-koro	‘big’	modifier
Possessives	w-ane	‘my’	modifier
Demonstratives	-nɔ	‘this’	modifier
Numerals	i-βere	‘two’	modifier
Adverbs	iyoro	‘up’	modifier
Verbs	-tuka	‘dig’	predicate

In Chapter 3, I will give arguments that the syntactic categories occurring with the augment, i.e., those labelled traditionally as nouns, adjectives, and possessives, are argument DPs; and categories without an augment are predicates and/or modifiers.

1.5.3.2 Agreement

As an agglutinating language, Nata exhibits exuberant agreement phenomena. I discuss the three types of agreement. The first one is *concordial agreement*, a system of feature sharing (gender and number/ φ) between nouns and modifiers, (20a). The second one is *subject-verb agreement*—a syntactically conditioned co-variation between the subject and the predicate usually involving gender, number, and in some cases person, (20b). The third one is *object-verb agreement*, which involves an anaphoric reading or Topichood, (20c) (see Bresnan and Mchombo 1987b; Contini-Morava 2000; Corbett 2000, 2006; Aikhenvald 2000; Carstens 2000, 2008; Baker 2003;

Zamparelli 2008; Henderson 2006; Giusti 2008; Diercks 2010; Carstens and Diercks 2011; and others)⁸.

(20) Types of agreement

- a. [e = **ki**-ghəʂo **ki**-rɛ] ghi-ka-gw-a Concordial agreement
 [e = **ki**-yɛʂo **ki**-rɛ] yi-ka-gw-á
 [D = **C7**-knife **C7**-long] SA7-PST-fall-FV
 ‘A long knife fell.’
- b. e = **ki**-ghəʂo **ghi**-ka-gw-a Subject-verb agreement
 e = **ki**-yɛʂo yi-ka-gw-á
 D = **C7**-knife **SA7**-PST-fall-FV
 ‘A knife fell.’
- c. a-gha-(**ke**)-gw-isi e = (**ki**)-ghəʂo Object-verb agreement
 a-ya-(**ke**)-gw-isi e = (**ki**)-yɛʂo
 SA7-PST-(**OM7**)-fall-FV D = **C7**-knife
 Lit: ‘S/he dropped (it) the knife.’

The one difference between subject-verb agreement and object-verb agreement is that the latter is optional while the former is not. However, I will not focus on the subject-verb and object-verb agreement types as they are not central to the current discussion. The N-prefixes and the different agreement targets on various syntactic categories (adjectives (A), numerals (Num.), quantifiers (Quant.), demonstratives (Dem.), and possessive pronouns (Poss.pron.)) are given in Table 1.4 below.

8. Carstens (2001, 2008) tries to unify these agreement types using a Chomskyan Agree account.

Table 1.4: Agreement paradigms

	I	II	III	IV	V	VI	VII	VIII
CL	N	A	Num.	Quant.	Dem.	Poss.pron.	V.SA	V.OM
C1	mo-	mo-	u-	u-	u-	u-	a-	mo-
C2	βa-	βa-	βa-	βa-	βa-	βa-	βa-	βa-
C3	mo-	mo-	u-	u-	u-	u-	o-	o-
C4	me-	me-	e-	ɣi-	ɣi-	ɣi-	ɣe-	ɣe-
C5	(r)i-	(r)i-	ri-	rj-	ri-	ri-	re-	re-
C6	ma-	ma-	a-	ɣa-	ɣa-	ɣa-	ɣa-	ɣa-
C7	ke-	ke-	ki-	ki-	ki-	ki-	ke-	ke-
C8	βe-	βe-	βi-	βi-	βi-	βi-	βe-	βe-
C9	N-/ø-	N/ø-	i-	i-	i-	i-	e-	e-
C10	N-/ø-	N/ø-	i-	tʃa-	tʃi-	tʃi-	tʃe-	tʃe-
C11	ro-	ro-	ru-	ru-	ru-	ru-	ro-	ro-
C12	ka-	ka-	ka-	ka-	ka-	ka-	ka-	ka-
C13	to-	to-	tu-	tu-	tu-	tu-	to-	to-
C14	βo-	βo-	βu-	βu-	βu-	βu-	βo-	βo-
C15	ko-	ko-	ku-	ku-	ku-	ku-	ko-	ko-
C16	ha-	ha-	ha-	ha-	ha-	ha-	ha-	ha-
C19	he-	he-	hi-	hi-	hi-	hi-	he-	he-
C20	ɣo-	ɣo-	ɣu-	ɣu-	ɣu-	ɣu-	ɣo-	ɣo-
C21	ke-	ke-	ki-	ki-	ki-	ki-	ke-	ke-

The chart does not present all allomorphs resulting from vowel phonotactic conditions (see Anghelescu 2019 for further discussion). Also, in this table, various agreement prefixes may reflect Dahl’s Law, i.e., some obstruents such as *k* are realized as *ɣ* before a voiceless obstruent.

1.5.3.3 The verb complex

The Nata verb template shown in Table 1.5 is similar in many respects to that of other Bantu languages. Some exceptions include two elements,

namely the ‘nasal clitic’ (Nasal) and the second object marker (OM2). Double object constructions are found in a few Bantu languages; and the nasal clitic is only found in Zone E languages. In Table 1.5, slots I and II can be filled by a nasal clitic or NEG.

Table 1.5: The Nata verb template

	I	II	III	IV	V	VI	VII	VIII	IX
a. (Nasal=)	—	SA	Tense	(OM1)	(OM2)	Verb	(Ext)	Asp/FV	
b.	—	(NEG)	SA	Tense	(OM1)	(OM2)	Verb	(Ext)	Asp/FV

We will see consistently that object DPs can be dropped when there are corresponding OMs in the verb, in which case the referents must be familiar to the discourse participants. Secondly, as Table 1.5 shows, the nasal clitic and negation must be in complementary distribution as exemplified in (21c):

(21) NEG and the nasal clitic cannot co-occur [Nata]

- a. o = mo-subhe n = a-ku-gha-mu-ret-er-a
o = mo-subhe n = a-ku-gha-mu-ret-er-a
D = C1-man N = SA-FUF-OM6-OM1-bring-APL-FV
‘A/the man will bring it to him/her.’
- b. o = mo-subhe ta-a-ku-gha-mu-ret-er-a
o = mo-subhe ta-a-ku-gha-mu-ret-er-a
D = C1-man NEG-SA-FUF-OM6-OM1-bring-APL-FV
‘A/the man will not bring it to him/her.’
- c. *o = mo-subhe n = ta-a-ku-gha-mu-ret-er-a
*o = mo-subhe n = ta-a-ku-gha-mu-ret-er-a
D = C1-man n = NEG-SA-FUF-OM6-OM1-bring-APL-FV
Intended: ‘A/the man will not bring it to him/her.’

Initial diagnostics show that the nasal has some left-periphery functions, such as being a *strong assertion marker* or *sureness marker* (see Kotani and Gambarage 2016). It is also possible that the nasal has some other functions, eg., Focus marking as Brown (2013) observes, or some modality function as Francis (2014) observes. More research is needed to pin down its function.

1.6 Thesis outline

The structure of the remainder of this thesis will be as follows. In Chapter 2 I will review the literature in relation to the augment/D phenomena. I revisit various D contrasts and show that none of these are capable of explaining the core function of the augment/D in Nata. This leads to my proposal.

The syntactic-semantic analysis of the Nata augment is presented in two distinct chapters. Chapter 3 presents the syntactic proposal for the augment as D. Chapter 4 presents the semantic analysis of the augment where I claim that the augment requires a choice function analysis following Matthewson (1999). I compare the Nata augments with the strikingly similar determiner system in St'át'imcets (Salish) (Matthewson 1998; 1999).

In Chapter 5, I extend my analysis and argue that the notion of existence is pertinent to other Bantu languages with augments also. I conclude that of the nine languages I investigated, D systems in eight languages encode the speaker-oriented notion of existence, namely, Nata, Runtankore-Rukiga, Haya, Luganda, Kinande, Xhosa, Zulu and Bemba. One language, Dzamba (spoken in the Democratic Republic of Congo), encodes novelty-familiarity, hence the notion of existence is not applicable to Dzamba.

Chapter 6 is my last chapter in which I discuss the parametric variation of augments in Bantu. I show that some variations can be explained under the current theory and some augment aspects may be reducible to independent syntactic variation. This chapter also gives the direction of future research.

Chapter 2

The Nata augment: now you see it, now you don't!

This chapter reviews the literature and establishes the groundwork of the morphosyntactic and semantic features that are traditionally assumed to be hallmarks of Ds, that may be linked to the Nata augment. The augment, as I argue in future chapters, is a morphosyntactic head instantiating the category D (cf. Halle and Marantz 1993; Embick and Noyer 2001; Hornstein et al. 2005). I hold the view that cross-linguistically features or operations involving Ds may vary from language to language depending on D-feature composition. In natural languages, the D position can be a locus for: (a) a mass-count distinction (Déchaine et al. 2018), (b) Case (Halpert 2012), (c) deictic force (Gillon 2006; Guillemin 2009), (d) definiteness (Heim 1988; 2011; Schwarz 2009; 2012), (e) specificity (Enç 1991) or none of the above¹. Using data from Nata, I argue in this chapter that the following generalizations are upheld in Nata.

1. The Bantu overt augment has previously been linked to features of gender and number (see Ndayiragije et al. 2012), Topicality (see Petzell 2003), and Focality (Hyman and Katamba 1993). Ndayiragije et al argue that in Kirundi, vowel harmony between the augment and the N-prefix vowel is a result of an AGREE relation. For a discussion of Nata vowel harmony rules between the augment and the prefix see Gambarage and Pulleyblank (2017), also refer to Chapter 1. In Chapters 5 and 6, I return to the notions of Topicality and Focus after presenting my proposal in Chapters 3 and 4.

(22) Generalizations about the Nata augment:

- a. The Nata augment is not conditioned by the mass-count contrast.
- b. The Nata augment is not conditioned by Case.
- c. The Nata augment is not conditioned by deixis.
- d. The Nata augment is not conditioned by definiteness.
- e. The Nata augment is not conditioned by specificity.
- f. The Nata augment is not a domain restriction element.

I show that mass-count, Case, deixis, definiteness, specificity or domain restriction do not condition the selection of the augment in Nata. In Chapters 3 and 4, I will present my grand proposal about the syntactic-semantic function of the Nata augment.

The chapter is organized as follows. In §2.1 I present the problem, the puzzling behaviour of Nata augments. This leads to §2.2 where I investigate possible accounts and why they do not work for Nata. In §2.2.1 I discuss the possibility that the mass-count distinction may force augment choice, in a manner similar to the distinction between count nouns with a non-expletive D and mass nouns with an expletive D in Old French. I show that the overt augment cannot be an expletive element. In §2.2.2 I explore the notion of Case and rule out the hypothesis that the augment can assign Case to its complement NP/ φ P. In §2.2.3-§2.2.5 I investigate the semantic features of deixis, definiteness, and specificity and show that Nata speakers do not switch augments based on deixis, (in)definiteness, or (non-)specificity contrasts. In §2.2.6 I discuss the notion of domain restriction where I show that DPs containing an augment may or may not be interpreted via domain restriction, unlike Skwxwú7mesh deictic Ds and the non-deictic D in Okanagan (Gillon 2006, Lyon 2011). In §2.3 I give a roadmap on how the

augment puzzles can be resolved, which leads to my proposal in Chapters 3 and 4. In §2.4 I give a summary and conclusion.

2.1 The puzzling behaviour of the Nata augment

I seek to provide a definitive answer to the question of what features underlie the contrast between Nata argument DPs with an overt augment and argument DPs without one. Below I provide initial data showing the contexts in which Nata speakers switch nominal expressions.

2.1.1 Sometimes the Nata augment is there

In declarative sentences, the Nata overt augment is obligatorily present when used in an argument position, such as in (23a); or in argument position in embedded clauses, such as in (23b).

- (23) a. \square o = mo-subhe a-gha-sek-a
 \square o = mo-súβε a-ya-sek-a
 \square D = C1-man SA1-PST-laugh-FV
 ‘A/the man laughed.’
- b. N-ka-ror-a [\square o = mo-subhe a-ra-sek-a]
 N-ka-rór-a [\square o = mo-súβε a-ra-sék-a]
 1sg-PST-see-FV [D = C1-man SA1-PST-laugh-FV]
 ‘I saw [a/the man laughing].’

When the covert augment is used in the cases in (23) they turn out to be ungrammatical, as (24) shows.

- (24) a. * \square mo-subhe a-gha-sek-a
 * \square mo-súβε a-ya-sék-a
 \square C1-man SA1-PST-laugh-FV
 Intended: ‘A/the man laughed.’

- b. *N-ka-rɔr-a [o=mo-subhe a-ra-sɛk-a]
 *N-ka-rɔr-a [o=mo-súβe a-ra-sék-a]
 1sg-PST-see-FV [D=C1-man SA1-PST-laugh-FV]

Intended: ‘I saw [a/the man laughing].’

Another environment where the overt augment may be used is in negative sentences with the felicity condition that the DP is associated with an existential interpretation, as in (25).

(25) [**Context:** The speaker believes that a man who did not laugh exists]

- a. o=mo-subhe ta-a-sɛk-ire
 o=mo-súβe ta-a-sɛk-iré
 D=C1-man NEG-PST-laugh-PFV
 ‘A/the man did not laugh.’
- b. a-ka-bhugh-a [ango o=mo-subhe t-a-a-sɛk-ire]
 a-ka-βuy-a [ango o=mo-subhe t-a-a-sɛk-ire]
 SA1-PST-say-FV [that D=mo-subhe NEG-SA1-PST-laugh-PFV]
 ‘S/he said [that a man didn’t laughed].’

Finally, the overt augment is also used in post-copula environments where the nominal expression taking the augment always denotes an individual.

[**Context:** Bahati is a gender neutral name. A woman and a man are standing before us. M is wondering which person is Bahati:]

- (26) a. Bahati n=o=mo-subhe
 Bahati n=o=mo-súβe
 Bahati COP=D=C1-man
 ‘Bahati is the man.’

- b. o=mo-subhe ni-we Bahati
 o=mo-subhe ni-we Bahati
 D=C1-man COP-REL Bahati
 Lit: 'The man is the one who is Bahati.'

The puzzle with the cases in (25) and (26) is that the overt augment may be not used if these structures have different interpretations, as I show in the following subsection.

2.1.2 Sometimes the Nata augment isn't there

While we saw that in negative sentences the overt augment is possible, in a restricted set of negative environments the overt augment is unavailable, and speakers switch to using the covert augment. Note that for the covert augment to be used, there must be some kind of a non-factual operator to license this element (compare with example (24) above) (see Progovac 1993; Gambarage 2012; 2013; Carstens and Mletche 2015 and many others).

(27) [Context: The speaker does not believe that a man laughed]

- a. mo-subhe ta-a-sək-ire
 mo-súβe ta-a-sək-iré
 C1-man NEG-PST-laugh-PFV
 'No man laughed.'
- b. a-ka-bhugh-a [ango mo-subhe a-gha-sək-a]
 a-ka-βuy-a [aŋgo mo-subhe a-ɣa-sək-a]
 SA1-PST-say-FV [that mo-subhe SA1-PST-laugh-FV]
 'S/He said [that a man laughed] (I doubt it).'

(28) [Context: The speaker does not believe that a man laughed]

- a. #o = mo-subhe ta-a-sek-ire
#o = mo-súβe ta-a-sek-iré
D = C1-man NEG-PST-laugh-PFV

Intended: 'No man laughed.'

- b. #Makuru a-ka-bhugh-a [ango o = mo-subhe
#Makuru a-ka-βuy-a [ango o = mo-suβe
Makuru SA1-PST-say-FV [that D = mo-subhe
a-gha-sek-a]
a-ya-sek-a]
SA1-PST-laugh-FV]

Intended: 'Makuru said [that a man laughed] (I doubt it).'

Finally, the last case involves post-copula environments where the argument seems to be obligatorily absent. The nominal expression in (29a) only denotes a property. This contrasts with the nominal argument with a D in (29b), which denotes an individual or entity and is marked as infelicitous in this context².

(29) [Context: M is describing Bahati's gender...]

- a. Bahati m = mo-subhe
Bahati n = mo-súβe
Bahati COP = C1-man
'Bahati is a man.'
- b. #Bahati n = o = mo-subhe
#Bahati n = o = mo-súβe
Bahati COP = D = C1-man
'Bahati is the man.'

2. Note that the copula nasal, which is underlyingly *n*, may be homorganic to the immediately following nasal or consonant if no vowel intervenes between, as (29a) shows. Compare with the example in (26), where no copula nasal assimilation takes place.

In summary, the data presented above give us three classes of nominal expressions: argument DPs with an overt augment, examples (23)-(26); argument DPs with a covert augment, example (27); and nominal expressions without an augment, example (29). These are summarized below:

- (30) a. Argument DPs with an overt augment: [_{DP} D[...]]
b. Argument DPs with a covert augment: [_{DP} D_∅[...]]
c. Non-argument nominals (no augment): [_{φP} φ[...]]

Factors underlying the distribution of nominals above will be extensively discussed in Chapters 3 and 4. At this moment we remain agnostic about what these nominal distinctions follow from. At the end of this chapter I will give a roadmap on how my proposal in Chapters 3 and 4 will explain the syntactic-semantic factors forcing augment choices in Nata. Before presenting such a proposal, here, I consider a range of possible accounts to show that none of the previously proposed D accounts can explain what conditions the choice of augment in Nata.

2.2 Possible accounts and why they don't work

I start each section by giving a brief review of the relevant literature on how these features are encoded in other D-systems, then I turn to Nata to show why these accounts cannot explain what conditions the presence or absence of the overt augment as summarized in (30a)-(30b). I start with the mass-count distinction.

2.2.1 The mass-count contrast does not condition the augment

I consider whether the partition of the Nata augment system between the overt augment and the covert/null augment is conditioned by factors that partition nouns like mass-count or non-count-count as is the case in many languages. I show these factors do not force augment choice in Nata. In

some languages, English, for instance, an overt D is obligatory with singular count nouns, (31). However, a bare noun is possible with count plurals (32a), abstract nouns, (32b), mass nouns, (32c), when used in non-unique/non-familiar contexts:

(31) Alternation in overt D bare nouns [English]

- a. **A boy** is climbing up the tree
- b. **The boy** is climbing up the tree
- c. ***Boy** is climbing up the tree

(32) Appearance of plural/abstract/mass nouns

- a. **(The) boys** are climbing up the tree.
- b. **(The) truth** can be painful to hear.
- c. **(The) milk** is white.

In some Romance languages, an expletive D—a D with no semantic function—is inserted in mass or abstract nouns only to satisfy a syntactic requirement (Longobardi 1994; Kyriakaki 2014; Déchaine et al. 2018). Déchaine et al. (2018) show that in some varieties of Old French, abstract nouns and mass nouns (count nouns) may take an expletive D. The alternations involve DPs with an expletive D (the cases in a) and DPs with covert D/D-drop (the b cases). D.M and D.F stand for masculine and feminine Ds, respectively:

(33) Abstract Ns in Old French [Déchaine et al., 2018: 171]

- a. Mes si vus plest que jeo vus die / **La verité** vus
but if 2PL please that 1SG 2PL tell / **D.FEM truth** 2PL
cunterai
1SG.will.tell

‘If it interests you, I will tell you my adventure.’

(lit.‘tell **the truth**.’[From Lais de Marie de France, Guigemar v.312–13])

- b. Entre eus meinent **joie** mut grant.
between 3PL maintain **joy** much great

‘They are happy to finally be together.’

(lit.‘maintain much **joy**.’) [From Lais de Marie de France, Chievrefueil v.94]

(34) Mass Ns in Old French [Déchaine et al., 2018: 171]

- a. E par sun dun unt **le cunrei**
and by his donation 3PL.have **D.MASC provision**

‘He had furnished them with provisions.’

(lit.‘have **the provision**’) [From Le voyage de saint Brendan, v.582]

- b. Mais Deus ne volt que plus de fors Venist
but God not want that more of.the outside came

cunreid pur sul mun cors

provision for only my body

‘But God did not want to bring from outside **provisions** destined only to feed me.’

[From Le voyage de saint Brendan, v.1583-4]

Adopting the hypothesis that nominal arguments are DPs (Longobardi 1994, 2001, 2008), Déchaine et al. analyze the overt D which is used to mark definite descriptions here as a non-referring D as it does not involve

a definite interpretation³.

Expletive Ds (non-denoting Ds) are obligatory with generic (kind-denoting) expressions in a number of languages. In Greek, (35a), Italian, (35b), and French, (35c) the definite D is used as an expletive D where it receives a generic interpretation.

(35) Expletive D in generics [Kyriakaki 2010: 255; 263]

- a. *(I) elefand-es latrev-un *(ta)
the.MASC.PL elephant.MASC-PL adore.PRES-3PL the.NEU.PL
fistikj-a [Greek]
peanut.NEU-PL
'Elephants adore peanuts.' (Generic subject and object.)
- b. *(I) castor-i sono intelligent-i. [Italian]
the.PL beaver-PL be.3PL intelligent-PL
'Beavers are intelligent.'
- c. Les dodos sont éteints [French]
the dodos are extinct
'Dodos are extinct.'

In Nata, the overt augment occurs with count Ns (36)-(37), abstract Ns (38), and mass Ns, (39)-(40). Recall from Chapter 1 that the class prefix expresses number morphology (singular/plural), and number marking on mass nouns is interpreted as follows: 'some amount of X' appearing with singular morphology, and an interpretation akin to 'X' or 'lots

3. There are different expletive Ds discussed in the linguistic literature that I will not exhaust here. One kind is that found in Catalan, German and Brazilian Portuguese which mark body part nouns to express (extended) inalienable possession (see Vergnaud and Zubizarreta 1992; Longobardi 1994.). Nata does not have this type of Ds. Another category is the polydefinite Ds in Greek and related languages, which I relate to Nata D-doubling constructions which I discuss in Chapter 3. Expletive Ds are also obligatory with generic (kind-denoting) expressions in a number of languages: Greek, Italian, French etc where the definite D receives a generic interpretation (see recently Espinal (2017); Kyriakaki 2014). Obviously, Nata overt Ds do have a semantic function as I argue in Chapter 4.

of X' appearing with plural morphology (see Borer 2005; Chierchia 1998; Schwarzschild 2006; Wiltschko 2009; Gillon 2010 for discussion in other languages).

- (36) a. [a = \emptyset -ka-raam] i-ka-bhunek-a
 [o = \emptyset -mu-ráam] i-ka- β unek-a
 [D = C9-pen] SA9-PST-break-FV
 'A/the pen broke.'
- b. * $[\emptyset$ -karaam] i-ka-bhunek-a
 * $[\emptyset$ -karaam] i-ka- β unek-a
 C1-pen] SA9-PST-break-FV
 Intended: 'A/the pen broke.'
- (37) a. [a = bha-kári] bha-ka-het-a ha-n \emptyset
 [a = β a-kari] β a-ka-het-a ha-n \emptyset
 [D = C2-women] SA2-PST-pass-FV C16-here
 '(The) women passed here.'
- b. * $[\text{bha-kári}]$ bha-ka-het-a ha-n \emptyset
 * $[\beta\text{a-kari}]$ β a-ka-het-a ha-n \emptyset
 [C2-women] SA2-PST-pass-FV C16-here
 Intended: '(The) women passed here.'
- (38) a. [o = bho-bhiihi] bhu-ka-mw-oor-a
 [o = β o- β íhi] β u-ka-mw-óor-a
 [D = C14-lie] SA14-PST-cost-FV
 '(The) lies cost him/her.'
- b. * $[\text{bho-bhiihi}]$ bhu-ka-mw-oor-a
 * $[\text{o} = \beta\text{o-}\beta\text{íhi}]$ β u-ka-mw-óor-a
 [D = C14-lie] SA14-PST-OM1-cost-FV
 Intended: '(The) lies cost him/her.'

- (39) a. [ri=i-saħɛ] ri-ko-om-a
 [rí=í-saahɛ] ri-ka-om-á
 D=C5-blood SA5-PST-dry-FV
 ‘(An/the) amount of blood dried up.’
- b. *[i-saħɛ] ri-ko-om-a
 *[í-saahɛ] ri-ka-om-a
 C5-blood SA5-PST-dry-FV
 Intended: ‘(An/the) amount of blood dried up.’
- (40) a. [a=ma-saahɛ] gha-ghi-itek-a
 [a=ma-saahɛ] ɣa-ɣa-iték-a
 D=C6-blood SA6-PST-spill-FV
 ‘(The) blood/lots of blood spilled.’
- b. *[ma-saahɛ] gha-ghi-itek-a
 *[ma-saahɛ] ɣa-ɣa-iték-a
 C3-blood SA6-PST-spill-FV
 Intended: ‘(The) blood/lots of blood spilled.’

The fact that covert augments are ruled out in contexts which in English, allow bare plurals and bare mass nouns, and which in Old French, allow bare count nouns, provides an argument for lack of alternation between mass and count nouns and/or count vs. non-count nouns in Nata. Furthermore, I do not analyze Nata overt augments as expletive Ds due to the semantic claim I articulate in Chapter 4, that the overt augments have a particular semantic function. One way to diagnose expletive Ds in Romance and related languages is to use the definite D in contexts in which DPs do not refer to unique or familiar referents. This cannot serve as a diagnostic for Nata given that overt augments are not definites as I argue below. Finally, analyzing overt augments as expletive Ds does not explain the semantic contrast between overt augments and covert augments in Nata.

2.2.2 Case does not condition the augment

In this section I consider Halpert's (2012; 2015) arguments that Case conditions the augment in Zulu. Points of convergence and departure between the Case analysis and the behaviour of augments in Nata are summarized below:

Table 2.1: Similarities and differences between Zulu and Nata Ds

Property	Halpert's analysis	Nata augments
Licensing is vP internal	✓	✓
Non-overt AUG are licensed	✓	✓
Augment choice by Case	✓	✗
Licensing by CAUS or APPL	✓	✗
AUGs are semantically vacuous	✗	✓

I review arguments for the Case account then show that Case does not force augment choice in Nata.

Halpert (2012, 2015), following Schütze's (1997) analysis for Icelandic argument nominals, argues that Zulu has a system of Case corresponding to the *inherent*, *structural*, and *quirky* Case found in languages like Icelandic. According to Halpert, examples of inherent Case include argument expressions with overt augments (41a), and elements that replace the augment, such as pre-nominal demonstratives (41b) or the oblique element that marks benefactive objects, *kwa-*, (41c). Halpert claims that examples of structural Case are augmentless ([-A]) nominals, as in (42a). Finally, based on Halpert's, quirky Case (an unpredictable Case morphology which marks nominals but does not license them) corresponds to augment-permitting structures (those with vowel coalescence); this includes objects of comitatives, (43a) and certain temporal adverbials, (43b).

(41) Halpert's inherent Case [Zulu, Halpert 2012: 237; 130; 212]

- a. A-**ngi-m-bon-i** **u-muntu**
NEG-1SG-see-NEG **AUG-1person**
'I don't see the person.'
- b. **lo** mntwana u-ya-ganga
1DEM 1child 1S-YA-misbehave
'This child is misbehaving.'
- c. u-Sipho u-zo-pheka ukudla **kwa-zingane**
AUG-1Sipho 1S-FUT-cook AUG.15food KWA-10child
'Sipho will cook food for the children.'

(42) Halpert's structural Case [Zulu, adapt. Halpert 2012: 91]

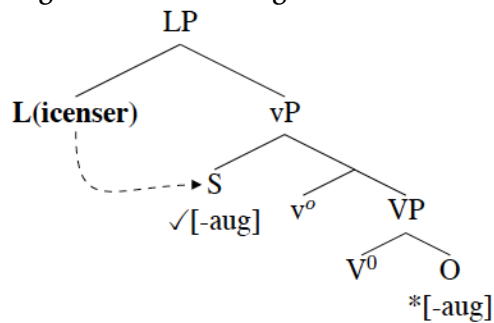
- a. A-**ngi-bon-i** **muntu**
NEG-1SG-see-NEG **1person**
'I don't see anybody.'
- b. ***ngi-bona** **muntu**
1SG-see **1person**
Intended: 'I see a/the person.'

(43) Halpert's quirky Case [Zulu, adapt. Halpert 2012]

- a. u-Mfundo u-dlala i-bhola **no-muntu** [**> na + u-muntu**]
AUG-1Mfundo 1S-play AUG-5ball **NA.AUG-1person**
'Mfundo is playing soccer with someone/the person.'
- b. u-Mlungisi u-zo-fika **nga-sonto** [**> nga + i-sonto**]
AUG-1Mlungisi 1S-FUT-arrive **NGA.AUG-5sunday**
'Mlungisi will arrive on Sunday.'

Halpert argues that overt augments function as morphological Case licensors, while augmentless nominals (covert augments in the current analysis) are restricted to vP-internal positions where they can be structurally licensed via a local relation with a Licensing head L. Thus, according to Halpert’s analysis, in constructions with zero or one external argument, only one nominal (the highest argument) may be licensed, (44).

(44) Augmentless licensing via L [Zulu, Halpert 2012: 94]



Here L asymmetrically c-commands and licenses the highest (the most local) augmentless nominal argument inside vP. Halpert argues that in negative constructions involving heads that take a specifier argument – CAUS or APPL, as in (45a) – L can license one more augmentless nominal argument. Thus, there is a 1-to-1 mapping between augmentless nominal arguments and the licensing heads, which means three or four augmentless nominals are impossible in Zulu as the ungrammaticality of (45b) shows. Curiously, the second augmentless nominal has to be licensed by V⁰ through CAUS or APPL, as illustrated in (46). Halpert argues that the highest augmentless argument is licensed by L and Case introduced by APPL/CAUS is passed down to V⁰ (under *feature inheritance* (Chomsky 2008; Asarina 2011))⁴.

4. In Bantu APPL and CAUS may co-occur. For this Halpert argues that the appearance of both CAUS and APPL does not mean that each will independently license an augmentless nominal; rather, she argues that there is one V⁰, hence only one argument will be licensed by them.

(45) No triple augmentless nominals [Zulu, Halpert 2012: 108; M.B]

a. uSipho a-ka-fundis-el-i **muntu** a-bantwana
 AUG.1Sipho NEG-1SG-teach-**APPL**-NEG 1person AUG-2child

lutho

7thing

‘Sipho doesn’t teach (the) kids anything for anyone.’

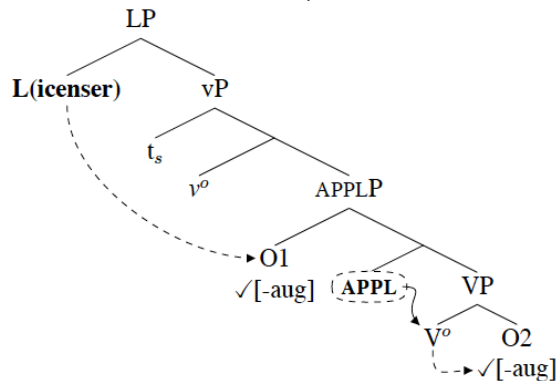
b. *uSipho a-ka-fundis-el-i **muntu bantwana**
 AUG.1Sipho NEG-1SG-teach-**APPL**-NEG 1person 2child

lutho

7thing

Intended: ‘Sipho doesn’t teach any kids anything for anyone.’

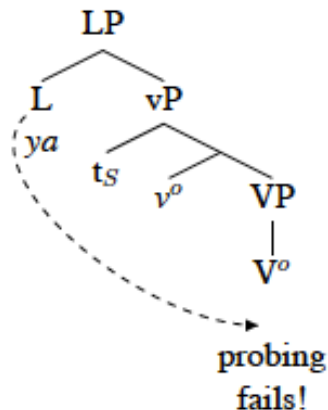
(46) Case licensed via APPL/CAUS [Zulu, Halpert 2012: 94]



Halpert argues further that augmentless nominals are licensed in a probe-goal (Agree(ment)) fashion with the effect that all augmentless nominals must be vP internal. Extending this to conjoint/disjoint data, she argues that the disjoint morpheme YA in non-negative data is a morphological spell out of L. Just as L probes for augmentless nominals for Case licensing, Halpert argues that L probes the vP content for an XP to agree with, and if the vP has no argument, YA spells out as a result of the probe failing to find its goal:

(47) Disjoint morphological marker YA

[Halpert 2012: 166]



Halpert claims that evidence for (47) comes from predicates with no thematic subject like weather predicates, (48), as well as constructions where all of the arguments of the verb have moved out of vP, leaving it empty (i.e., after A-movement has occurred), (49a), in contrast with (49b) which has a vP-internal argument:

(48) Weather predicates

[Adapt. Halpert, 2012: 181]

a. ku-ya-banda
17S-YA-cold
'It's cold.'

b. *ku-banda
17S-cold
Intended: 'It's cold.'

(49) Disjoint/conjoint

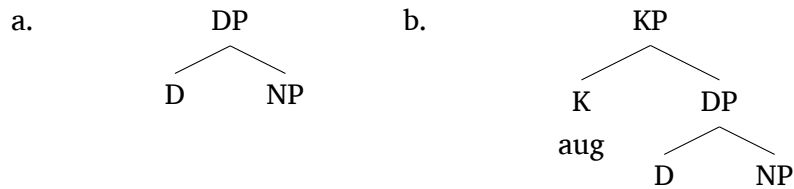
[Adapted from Halpert, 2012: 142; 194]

a. $i = \text{qanda}_k$ $u = \text{Sipho}_i$ [u-ya-li-pheka t_i t_k VP] (disjoint)
D = C5.egg D = C1.Sipho 1S-YA-5O-cook
'As for the egg, Sipho is cooking it.'

b. $u = \text{Sipho}$ u -(*ya-li)-pheka $i = \text{qanda}$ (conjoint)
D = C1.Sipho 1S-(YA-5O)-cook D = C5.egg
'Sipho is cooking an egg.'

Halpert concludes therefore that augmentless nominals are arguments that need structural Case licensing, (50a); the counterpart augmented Ns are inherently/intrinsically case-marked KPs, (50b)⁵.

(50) Structural and inherent K [Halpert, 230]



Halpert’s assumption that there is morphological Case in Zulu that heads a ‘Kase Phrase’ (KP) is novel to Bantu, but not to other languages (see Lamontagne and Travis 1986; Loebel 1994 in the analyses of German, Finnish, Russian, and Spanish DPs)⁶. However, I do not extend Halpert’s analysis of Zulu augments to Nata for three major reasons: (i) The Nata augment is not conditioned by Appl/Caus heads (§2.3.2.1); (ii) The elements that introduce Halpert’s Case system are missing (§2.3.2.2), (iii) The Nata augment is not semantically vacuous (§2.3.2.3).

2.2.2.1 Verb extensions do not license the augment

While it is true that the augmentless nominal argument must be licensed vP-internally, the treatment of CAUS and APPL as Case licensers is cross-linguistically puzzling as similar heads cannot be treated as forming a syntactic/semantic class with operators that license polarity elements. APPL/-CAUS do not play any licensing role in Nata, which I also believe is the case

5. Halpert discusses restrictions on expletive constructions and conjoint/disjoint morphology in Zulu as providing evidence for her account. Nata lacks such structures. However, see Carstens and Mletshe 2016 for a review of Halpert’s account where they argue that such restrictions do not derive from Case but from Focus.

6. The KP was proposed first by Lamontagne and Travis (1986) and advanced by Loebel (1994) in the analyses of German, Finnish, Russian, and Spanish, in which Loebel argues that K selects for a DP. For instance, she splits up the German article/D *der* into two separate functional categories: the D *d-*, which hosts some semantic content (i.e., referential features), and *er*, which has a syntactic function, namely K.

in Zulu⁷. Rather, as I argue in Chapter 3, augmentless nominal arguments are licensed by a non-factual operator (NEG and others) (see also Chapter 6 for various licensing parameters in Bantu).

In addition, licensing of covert augments in Nata does not seem to keep track of either locality or a 1-to-1 mapping between the non-factual operators and covert augments to be licensed. A single operator in cases such as (51) can license multiple covert augments in an unselective binding fashion:

[**Context:** A mentally confused person always makes up stuff. You hear him hallucinating saying *A man is teaching kids some language for a visitor* just at the front door of your house. You go outside to calm him down. You say, that’s not true, (51)].

- (51) Multiple DPs with a polarity D_{\emptyset} [Nata]
- | | | | |
|-----------|-----------------------|----------------|--------------|
| mo-subhe | t-a-kw-eegh-er-i | mu-gheni | bha-ana |
| mo-súβe | t-a-kw-eeγ-éer-i | mú-yeni | βa-aná |
| C1-man | NEG-SA1-teach-APPL-FV | D = C1-visitor | D = C2-child |
| ki-ghambɔ | | | |
| kí-yambɔ | | | |
| | D = C7-language | | |

‘No man is teaching any kids any language for any visitor.’

In this case, a single NEG c-commands/takes scope over the entire proposition in LF where it licenses all the covert augments in the proposition. Nata DP arguments containing a covert augment are at odds with the general licensing condition proposed by Halpert, (52):

- (52) **Augmentless nominal generalization (Final):** [Halpert, p.93]
 An augmentless nominal argument must be local to a nominal-licensing head.

7. See Hyman and Katamba (1993); Carstens and Mletshe (2016); and Cheng and Downing (2009) who define locality as a function of the Focus parameter in Zulu.

I rule out the APPL and CAUS as licensors in Nata. The treatment of CAUS and APPL as Case licensors is cross-linguistically puzzling and similar heads cannot be treated as forming a syntactic/semantic class with non-factual operators that license polarity elements like NEG.

2.2.2.2 No evidence for morphological Case in Nata

Elements used in Halpert’s account as evidence for Case are missing in Nata. Halpert takes the surfacing of the disjoint morphology *YA* in weather predicates as the correlate of L which probes to license structural Case. Data with weather predicates in Nata do not show signs of probe-goal relations that may substantiate a Case theoretic-account in Nata. (53), for instance, contains weather predicates which also lack thematic subjects, however, there is no morphology to signal the probe-goal activity⁸.

(53)	Weather predicates	[Nata]
	a. ko-mitit-ire koo-mítit-ire SA20-cold-PFV ‘It’s cold.’	b. ko-rinde-ere koo-rínda-ire SA20-gloom-PFV ‘It’s gloomy.’

Additionally, according to Halpert’s analysis, augment-permitting structures (comitative objects, instrumentals, etc.) are an exceptional type of morphological Case, namely *quirky* Case, because they have an unusual and unexpected agreement morphology and they do not license nominals. Nevertheless, these structures involve vowel coalescence phonological processes, with an underlying augment vowel, which happens in many languages irrespective of their Case morphology (see Casali 2003 and others). In Nata, hiatuses involving objects of comitatives are resolved by way of vowel harmony, and have no bearing on Case, as these are cross-linguistic phonological processes:

8. It is not clear whether the subject agreement in (53) is a class 15 or 17 or 20. I will use class 20 since class 15 in Nata is the infinitive class and 17 is prepositional; see Chapter 6.

(54) Augment-permitting structures [Nata]

- a. Makuru n-a-ku-bhar-an-a nu = u = mw-aana
 Makurú n-aa-ku-bhar-an-a na = u = mw-aana
 Makuru MN-SA1-IMPf-RECIP-FV with = D = C1-child
 ‘Makuru is playing with a *child*.’
- b. *Makuru n-a-ku-bhar-an-a na = mw-aana
 *Makurú n-aa-ku-bhar-an-a na = mw-aana
 Makuru FOC-SA1-IMPf-RECIP-FV with = C1-child
 Intended: ‘Makuru is playing with a *child*.’

We can see that the hiatus (a + u) formed of the oblique structure and the prepositional vowel is resolved by right-to-left harmony resulting in the homophonous vowels (u + u) (see Anghelescu 2019 for more vowel hiatus contexts). This has nothing to do with Case.

Halpert remarks that augment-replacing structures such as argument nominals occurring with pre-nominal DEMs cannot occur with the augment. This seems to support both De Dreu’s (2008) and Carstens and Mletshe’s (2016) observation that the augment in Zulu has D-like properties. If the augments were Case, we would predict that they could co-occur with pre-nominal DEM, but they do not. In Nata pre-nominal DEMs also do not occur with the augment and the language shows no signs of morphological Case. Halpert seems to correctly locate overt augments in the same structural position as augment-replacing material (e.g., pre-nominal DEMs), where they are in complementary distribution (see Chapter 3), consistent with the cross-linguistic treatment of pre-nominal DEMs and Ds, but her analysis fails to identify the augment as a D element:

...augment-replacing morphology is selected for in certain constructions and carries some semantic content. Selection of augment-replacing morphology eliminates the need for an augment. [Halpert 2012: 222]

There are two choices for Halpert for augmentless nominal arguments: either they do not contain a D (in which case we get the problem of predicate nominals which cannot equal argument DPs (see Zerbian and Krifka 2008), or they do (but she does not adopt a covert D option). Halpert makes an implicit assumption that there is a DP-shell but it is not clear in her analysis what fills the D slot in her analysis in (50) above. In this thesis, I will demonstrate, consistent with previous literature on Zulu (see de Dreu 2008; Adams 2010; Carstens and Mletshe 2016; and others), that the Nata augment is linked to various D-like properties syntactically (see Chapter 3) and semantically (see Chapter 4).

2.2.2.3 The augment is not semantically vacuous

I agree with Halpert that augments in Zulu, like in Nata, do not contrast for definiteness or specificity, as I show in this thesis. However, I do not treat overt augments in Nata or Zulu as semantically vacuous as Halpert claims:

I have argued that the augment vowel is essentially a morphosyntactic default that does not correspond to any particular meaning or syntactic configuration. [Halpert 2012: 222]

I argue that in the syntax, a covert augment must be licensed by a higher operator, but that this has a reflex in the semantics. For instance, the interpretive contrast between (55a) and (55c) seems to be that the augmentless nominal in (55c) must be interpreted under the scope of the non-factual operator where it yields a non-existential interpretation, while the overt augment in (55a) is associated with an existential interpretation (cf. Matthewson 1998; Giannakidou 1998, 2006):

(55) Interpretive contrast [Zulu, Halpert 2012: 214-215]

- a. u-Xolani u-dlala **no**-mfana [> na + umfana]]
 AUG-1Xolani 1S-play **NA.AUG**-1boy
 ‘Xolani is playing with a boy.’

- b. *u-Xolani u-dlala **na**-mfana
 AUG-1Xolani 1S-play **NA**-1boy
 Intended: ‘Xolani is playing with a boy.’
- c. u-Xolani a-ka-dlal-i **na**-mfana
 AUG-1Xolani NEG-1S-play-NEG **NA**-1boy
 ‘Xolani is not playing with any boy.’

In these cases what forces the choice of an augmentless nominal does not seem to be structural Case; rather it is when Ds are interpreted with scope under a non-factual operator like NEG. Halpert admits that the conditioning factor is NEG but provides no explanation for the effect of NEG:

The environment in (281)[55a] is an environment where a core argument, such as a subject or direct object, would also be required to bear an augment... By contrast, if we place nominals with augment-permitting prefixes in negated sentences, as in [55c], the augment may now be dropped.

[Halpert 2012: 222]

Halpert seems to acknowledge the role of non-factual operators such as NEG in the distribution of augments but adopts a different analysis that there is an abstract L (apparently distinct from NEG) that does the licensing. It indeed seems that NEG is the relevant operator that licenses the augmentless nominal. Similar examples are available in Nata as I show in Chapter 3. Note that under Halpert’s analysis of oblique arguments, cases like (55a) are treated as exceptions (i.e., quirky Case). The Case analysis thus fails to provide a unified account for simple cases such as these.

Since I cannot find any connection between Case and negation in Nata, I take non-factual operators as the overt realization of L in Halpert’s account. The implication of my analysis is that L/NEG not only accounts for the syntactic distribution but also for the interpretive contrast between the two augment choices, as I show in the future chapters. I therefore rule out the

Case analysis for Nata augments. In Chapter 5, I provide an alternative and unified analysis for Zulu and Nata augments.

2.2.3 Deixis does not condition the augment

In this section I explore whether the Nata augment is the locus of deictic features, namely spatial/temporal and visibility features. I argue that augments in Nata do not encode deixis.

2.2.3.1 Defining deixis

In other languages D is the locus of deictic force (see Hanks 2005; Gillon 2006; Guillemin 2007; and many others). Deixis is a way in which “the reference of certain elements in a sentence is determined in relation to either a discourse participant, or to a specific time and/or place of the discourse (or utterance)”, (Guillemin 2009: 9). In some languages deictic features are marked on D (Gillon 2006 on *S̀kẁx̀wú7mesh*; Guillemin 2007 on Mauritius Creole), while in others, they are introduced by a demonstrative (Hanks 2005 on a typology of deictic elements; Lyon 2011 on Okanagan; Gambarage 2012 on Nata). In yet other languages, deictic features are marked both on D and on demonstratives (Matthewson 1998 on *St’át’imcets*).

Typically, deictic distinctions include proximity, and this can be either spatial or temporal, and visibility (see Matthewson 1998; Gillon 2006). Despite the range of distinctions among deictic Ds, all deictic elements locate a referent in space/time in relation to discourse participants. In the next section I show that Nata augments do not encode deictic features.

2.2.3.2 The Nata augment does not encode deixis

As I argued in Gambarage (2012), Nata augments are not deictics; spatial deixis is fixed by the deictic demonstratives (DEMs) occurring in post-nominal position⁹. A table below shows three types of spatial DEMs in

9. Nata has a pre-nominal DEM which replaces the augment and appears with no H-tone. The element always marks referents mentioned in the previous discourse, unlike deictic demonstratives. See Chapter 3 for further discussion.

Nata: proximal, intermediate, and distal. DEMs are marked with a class prefix, which means they agree with the head noun¹⁰.

Table 2.2: Three-way distinction of deictic demonstratives in Nata

Demonstrative	Agree with singular N eg. <i>o-mu-kári</i> ‘woman’ C1	Agree with plural N e.g. <i>a-βa-kári</i> ‘women’ C2
Proximal: <i>-nɔ</i>	ú-nɔ ‘this’	βá-nɔ ‘these’
Intermediate: <i>-jɔ</i>	ú-jɔ ‘that’	βá-jɔ ‘those’
Distal: <i>-ri</i>	uu-ri ‘that over there’	βáa-ri ‘those over there’

As I argued in Gambarage (2012), Nata augments are not deictics, and show no contrast between proximal and distal spatial features as I show below (see also Lyon 2011 for a similar claim about Okanagan Salish). A DP with an overt augment can introduce a referent that is proximal or intermediate to the speaker or distal from the speaker:

(56) Deictic demonstrative (Subject position) [Nata]

- a. *o = mu-kari u-nɔ* a-kaa-n-dɔr-a [Proximal]
o = mu-kári ú-nɔ a-kaa-n-dór-a
 D = C1-woman C1-PROX.DEM SA1-PST-1sg-see-FV
 ‘This woman saw me.’
- b. *o = mu-kari u-yɔ* a-kaa-n-dɔr-a [Intermediate]
o = mu-kári ú-jɔ a-kaa-n-dór-a
 D = C1-woman C1-INTERM SA1-PST-1sg-see-FV
 ‘That woman saw me.’
- c. *o = mu-kari uu-ri* a-kaa-n-dɔr-a [Distal]
o = mu-kári uu-rí a-kaa-n-dór-a
 D = C1-woman C1-DIST.DEM SA1-PST-1sg-see-FV
 ‘That woman over there saw me.’

10. In the singular forms, but not in plural, the DEMs have lost the prefix consonant, therefore they only appear with a vowel prefix not a CV one (see de Wolf 1971; Hyman 1999).

(57) Deictic demonstrative (Object position)

- a. N-ka-rɔr-a o = **mu**-kari **u-nɔ** [Proximal]
N-ka-rɔr-a o = **mu**-kári **ú-nɔ**
1sg-PST-see-FV D = C1-woman C1-PROX.DEM
'I saw this woman.'
- b. N-ka-rɔr-a o = **mu**-kari **u-yɔ** [Intermediate]
N-ka-rɔr-a o = **mu**-kári **ú-jɔ**
1sg-PST-see-FV D = C1-woman C1-INTERM.DEM
'I saw that woman.'
- c. N-ka-rɔr-a o = **mu**-kari **uu-ri** [Distal]
N-ka-rɔr-a o = **mu**-kári **uu-rí**
1sg-PST-see-FV D = C1-woman C1-DIST.DEM
'I saw that woman over there.'

Notice that the longer the demonstrative vowel, the farther the referent is from the speaker (e.g., *uuu-ri* is 'way over there').

Furthermore, Nata augments do not encode a contrast in visibility as in Downriver Halkomelem determiners (cf. Wiltschko 2009 and references therein) or the St'át'imcets D system (Matthewson, 1998) which contrast for a discourse referent present and visible at the location of the utterance vs. a referent not visible at the location of the utterance. Nata overt augments can introduce a referent that is visible to the speaker (58a), or totally invisible to the speaker (58b).

- (58) a. o = mu-şekɛnyá o-ri-itek-ire ha-nɔ [Visible]
o = mu-şekɛnyá o-ri-itek-ire há-nɔ
D = C1-sand SA3-PST-spill-PFV C16-here
'Sand spilled over here.'

- b. o = mu-sekeḡenya w-o-ḡí muu-mw-eḡerí [Invisible]
 o = mu-sekeḡenyá w-o-ḡí muu-mw-eḡerí
 D = C1-sand C-SA-be C18-C3-moon
 ‘There is sand on the moon.’

These examples show that Nata augments do not encode a visible-invisible distinction. The augments also do not encode **sensory evidence** (i.e., visual) (cf. Chafe 1986; Garrett 2001; Déchaine 2007; Matthewson 2011; Matthewson et al. 2007; Waldie 2012, and others) as this is done by a special particle, *ka-*, which is adjoined to the demonstrative as shown in (59)¹¹.

- (59) a. o = mu-kari ka-u-nḡ a-ra-yaar-a [Proximal]
 o = mu-kári ka-u-nḡ a-ra-yáar-a
 D = C1-woman VIS-C1-PROX.DEM SA1-PRES-run-FV
 ✓‘Here comes a/the woman running!’ (Visual)
 ✗‘Here comes a/the woman running!’ (Auditory)
- b. o = mu-kari ka-uu-ri a-ra-yaar-a [Distal]
 o = mu-kári ka-uu-rí a-ra-yáar-a
 D = C1-woman VIS-C1-DIST.DEM SA1-PRES-run-FV
 ✓‘I see a/the woman over there running!’ (Visual)
 ✗‘I hear a/the woman over there running!’ (Auditory)

I argue that it is the particle *ka-* that encodes visual evidentiality and not the augment. The evidence for this is that the augment can be used in contexts where the referent is not visible as I showed above.

Finally, I show that temporal deixis is not encoded by Nata augments. An augmented NP can refer to an entity from the past (60a), an entity in the present (60b) or an entity in the future (60c).

11. Some Nata speakers seem to use another strategy which is to replace *ka-* with *oḡ-* (C1). In the plural *ka-* may be replaced with *βa-*. However, the meaning is the same across these variants. Speakers think that the source of variation lies in dialectal differences, i.e., south vs north. However, the demarcation between the two dialects overlaps considerably in many respects, as I hinted in chapter 1.

- (60) a. Kare a = bha-bhyem-i m-ba-are bha-aru
 Káre a = βá-βjeem-i m-ba-aré βa-arú
 in.the.past D = C2-hunt-FV C-C2-were C2-many
 ‘In the past there were many poachers.’
- b. chaa-∅-sikó chi-nɔ a = βa-βyem-i m-ba-suuhu
 tʃaa-∅-sikó tʃí-nɔ a = βá-βjeem-i m-ba-suuhu
 D = C10-day C10-this D = C2-hunt-FV C-C2-few
 ‘Nowadays there are few poachers.’
- c. čaa-∅-sikó čí-nɔ če-kúu-č-a a = βa-βyem-i
 čaa = ∅-sikó čí-nɔ če-kúu-č-a a = βá-βjeem-i
 D = C10-day C10-this C10-INF-come-FV D = C2-hunt-FV
 m-ba-ko-bhor-a
 m-ba-ko-bhor-a
 C-C2-FUT-end-FV
 ‘In the coming days, poachers will be rare.’

To sum up, until now we have seen that Nata augments do not encode features encoded in the D systems of other languages such as mass-count distinctions, Case and deixis. This leads to the conclusion that Nata augments differ from D systems that have those features as part of their D specification.

2.2.4 Definiteness does not condition the augment

Definiteness has been claimed to be a universal semantic feature where it is either expressed within the D system or elsewhere in the grammar (Lyons 1999; Guillemin 2007). While definiteness is a phenomenon found with Ds in many languages, including English, I show that Nata augments do not encode definiteness. I argue that definiteness in Nata comes from elsewhere.

2.2.4.1 Defining definiteness

The notion of definiteness is defined variably in the semantic literature. One standard view of definiteness is a novelty–familiarity contrast. I consider several other views related to definiteness–presupposition and/or assertion of uniqueness, presupposition and/or assertion of maximality–to show that all these notions do not force augment choice in Nata. Each section starts with a literature review.

2.2.4.2 The Nata augment does not encode novelty-familiarity

The novelty-familiarity hypothesis introduced by Christophersen (1939) and adapted by Hawkins (1978) and Heim (1982) is one way of defining definiteness. Indefinite DPs are argued to be novel to the common ground of the discourse while familiar DPs are familiar to the common ground of the discourse (Christophersen 1939; Hawkins 1978; Heim 1982; Ladusaw 1979; Matthewson 1998; Schwarz 2009; and others). English is one of the languages that encode this distinction in its D system as the examples below illustrate. Assume (61b) is a follow-up to (61a):

- (61) a. A/**#the police officer** stopped me today. [novel]
b. What did **#a/the police officer** say to you? [familiar]

The use of the English novel/unfamiliar D *a* in (61a) does not depend on the addressee having background information about the referent (i.e., it is not used in discourse anaphoric contexts); however, the familiar article *the* does, as (61b) shows. When this article is used, both the speaker and the hearer must have access to/knowledge of the discourse antecedent (i.e., the referent can have been mentioned in the previous discourse). Therefore, English *the* accesses the common ground of the discourse while *a* does not. This shows that novelty-familiarity is overtly expressed and is crucial for D choice in English, as indicated by the infelicitous use of *the* in (61a) and *a* in (61b).

Nata augments do not encode this distinction. The only possible candidate that occurs in affirmative/declarative familiar contexts is the overt augment; its counterpart, the covert augment, must be conditioned by some non-factual operator as we saw at the outset. The overt augment appears both in familiar and novel contexts, hence there is no familiarity requirement associated with the use of overt augments. In narratives, the overt augment is the same in both novel and familiar contexts. Assume (62b) is a continued story from (62a):

- (62) a. Hayo karɛ n = aarɛ-ho o = mu-tɛmi (novel)
 Hayo kárɛ n = aaré-ho o = mu-témi
 there long.ago SAM = be-LOC D = C1-chief
 ‘Long ago there was a chief’
 ‘Once upon a time there was a chief.’
- b. mbe o = mu-tɛmi a-ra-kom-a a = bha-to (familiar)
 mbe o = mu-témi a-ra-kóm-a a = βáa-to
 so D = C1-chief SA1-PST-gather-FV D = C2-people
 ‘So, *a/the chief gathered the people.’

In these examples there is no familiar-novel distinction that is expressed by the overt augment, as the same augment is used both in novel and in discourse anaphoric/familiar contexts. I show that the same generalization holds for non-narrative data; there is a lack of a familiar-novel distinction in the Nata augment system:

[**Context:** In (63a) a girl is telling her friends about what happened to her today. The day after, her friends follow up with (63b) or (63c).]

- (63) a. Weeche? Rɛrɔ o = mo-sirikare a-kaa-ny-imeereri (novel)
 W-éech-e? Rɛrɔ́ o = moo-sirikaré a-kaa-ní-imeereri
 2sg-know Today D = C1-police SA1-PST-OM-stop
 ‘You know what? A police officer stopped me today.’

- b. o=mo-sirikare u-yo ni-he a-a-ru-ure? (familiar)
 o=mo-sirikaré u-yo ní-he a-a-ru-iré?
 D=C1-police C3-DEM COP-WH SA1-PST-come-PFV
 ‘Where did the/that police officer come from?’
- c. u-ka-mu-rɔr-a o=mo-sirikare wi-ichɔ? (familiar)
 u-ka-mú-rɔr-a o=mo-sirikaré wa-itʃɔ?
 2SG-PST-OM1-see-FV D=C1-police of-yesterday
 ‘Did you see (him) the police officer from yesterday?’

We see that the same augment is used regardless of whether the police officer is a novel referent or is mentioned in the previous discourse. The overt augment does not place any constraints on the common ground of discourse. The implications of the lack of the semantic features of definiteness is that the Nata grammar uses other tools to express such features. Argument DPs are interpreted as definite when used with materials reinforcing definiteness like DEMs, as in (63b), or object markers (OMs), such as in (63c), which shows that the overt D is not a definite D (see Carstens 2001, 2008, Adams 2010; and others).

2.2.4.3 The Nata augment does not presuppose existence

The notion of presupposition of existence is cross-linguistically analyzed on a par with the notion of familiarity (Stalnaker 1974; Diesing 1992; Heim 1982; Chung and Ladusaw 2004, Matthewson 1998; and others). Presupposition of existence, like the notion of familiarity, also heavily relies on the common ground of the discourse. This is precisely what automatically rules out Nata overt augments as they are not presuppositional elements, unlike Ds in systems like English.

One type of presupposition I consider here is *logical presupposition* defined in terms of a semantic relation between propositions as in Soames (1989: 556) quoted in Matthewson (1998: 92)¹²:

12. I will not discuss various versions of presupposition of existence. For instance, *logical presupposition* is also informally defined in terms of a presupposition being able to ‘survive

- (64) *Logical presupposition* [Matthewson 1998: 92]
 A proposition P logically presupposes a proposition Q iff the truth of Q is a necessary condition for P to be true or false.

Matthewson (1998) gives the example in (65), again from Soames (1989: 557), which shows that the proposition Q must be true in order for P to be assigned a truth value (either true or false).

- (65) a. P: The queen of England is popular.
 b. Q: England has a (unique) queen.

In (65), if Q is false, the truth value of P cannot be determined (cf. Heim and Kratzer 2010). Presupposition of existence in English is exemplified by the definite D that must access the common ground of the discourse.

Nata augments are not definite Ds, unlike the English definite D. First note that the overt augment can be used in contexts in which a referent is presupposed to exist, as in (66).

- (66) [**Context:** There is only one Ikizu chief known]
 a. o = mu-tɛmi wa a = bhi-ikiicho m-mo-bhe
 o = mu-tɛmi wa a = βi-ikitʃo m = mo-βé
 D = C1-chief of D = C2-Ikizu.people FOC = SA1-cruel
 ‘The chief of the Ikizu people is cruel.’
 b. Q: Ikizu people have a chief

My strong argument for not analyzing overt augments as presupposing existence comes from the fact that the overt augment can also be used in novel/non-presuppositional discourse contexts, as in (67) repeated from above, where the chief is not in the common ground of the discourse:

negation’ (see Frege 1997; Soames 1989; Aldridge 1992 and others). Another notion of presupposition is *expressive presupposition* or Strawson’s presupposition, which describes a relation between a sentence S and a proposition Q in context C; see particularly Strawson (1950) and other recent works. For a helpful review of the different types of presuppositions see van der Sandt (2019).

- (67) Hayo kare n = aare-ho o = mu-temi
 Hayo kare n = aare-ho o = mu-temi
 there long.ago SAM = be-LOC D = C1-chief
 ‘Long ago there was a chief.’
 ‘Once upon a time there was a chief.’

If Nata overt augments are not presuppositional we correctly predict that they will be used in a variety of other non-presuppositional contexts. Certainly, in (68), the speaker presents their hope that they will find a bow to buy, but the utterance does not hold any presupposition of a bow, and yet the overt D is used:

[**Context:** M broke B’s bow and she cannot find a similar bow to replace it. She articulates her compensation plan:]

- (68) N = ne-gho-ko-ghor-er-a o = bhuta
 N = ne-yo-ko-yor-er-a o = beta
 SAM = 1sg-2sg-buy-APPL-FV e = C14-bow
 ‘I will buy you a bow.’

Presuppositional Ds are absent in Nata. The lack of presuppositional Ds in Nata can be derived from a negative setting of a Common Ground Parameter, consistent with Matthewson (1998). Next I show that presupposition of uniqueness is not part of semantics of the Nata augment.

2.2.4.4 The Nata augment does not presuppose uniqueness

The Nata overt augment does not presuppose a unique referent which satisfies the nominal property. If augments in Nata were Fregean definites that presuppose uniqueness, we might expect presupposition failure in contexts where a referent referred to by the speaker was not the same one in the hearer’s mind. For instance (69a) is challenged in (69b) as the hearer does not have a unique man in his/her mind, leading to presupposition failure:

(69) a. A: The man is standing at the door.

b. B: I have no idea which man you are talking about.

If overt augments presupposed uniqueness, it would not be possible to have the overt augment used felicitously in context where there is no unique referent under discussion, and yet the overt augment is used, (70). Since the Nata overt D does not introduce referents that are presupposed to be unique, it is infelicitous to reply to () with () as if the D is projecting a presupposition.

(70) a. o = mo-subhe n-i-i-meer-ire mo = o-ghe-seku
o = mo-suße n-a-imeer-ire mó = ó-ye-seku
FOC-SA1-be-LOC D = C1-man FOC-SA1-stand-PFV
'A man is standing at the door.'

b. #N-ty-eeche m = mo-subhe = ke o-ku-ghamb-a
#N-tj-eech-é m = mo-súbhe = ke o-ku-yámb-a
1sg-NEG-know-FV COP = C1-man = WH 2SG-IMPV-talk-FV
'I don't know which man you are talking about.'

c. Ne-we?
Ne-we
COP = WH
'Who is it?'

The examples in (70) are incompatible with a uniqueness presupposition. The overt augment is felicitous when the hearer is not aware that there is only one man in the context. We will see throughout this thesis that Nata overt augments are freely used in non-unique contexts such as in existential sentences which introduce indefinite DPs or weak quantifiers (see Milsark 1974).

2.2.4.5 The Nata augment does not assert uniqueness

It is also plausible to test for definiteness using a Russellian account of assertion of uniqueness. Some semanticists consider uniqueness assertions as hallmark properties of definiteness (Russell 1905; Sharvy (1980); Lyons 1999; and many others). First, we find that Nata unique singular referents, such as the *sun* and *moon*, are introduced using DPs containing overt augments. In (71) ‘sun’ or ‘moon’ denotes a singleton set, which is implicitly part of the interlocutors’ common ground knowledge.

- (71) a. \bar{u} = mw- ϵ erí o-ri-ibhís-ire mu-u-ma-saaro
 \bar{u} = mw- ϵ erí o-ri-iβís-ire mu-u-ma-sáaro
 D = C5-moon SM3-C5-hide-PFV LOC-PPF-C6-cloud
 ‘The moon is hiding behind the clouds.’
- b. a = βa-náata m-ba-haa-sáásaam-a \bar{i} = ry-oobha
 a = βa-naata m-ba-haa-sáásaam-a \bar{i} = rj-ooβá
 D = C2-Nata SAM-C2-HABT-worship-FV D = C5-sun
 ‘Nata people worship the sun.’

Evidence for the fact that overt augments do not assert uniqueness comes from considering further Nata data. In (72b), an overt augment is used in answers that do not assert a unique referent; and in (73) it is being used in contexts where there is more than one contextually-salient element satisfying the nominal property.

[**Context:** The questioner sees the addressee opening the cupboard with a variety of utensils, glasses, and cups and has no idea what the addressee wants to take from the cupboard]

- (72) a. Ne-ke u-kwe ϵ nd-á?
 Ne-ke u-kwend-á?
 COP-WH 2sg-want-FV
 ‘What do you want?’

b. Ni-kwɛ̀ɛ̀nd-á e = ghi-kɔ̀ɔ̀mbɛ
 Ni-kwɛ̀nd-a e = ɣi-kɔ̀ɔ̀mbɛ
 1s-want-FV D = C7-cup
 ‘I want a cup.’

[Context: There are several cups on a table, equidistant from speaker, Lyon 2015: 130, originally from Gillon 2006: 88]¹³

(73) Nu-u-h-ɛ e = ɣi--kɔ̀ɔ̀mbɛ
 Ne-u-h-é e = ɣi--kɔ̀ɔ̀mbɛ
 1sg-2sg-give-FV D = C7-cup
 ‘Give me a cup.’

[Consultant’s comment: I’d pass you one of the cups]

In example (73) the Nata language consultants responded by saying that they would grab any one of the cups on the table. Similar responses have been reported in Gillon’s (2006) and Lyon’s (2015) works. Both contexts show that the addressee is not talking about a unique cup in context, hence a uniqueness assertion is not encoded. Having seen that Nata augments for singular referents do not either presuppose or assert uniqueness, now we turn to what happens when plural and mass Ns have overt augments.

2.2.4.6 The Nata augment does not presuppose/assert maximality

After considering uniqueness for singular DPs, I consider the notion of maximality for plural and mass entities (Link 1983; Krifka 2003; and others) and show that maximality is not a presuppositional or an assertive component of the denotation of augments. If augments presupposed maximal individuals/entities, they would not be felicitous with plural/mass referents that are not maximal to the hearer without the hearer challenging the presupposition, (74):

13. Note that the Nata consultant’s comment was exactly the same as what Lyon’s consultant also said.

[**Context:** It is very rare to see police officers in this village. Makuru tells his mom what happened today, (74a). Mom follows up with (74b).].

- (74) a. Rɛɛɾɔ a = bha-sirikare bha-ka-ny-imeerer-i
 Rɛɛɾɔ a = βa-sirikaré βa-ka-ɲ-imeerer-i
 Today D = C2-police SA2-PST-1SG-stop-CAUS
 ‘Police officers stopped me today.’
- b. ni-hɛ bha-ru-ure?
 ni-hɛ βa-ru-ire?
 COP-WH SA2-from-PFV
 ‘Where did they come from?’

The augment in the nominal *a = bha-sirikare* ‘police officers’ does not presuppose maximal plural individuals. If this was the case then mom would have challenged the presupposition with a reaction such as *All of them?* or *I have no idea which police officers you are talking about*, but as mom’s response in (74b) shows, she is oblivious about where the officers came from.

Furthermore, augments used with plural entities do not assert maximality. Nata data show that speakers can use overt augments with plural DPs to refer to a non-maximal subset of the contextually salient individuals satisfying the nominal property, (75). With (75), the consultants comment that they would respond by grabbing some of the cups or seek clarification from the speaker on the number of cups the speaker wants, which shows a non-maximal plural sum of cups. Note that class 8 *bhi* marks plurality.

[**Context:** There are several cups on a table, equidistant from the speaker. Context adapted from Lyon (2011:8)].

- (75) Nu-u-h-ɛ e = bhi-kɔɔmbɛ
 Nu-u-h-é e = βi-kɔɔmbɛ
 1sg-2sg-give-FV e = C8-cup
 ‘Give me cups.’

With mass nouns, overt augments do not presuppose or assert maximality either. In (76) the DP *o=mo-sori* ‘soup’ appears in existential sentences which introduce indefinite DPs or weak quantifiers:

[**Context:** B just arrived and he wants to eat his lunch first. He says: I hate eating dry rice. His friend has served some soup and left some in the pot. He surprises B by saying (76):]

- (76) *o=mo-sori w-o-nyi mo=o=nyongo*
o=mo-sóri w-o-ɲi mo=a=ɲonɲó
 D=C1-soup FOC-SA3-be LOC=D=C3-pot
 ‘There is soup in the pot.’

In (76), the overt augment is used even though the soup is not maximal (the speaker is not talking about all the soup in the context, which rules out the possibility that overt augment may assert or presuppose maximal reference). Note that overt augments will be fine to be used in contexts where the speaker might in fact be referring to all the soup in the context (e.g., in contexts where the soup in the pot was the only soup in the context), and the speaker may wish his friend to have it all. This property aligns with the neutral status of augments regarding definiteness as I argue further below. Throughout this thesis I will argue that augments in Nata are not definites and show that they can only access the speaker’s knowledge but not the hearer’s, as proposed for many indefinite Ds (see Ionin 2006; Lyon 2011, 2013; Matthewson 1998, 1999, 2001; Gillon 2006; and others). Next, I compare Nata with the weak or strong definite Ds in German.

2.2.4.7 Augments are not weak/strong German definite Ds

Some dialects of German possess a distinction between weak and strong definite Ds (see for instance Schwarz 2009, 2012 and references therein, and Wiltschko 2013 and references therein)¹⁴. Weak definite Ds (or reduced Ds)

14. Schwarz (2009) and Wiltschko (2013) list dialects which contrast for weak-strong including: the Rhineland dialect, Mönchen-Gladbach dialect, Viennese dialect, Cologne di-

are used to refer to unique referents (e.g., sun, moon), as in (77a), or are interpreted under situational uniqueness, (78a). The examples come from an Austro-Bavarian dialect (see Wiltschko 2013 and references therein). (I use strong-weak instead of other labels e.g., full vs. reduced Ds, respectively):

(77) Weak D contexts [Austro-Bavarian, Wiltschko 2013: 171]

a. Da Mond is heit net zum segn
 DET_{weak} moon is today not to.DET_{weak} seen
 ‘The moon isn’t visible today.’

b. #Dea Mond is heit net zum segn
 DET_{strong} moon is today not to.DET_{weak} seen
 Intended: ‘The moon isn’t visible today.’

(78) Weak D contexts [Austro-Bavarian, Wiltschko 2013: 170]

a. Da Hons is im Spitoid
 DET_{weak} Hans is in.DET_{weak} hospital
 ‘Hans is in the hospital.’

b. #Dea Hons is im Spitoid
 DET_{strong} Hans is in.DET_{weak} hospital
 Intended: ‘Hans is in the hospital.’

Strong Ds (full form Ds), on the other hand, have to be used in deictic demonstrative/pointing contexts, as in (79a), or be used in discourse anaphoric contexts, as in (80b)¹⁵.

alect, Swiss German dialect, Bavarian dialect, Hessian (Frisian) dialect, Austro-Bavarian, and Standard German.

15. Both Schwarz and Wiltschko agree that the choice of definite Ds also correlates with other syntactic factors, not semantics only, e.g., the type of relative clauses. In many, if not all German dialects, the strong Ds are used on restrictive relative clauses while the weak Ds are used on non-restrictive clauses. Nata shows no variation of augments with restrictive or non-restrictive relative clauses.

[**Context:** A points to a house (the only one in the immediate surrounding) and asks B:]

(79) Strong D contexts [Austro-Bavarian, Wiltschko 2013: 173]

a. Gfoit da **des** Haus?

Like you DET_{strong} house

‘Do you like this house?’

b. #Gfoit da **s’** Haus?

Like you DET_{weak} house

‘Do you like this house?’

(80) Anaphoric contexts [Standard German, Schwarz 2009: 30]

a. Hans hat *einen Schriftsteller* und *einen Politiker* interviewt

Hans has *a writer* and *a politician* interviewed

‘Hans interviewed a writer and **a politician.**’

b. Er hat #*vom/von dem* *Politiker* keine

He has from the_{weak}/from the_{strong} politician no

interessanten antworten bekommen

interesting answers gotten

‘He didn’t get any interesting answers from **the politician.**’

The Nata augment system does not seem to encode the weak-strong distinction for two main reasons. First, as Schwarz illustrates, German Ds contrast for novelty-familiarity, which is not the case with the augment in Nata as we saw earlier. Second, considering all the contexts that force D choice in German dialects, the overt augment is used in all these contexts in Nata:

(81) [**Context** involving unique referents: overt augment is obligatory]

- a. u = mw-ẹ̀ẹ̀rí o-ri-ibhís-ire mu-u-ma-saaro
 u = mw-ẹ̀ẹ̀rí o-ri-iβís-ire mu-u-ma-sáaro
 D = C5-moon SM3-C5-hide-PFV LOC-PPF-C6-cloud
 ‘The moon is hidden behind the clouds.’
- b. * mw-ẹ̀ẹ̀rí o-ri-ibhís-ire mu-u-ma-saaro
 * mw-ẹ̀ẹ̀rí o-ri-iβís-ire mu-u-ma-sáaro
 C5-moon SM3-C5-hide-PFV LOC-PPF-C6-cloud
 Intended ‘The moon is hidden behind the clouds.’

[Context: My friend is wondering where my sister went. I say:]

(82) In situational unique contexts: overt augment is obligatory

- a. m-mo-rw-iire. a-ka-ghi kw = o = mu-ghabho
 n-mo-ro(r)-ire. a-ka-yi kw = o = mu-yaβo
 FOC-3sg-be.sick-PFV. 3sg-PST-go LOC = o = C1-doctor
 ‘She is sick. She went to the doctor.’
- b. *m-mo-rw-iire. a-ka-ghi kw = mu-ghabho
 *n-mo-ro(r)-ire. a-ka-yi kw = mu-yaβo
 FOC-3sg-be.sick-PFV. 3sg-PST-go LOC = C1-doctor
 Intended: ‘She is sick. She went to the doctor.’

In discourse anaphoric contexts, as in (84), the same overt augment is used as in discourse new contexts, (83).

[Context: B reports to her friends what happened to her on the way home:]

- (83) a. w-eche? rēēro o = mo-sirikare a-ka-ny-iimereri (novel)
 w-et[e]? rēēró o = mo-sirikale a-ka-ni-imerer-i
 2sg-know today D = C1-police SA1-PST-stop-FV
 ‘You know what? Today a police officer stopped me.’

- b. *w-eche? rɛrɔ mo-sirikare a-ka-ny-iimereri
 *w-etʃe? rɛrɔ mo-sirikare a-ka-ɲi-imerer-i
 2sg-know today C1-police SA1-PST-stop-FV

Intended: ‘You know what? Today a police officer stopped me.’

[Context: The following day, one of her friends follows up:]

- (84) a. u-ka-**mu**-rɔr-a o= mo-sirikare ghwiiki? (familiar)
 u-ka-**mu**-rɔr-a o= mo-sirikare ɣwíiki?
 2sg-PST-**OM**-see-FV D=C1-police again
 ‘Did you see the police officer again?’

- b. *u-ka-**mu**-rɔr-a mo-sirikare ghwiiki?
 *u-ka-**mu**-rɔr-a mo-sirikare ɣwíiki?
 2sg-PST-**OM**-see-FV C1-police again
 Intended: ‘Did you see the police officer again?’

We saw that strong Ds in German and related dialects are used with demonstrations, however, in Nata the same overt D is being used.

(85) In deictic contexts: overt augment is obligatory

- a. o= mo-sirikare **u-nɔ** m = mu-tata
 o= mo-sirikaré **u-nɔ** m = mu-tatá
 D = C1-police.officer **C1-DEM** COP = C1-bad
 ‘That police officer is troublesome.’

- b. * mo-sirikare **u-nɔ** m = mu-tata
 * mo-sirikaré **u-nɔ** m = mu-tata
 C1-police **C1-DEM** COP = C1-troublesome
 Intended: ‘That police officer is troublesome.’

We can therefore summarize the differences between the two systems as follows:

Table 2.3: Distribution of definite strong and weak Ds and Nata Ds

Variation	German Weak D	German Strong D	Nata Overt AUG	Nata Covert AUG
Definite D	✓	✓	✗	✗
Assertion of uniqueness	✓	✗	✓	✗
Situationally unique	✓	✗	✓	✗
Anaphoric contexts	✗	✓	✓	✗
Deictic contexts	✗	✓	✓	✗

Despite the fact that overt augments are used in discourse-anaphoric environments and in demonstration/deictic contexts like strong Ds in Germanic dialects, the fact that the same augment is used in weak definite contexts rules out the possibility that the weak-strong distinction is responsible for forcing augment choice in Nata.

2.2.5 Specificity does not condition the augment

It is not the case that Nata augments encode specificity. I present data to show that Nata augments surface in a variety of non-specific contexts, hence ruling out the specificity hypothesis.

2.2.5.1 Defining specificity

One of the most common definitions of specificity states that a DP is specific when the speaker has a specific individual/entity in mind (Givón 1970, 1978; Kamp and Reyle 1993; Hedberg et al. (2009); Matthewson 1998; and others). Compare the cases in (86), which can be said to be specific, with the non-specific cases in (87):

- (86) a. *A friend (of mine)* gave me this fidget spinner.
 b. I will be giving *a student* a make-up midterm.

(87) [Context: speaker is not referring to any specific entity]

- a. *A wrench* will do that job nicely.
- b. I need *a horse* for my rodeo practice.

The subject DP *a friend (of mine)* in (86a) and the object DP *a student* in (86b) refer to a specific individual in the speaker's mind¹⁶. In most linguistics literature, the DPs in (87) are not treated as specific indefinites. They have been given various analyses. In some accounts such DPs are interpreted with the universal quantifier reading (Eisner 1994; Dayal 1998, 2004, Menéndez-Benito 2010); in others they are interpreted under domain restriction (e.g., the DP denotation is implicitly restricted to a horse with some identifying property that the speaker has in mind (see Portner and Yabushita 2001; Schwarzschild 2002; Breheny (2003); Gillon 2006). Yet in others they are accounted for under a choice function approach (see Ebert to appear for a helpful review). I show below that the overt augment is used in both specific and non-specific contexts such as these, consistent with the proposal I articulate in Chapter 4.

I consider three tests for (non)specificity that can be used to show that Nata augments do not encode specificity. The first one is Enç's (1991) which is based on the notion that specific DPs introduce referents known to the speaker (see also Hedberg et al. 2009; Matthewson 1998). Enç argues that the specific reading of the DP in the second sentence in (88) is that the DP will pick out two girls who are members of the set of children introduced in the preceding sentence, while the non-specific reading is one in which the DP picks out any two girls. The example in (88) is taken from Matthewson (1998: 41); emphasis is mine:

16. Fodor and Sag (1982) claim that the indefinite *a* in English sentences such as (i) is ambiguous between the quantificational reading (where it obeys scope islands) and the referential (specific) reading and hence they are unusual indefinites (see also Kratzer 1998):

- (i) Each teacher overheard the rumour that a student of mine had been called before the dean.

(88) A lot of children came in. I knew *two girls*.

The second test is for non-specific DPs which are found in free choice environments, i.e., contexts that give the addressee freedom of choice (89) (see Kadmon and Landman 1993; Alonso-Ovalle and Menéndez-Benito 2003; Osa-Gomez 2016). Note that in (89c) the Free Choice Item (FCI) *any* is used.

(89) [**Context:** There are a bunch of cups lying on the table]

- a. M: Pass me *a cup*.
- b. W: Which do you want?
- c. M: Just pass me *ANY cup*.

The third test is to see if augments can be used in characterizing statements (i.e., statements that express generalizations about sets of entities or situations believed to exist without asserting that such entities exist, (90) (see Carlson and Pelletier 1995; Krifka 2003; Déchaine and Tremblay (2011)).

(90) *Owls hunt butterflies*.

I show that augments are fine with all these interpretations hence they cannot be treated as specific.

While the English indefinite *a* seems to be used both in specific and non-specific contexts, and English therefore shows no overt contrast of specificity in its D system, languages like Turkish or Persian allow a specificity contrast to be encoded morphologically (Enç 1991; Hedberg et al. 2009). The following examples from Hedberg et al. (2009) indicate that Turkish marks specific direct object DPs with the accusative case marker *ı*; without this marking, object DPs get a non-specific interpretation.

(91) Specificity marking [Turkish, Hedberg et al. 2009:4-5]

- a. Bugün **bir avukat-ı** gör-üyor-um
today one lawyer-ACC see-PROG-1SG
'I am seeing a (particular) lawyer today.'
- b. Bugün **bir avukat** gör-üyor-um
today one lawyer see-PROG-1SG
'I am seeing a lawyer today (some lawyer or other).'

In a way similar to Turkish, Persian also marks specific direct objects with the suffix *-RA*, which is realized as either *-o* or *-ro* due to vowel harmony (see Hedberg et al. 2009):

(92) Specificity marking [Persian, Hedberg et al. 2009:5]

- a. Emruz **ye vakil-(i)-o** mi-bin-am
today a/one lawyer-I-RA DUR-see-1SG
'I am seeing a (particular) lawyer today.'
- b. Emruz **ye vakil** mi-bin-am
today a/one lawyer DUR-see-1SG
'I am seeing a lawyer today (some lawyer or other).'

I show Nata overt augments are neutral with respect to specificity, hence they are felicitous in specific and non-specific contexts. Unlike Turkish or Persian-style Ds, augments in Nata are not switched based on the notion of specificity¹⁷.

17. Thanks to Rose-Marie Déchaine (p.c) for shedding more light on this question. She observes that the specificity/referentiality feature is also marked in the Niger-Congo language family, pointing me to references like Aboh (2004), Ajiboye (2005) and others. Some research has shown other semantic features are also encoded. For instance, see Arkoh and Matthewson (2013) and references therein for discussion of the familiar definite D *no* in Akan (Kwa) but see Bombi (2018) and Owusu and Korsah (2019) for responses to this paper. See also Chapter 5 for discussion about the definite D in Dzamba.

2.2.5.2 The Nata augment does not encode specificity

Nata overt augments appear in specific contexts, as shown in (93), but again the same augments can appear in non-specific contexts as in (94). The context in (94) is from Ferch (2012):

[**Context:** B: I wish I had a cup. I would drink from this stream. A replies:]

- (93) e=ghi-kɔmbɛ n-ke-nyi mu-u=n.dɔbhɔ i-yɔ [Nata]
 e=ɣi-kɔmbɛ n-ke-ni mu-a=n.dɔβɔ i-jɔ
 D=C7-cup FOC-C7-be LOC-D=C9.bucket C9-DEM
 Lit: ‘A cup is in that bucket.’
 ‘There is a cup in that bucket.’

[**Context:** Before going to the store, I confirm my shopping list with my roommate].

- (94) N-to-ko-ghor-a e=ghi-kɔmbɛ ne e=bhe-chiikɔ
 N-to-ko-ɣor-a e=ɣi-kɔmbɛ na e=βe-tʃikɔ
 FOC-2pl-FUT-buy-FV D=C7-cup and D=C8-spoon
 ‘We need a cup and some spoons.’

Nata overt augments fail Enç’s (1991) specificity test which distinguishes between specific (under discussion) and non-specific (not under discussion) DPs. The overt augment contained in the DP that picks out the two specific girls (under discussion), (95b), is the same augment used with the non-specific DP (for not under discussion children), (95a).

- (95) a. [a=bha-ana bha-mwe] bha-gha-sɔh-a
 [a=βa-ana βa-mwe] βa-ɣa-sɔh-a
 [D=C2-child C2-some] SA2-PST-come.in-FV
 ‘Some children came in’.

- b. N-ka-meḡa = mu [a = bha-ana bha-bhere]
 N-ka-méḡa-a = mu [a = βa-aná βá-βere]
 1sg-PST-know-FV = among [D = C2-child C2-two]
 ‘I knew two children among them.’

As we saw in the previous section about definiteness, example (95) demonstrates that Nata overt augments are neutral with respect to specificity also. The overt augment in *a = bha-ana* ‘children’ is used in both the specific and non-specific DP (see similar results in St’át’imcets, a language with existence Ds (Matthewson 1998)).

Nata augments appear in sentences that allow them to be associated with a specific interpretation, (96); however, the same augments also feature with Free Choice Items (FCIs), as in (97), in which a specific reading is unattainable.

- (96) e = ghi-tabho ki-nḡ n-gor-ire n-ke-bhe
 e = γí-taβo ki-nḡ ne-γor-ire n-ke-βé
 D = C7-book C7-REL 1sg-bought-PFV COP-C7-bad
 ‘A *book* that I bought is bad.’

- (97) [**Context:** A bunch of books are lying on the table]

- a. chaghor-a e = ghi-tabho
 tʃaayor-a e = γí-taβo
 choose-FV D = C7-book
 ‘Choose *a book*.’
- b. chaghor-a e = ghi-tabho kyḡ-ky-śse
 tʃaayor-a e = γí-taβo kjḡ-kj-śse
 choose-FV D = C7-book RED-C7-any
 ‘Choose *any/ANY book*.’

In example (96) *e = ghitabho* ‘a book’ has an existential interpretation. Note that the DP in (96) is modified by a relative clause which narrows

the domain of the NP and reinforces specificity. In example (97) the same augment is used but the referent is non-specific. As Osa-Gómez (2016) illustrates, the ambiguous NPI/FCI *jə-j-ooŋe* ‘any’ in (97b) is a FCI functioning as a maximal domain widener, in which case it requires the overt augment. As I show in Chapter 4, this is consistent with my analysis that the NP has a non-empty reference, hence the overt augment is required¹⁸.

Lastly, Nata DPs containing overt augments receive a generic interpretation when used in generics or characterizing statements, which express generalizations about sets of entities or situations (Krifka 2003; Déchaine and Tremblay 2011). Thus, the DPs in (98) have a non-specific reading:

- (98) a. $\text{cha} = \text{ny.ahuume}$ $n = \text{chi-haa-byema}$ $e = \text{bhi-bhabhayo}$
 $\text{tʃa} = \text{n.ahuumé}$ $n = \text{tʃi-haa-βjema}$ $e = \text{βi-βaaβáyo}$
 $D = \text{C10.owl}$ SAM-SA10-HAB-hunt $D = \text{C8-butterfly}$
 ‘Owls hunt butterflies.’
- b. $a = \text{bha-kári}$ $m = \text{ba-haa-ati}$ $\text{chaa} = \text{Ø-kwé}$
 $a = \text{βa-kári}$ $m = \text{ba-haa-ati}$ $\text{tʃaa} = \text{Ø-kwe}$
 $D = \text{C2-woman}$ SAM-SA10-HAB-chop $D = \text{C10-wood}$
 ‘Women chop wood.’

I show in Chapter 4 that the use of overt augments in generics is consistent with my analysis that DPs containing overt augments may be associated with a specific or non-specific interpretation. This explains why generic NP expressions like ‘owls’, ‘butterflies’, ‘women’ and ‘wood’ in (98) take the overt augment even though they do not denote specific referents. Note that in Nata, and Bantu more generally, generic statements require the habitual aspectual marker, which is argued in Déchaine and Tremblay (2011) to be the overt realization of the covert generic operator proposed by Chierchia

18. For a discussion of the item *-j-ooŋe* ‘any’ see Osa-Gómez (2016), and the discussion in Chapter 3 indicating that this item can also be used as an NPI forcing the use of the polarity D. See Krifka (1995) for a related claim that only the stressed ANY in English is a domain widener.

(1998) and Krifka (2003), and argued to select for the generic reading¹⁹. I thus rule out the specificity hypothesis. Having shown that definiteness and specificity are not encoded in the Nata augment system, I turn to the neutral status of the augment with respect to these features.

2.2.5.3 The augment is not the English *this*-specific indefinite

Ionin (2006) argues that the English *this*-indefinite involves a felicity condition focusing on the knowledge state of the speaker, i.e., the speaker considers only her own view of what's noteworthy, and not the state of her listener's knowledge. Ionin adds that the *this*-indefinite is specific in the sense of encoding 'noteworthiness', a notion similar to referentiality (see Fodor and Sag's (1982)) or presupposition of existence along the lines of Diesing (1992). See also Kratzer (1998). Ionin gives the crucial example from Maclaran (1982):

(99) There is *this man* who lives upstairs from me who is driving me mad because he jumps rope at 2 a.m. every night (Maclaran:1982:85).

I argue that the Nata overt augment is used in many contexts where the English *this*-indefinite is used, however, there are differences between the two. Consider, for instance, the differences and similarities of the two systems presented below:

19. Krifka (2003) discusses the possibility that generic statements also have a *kind* reading which is specific to a genus, e.g., by owls in (98a) the speaker maybe referring to a specific genus of the *Tyto* type. This is consistent with the use of the overt augment, although I will not address the kind analysis in this thesis.

Summary of contexts	English <i>this</i> _{ref}	Nata overt augment
<i>There-insertion</i> context	✓	✓
Speaker-knowledge	✓	✓
Used in specific contexts	✓	(✓)
Scope under a non-factual Op	✗	✗
Definite contexts	✗	(✓)
Noteworthy statement required	✓	✗
Uniqueness implicature contexts	✗	(✓)

Since the *this*-indefinite is essentially a non-deictic demonstrative, we may think that at least one Nata demonstrative would be its counterpart. On the contrary, it appears that both the Nata pre-nominal and post-nominal demonstratives are ruled out in similar *there-insertion* contexts, (101), but the overt augment is allowed, (100)²⁰:

- (100) N = a-nyi-ho [o = mo-subhe] a = bhaa-to bha-ko-bhugh-a
N = a-nyi-ho [o = mo-suβe] a = βaa-to βa-ko-βuy-a
SAM = SA1-be-LOC [D = C1-man] D = C2-people SA2-IMPf-say-FV
n-a-haa-turutumb-a o-bho-tiko
n-a-haa-turutumb-a o-βo-tiko
SAM-HAB-be.witch D = C14-night.time
‘There is **a man**; the people say he plays black magic at night.’

20. It appears that in Nata, *this*_{ref} readings are fixed by the element *hano* ‘here’, which must occur with the overt D:

- (i) N = e-nyi na-[a = -ø-singori ha-nø] yo = o = ko-bhin-er-a a-bha-to
N = e-nyi na-[a = -ø-singori ha-nø] yo = o = ko-bhin-er-a a = βaa-to
FOC-1sg-have with-[D = C9-song C16-here] of = D = C15-calling D = C2-people
‘I have *a song here* for calling/attracting people’

- (101) a. *N = a-nyi-ho [o = mo-subhe **u-nɔ**] a = bhaa-to
 *N = a-nyi-ho [o = mo-suβe **u-nɔ**] a = βaa-to
 SAM = SA1-be-LOC [D = C1-man **C1-this**] D = C2-people
 bha-ko-bhugh-a n-a-haa-turutumb-a o-bho-tiko
 βa-ko-βuy-a n-a-haa-turutumb-a o-βo-tiko
 SA2-IMPFSay-FV SAM-HAB-be.witch D = C14-night.time
 Intended: ‘There is **this man**; the people say he plays black magic at night.’
- b. *N = a-nyi-ho [**unɔ** = mo-subhe] a = bhaa-to
 *N = a-nyi-ho [**unɔ** = mo-suβe] a = βaa-to
 FOC = SA1-be-LOC [**DEM** = C1-man] **C1-this**
 bha-ko-bhugh-a n-a-haa-turutumb-a o-bho-tiko
 βa-ko-βuy-a n-a-haa-turutumb-a o-βo-tiko
 D = C2-people SA2-IMPFSay-FV SAM-HAB-be.witch
 Intended: ‘There is **the/this man**; the people say he plays black magic at night.’

This prohibition for Nata demonstratives must be derived from the fact that Nata demonstratives are definite while the *this*-indefinite is not.

What sets apart the English *this*-indefinite and the Nata overt augment is the fact that the former involves a noteworthy property, i.e., a statement of something noteworthy about the individual denoted by the indefinite. This is similar to adding descriptive content about the referent of the indefinite. For instance, below the noteworthy property is added by a relative clause (RC):

- (102) Noteworthy property by RC-modification [Ionin 2006:7]
- a. #I want to see *this new movie*.
- b. I want to see *this new movie that my friends have been recommending to me for ages*.

- c. I want to see *this new movie* – it’s one that my friends have been recommending to me for ages.

According to Ionin, (102a) is infelicitous because it does not have a noteworthy statement. The Nata overt augment does not require this condition. This follows from the fact that the English *this*-indefinite is specific while the overt augment is neutral with respect to specificity, which correctly predicts that the overt augment will be used both with noteworthy statements and without. I thus rule out the possibility that the Nata overt augment can be analyzed as a specific indefinite.

2.2.5.4 The augment is not the English indefinite *a*

We saw above that the English indefinite *a* can be used in both specific and non-specific indefinite contexts like the Nata overt augment. At face value, one may conclude that the augment is the equivalent of indefinite *a* in English. For instance, one may argue that both the English *a*, (103), and the Nata augment, (104), are used in non-coreferential contexts where a speaker is referring to two different entities/individuals.

- (103) I saw *a raccoon* in the playground, and I saw *another/a raccoon* in the backyard.

[Context: Nata and Tiriina are separate locations. Context was adapted from Matthewson (1999) and Lyon (2013)].

- (104) N-ka-rɔr-a a = ma-yaani Tiiriina, na n-ka-rɔr-a
 N-ka-rɔr-a a = ma-yaaní Tiiriina, na n-ka-rɔr-a
 1sg-PST-see-FV D = C6-gazelle Tiriina, and 1sg-PST-see-FV
 a = ma-yaaní Nata
 a = ma-yaani Naata
 D = C6-gazelle Nata

‘I saw a gazelle in Tiriina, and I saw a/another gazelle in Nata.’

However, while in coreferential contexts in English, the definite D is required when referring to the antecedent as in (105b), (see Heim 2011), in Nata, the overt augment is used both in non-coreferential (104) and coreferential contexts, (106), which indicates that the augment does support coreference. In (106), there is no different augment choice. As we saw in §.2.2.4, for familiar referents, the OM morphology must be used to mark referents interpreted anaphorically²¹.

- (105) a. *John opened *a door*_i. And Sophie closed *a door*_i.
 b. John opened *a door*_i. And Sophie closed *the door*/*it*_i.

- (106) Makuru a=ki-ighor-a e=ghe-sek-u, Masato
 Makuru a-ka-iy.or-a e=ye-sek-u, Masato
 Makuru SA1-PST-open.REVS-FV D=C7-door, Masato
 a-ka-**ghi**-sənçək-a, e=ghe-sek-u
 a-ka-**yi**-sɛntʃək-a, e=ye-sek-u
 SA1-PST-**OM**-close.REVS-FV D=C7-door
 ‘Makuru opened **a** door, and Masato closed (it) **the** door.’

The second argument against analyzing the Nata augment as the counterpart of English indefinite *a* comes from the fact that *a* can be used either under the scope of non-factual operators, paralleling the NPI *any*, or it can be used outside the scope of negation, where it yields an existential interpretation:

- (107) a. I didn’t bring **a pen**. I forgot it in my drawer.
 b. I didn’t bring **a/any pen**. I forgot to buy one.

Unlike English, which maintains the same indefinite in both contexts, Nata forces different augment choice: the argument with the overt augment is

21. Speakers prefer to drop the overt object DP when the OM is used. But they also accept the overt DP if it is preceded by a pause, which suggests that the object DP is dislocated/in a topic position.

used for existential wide scope (108a); the argument nominal with the covert augment is used for existential narrow scope (108b).

- (108) a. Makuru ta-a-ghor-ire e = ghi-tabho
 Makuru ta-a-γor-iré e = γí-taβo
 Makuru NEG-PST-buy-PERF D = C7-book
 ‘Makuru did not buy a book.’
- b. Makuru ta-a-ghor-iré γí-etaβo
 Makuru ta-a-γor-iré γí-etaβo
 Makuru NEG-PST-buy-PERF C7-book
 ‘Makuru did not buy a/any book.’

I rule out the hypothesis that the Nata augment is like the English indefinite *a*. Next, I discuss the notion of domain restriction.

2.2.6 The Nata augment is not a ‘domain restrictor’

Gillon (2006) and Lyon (2011, 2013) present empirical claims that Ds in *Skwxwú7mesh* and *Okanagan* are interpreted via domain restriction: the notion that the interpretation of a DP or NP which provides the range for a quantifier is contextually restricted (see Westerstahl 1984; von Stechow 1994, 1998; Matthewson 2000, 2001 and many others). For instance, both the DPs *the man/men* in (109) and the QP *everyone* in (110) are interpreted with respect to a context set (C).

(109) Contextually salient man/men [Gillon 2006: 70]

- a. **The man** was laughing
 b. **The men** were laughing

(110) Contextually salient Q NP [von Stechow 1998: 2; 1994: 28]

- a. **Everyone** had a good time.
- b. The dinner guests had rhubarb pie for dessert. **Everyone** developed a rash.

With *the men*, Gillon argues that the speaker does not refer to all the men in the world but rather the men in the context set. Likewise *the man* does not refer to a singleton man in the whole world; rather, it refers to a unique man in the discourse context. With (110), von Stechow (1994, 1998) argues that the quantifier *everyone* does not quantify over all the individuals in the world, but is restricted to individuals who attended the relevant event, (110a) or who had the rhubarb pie, (110b)²².

Gillon on deictic Ds in Skwxwú7mesh and Lyon on the determiner *i?* in Okanagan argue that the Ds are sensitive to the context of use (domain restriction). They argue also that the Ds are associated with an implicature of uniqueness or maximality. Under the Cooperative Principle of conversation, conversational implicatures are inferences arising from pragmatics and are not tied to any structural configurations (Grice 1975; Levinson 2000). When speakers are having a conversation, they are tied to conversational principles (maxims) which they may either ‘flout’/violate or obey (see Grice 1975; Levinson 1983 for discussion of conversational maxims).

While I show that the Nata overt augment is consistently used in all the discourse contexts supporting Gillon’s (2006) and Lyon’s (2013) analyses of Ds, I show that the Nata overt augment behaves differently from Ds in these two languages. Consider first the similarities and differences between the Nata augment, the Skwxwú7mesh deictic Ds (d-Ds), and the Okanagan non-deictic context-sensitive domain restrictor D, *i?*.

22. I do not explore all the versions/extensions of domain restriction analyses. See Westerstahl 1984 who argues that *the* itself is a domain restrictor. Gillon (2006) argues that definiteness is not necessary, and that a uniqueness/maximality implicature also provides domain restriction. Von Stechow (1994, 1998) argues with quantifier data that domain restriction is provided by a quantificational D. Matthewson (2000, 2001) provides data from St’át’imcets arguing that domain restriction is done by a non-quantificational determiner, which co-occurs with the quantificational element, as in “all the students”.

Table 2.4: Similarities and differences in the three languages

Augment/D properties	Nata AUG	Skw'xwú7mesh	Okan. <i>i?</i>
Encodes definiteness	✗	✗	✗
Encodes specificity	✗	✗	✗
Interpreted via domain restriction	(✓)	✓	✓
Carries <i>l</i> /MAX-implicature	✗	✓	✓

Gillon specifically argues that Skw'xwú7mesh deictic Ds are sensitive to the context of use to the effect that they are able to access the common ground of the discourse via domain restriction. Nata augments are fine to be used with referents established in the context set, however, they do not access the addressee's knowledge in any way. I propose instead that uniqueness or maximality in Nata arises from the morphology (e.g., by using OMs, or DEMs) or is purely pragmatic but does not come from the semantics of the augment itself. Another point of departure from treating the augment as a domain restrictor, which I consider here, is that the Nata augment system exhibits a semantic contrast that is ruled out in Skw'xwú7mesh and Okanagan. First I compare then contrast data from Nata and Ds that are always interpreted via domain restriction.

2.2.6.1 Similarities between the Nata Ds and domain restriction Ds

At first, the Ds in these languages appear to behave like the Nata overt augment. Gillon and Lyon illustrate that Ds in these two languages do not presuppose/assert uniqueness or familiarity and are used in a variety of contexts: definite, indefinite, specific, and non-specific. For instance, both Gillon and Lyon show that speakers can use the same Ds in both novel and familiar contexts, which is the case we saw for Nata above. A representative example comes from Skw'xwú7mesh, (111):

- (111) Skwxwú7mesh Ds [Squamish, Gillon 2006: 5]
- a. Chen kw'ách-nexw **ti/ta/kwa/kwi** swí7ka [Novel]
1sg.s look-tr(lc) det man
 'I saw a man.'
- b. Na kw'áy **ti/ta/kwa/kwi** swí7ka [Familiar]
rl hungry det man
 'The man is hungry.'

Furthermore, Gillon and Lyon argue that Ds in these languages are analyzed with respect to the contextually restricted set (domain restriction) with a referent matching the NP description. The following context adapted from Lyon (2013: 143-144) shows that the Nata overt augment can also be used in contexts where the DP picks the only referent in the context.

[**Context:** My friend and I are tossing two balls, and my friend throws them to me when I go inside. When I came back the balls were gone, I ask, (112a), and he answers, (112b):]

- (112) a. e=me-bhiira ni-he ghe-nyí?
 e=me-βiirá ne-he ye-ní?
 D=C4-ball COP-WH SA4-be
 'Where are #(the) balls?'
- b. N-ne-ghi-reki-ire
 N-ne-γi-reke(r)-ire
 FOC-1sg-OM8-throw-PFV
 'I threw them.'

For (112a) to be felicitous the DP in (112a) must be referring to the balls in context, hence the DP in (a) picks the only balls introduced by the context set. The interpretation of the DP *e=mebhiira* 'the balls' in (112a) arises from the contextually salient set (domain restric-

tion). Another example comes from data involving non-interrogative cases:

[**Context:** Makuru is babysitting his younger sibling. Busy mom gets annoyed by Makuru consistently reporting what the child is doing. Mom: You keep pestering and calling (saying)...]

- (113) a. $u = mw\text{-}aana$ $a\text{-}ri\text{-}iti\text{-}ire$ $a = ma\text{-}bh\text{e}\text{r}\text{e}$
 $u = mw\text{-}aana$ $a\text{-}ri\text{-}it\acute{e}(r)\text{-}ire$ $a = ma\text{-}bh\acute{e}\text{r}\acute{e}$
 $D = C1\text{-}child$ $SA1\text{-}PST\text{-}spill\text{-}PFV$ $D = C6\text{-}milk$
 ‘The/#a child spilled the milk.’
- b. $u = mw\text{-}aana$ $a\text{-}ri\text{-}iti\text{-}ire$ $e = ke\text{-}roongoori$
 $u = mw\text{-}aana$ $a\text{-}ri\text{-}it\acute{e}(r)\text{-}ire$ $e = ke\text{-}r\acute{o}\eta\text{g}\text{o}\text{o}\text{r}\text{i}$
 $D = C1\text{-}child$ $SA1\text{-}PST\text{-}spill\text{-}PFV$ $D = C7\text{-}porridge$
 ‘The/#a child spilled the porridge.’
- c. $u = mw\text{-}aana$ $a\text{-}a\text{-}k\text{o}\text{r}\text{-}ire$ $hang'u.$ $Nah\text{o}$
 $u = mw\text{-}aana$ $a\text{-}a\text{-}k\text{o}\text{r}\text{-}ir\acute{e}$ $ha\eta\acute{u}.$ $Nah\acute{o}$
 $D = C1\text{-}child$ $SA1\text{-}PST\text{-}do\text{-}PFV$ $PART.$ $why.not$
 $o\text{-}ko\text{-}mu\text{-}t\text{e}\text{m}\text{-}a?$
 $\acute{o}\text{-}ko\text{-}m\acute{u}\text{-}t\text{e}\text{m}\text{-}a?$
 $2sg\text{-}FUT\text{-}OM1\text{-}hit\text{-}FV$
 ‘The/#a child did this... Why don’t you spank him?’

Given this context, the mom must be referring to the same trouble-making kid, the one in the context. Notice that the OM in the last sentence, (113c), co-refers with the DP denoting the child in the context, which means this is the same child mentioned in the previous discourse. However, as I have argued in §2.2.4, the augment can in fact be used in contexts that do not refer to unique/maximal referents in the context.

In quantificational environments in *Skwxwú7mesh*, Gillon argues that domain restriction is provided by the deictic D appearing in the universally quantified DP:

- (114) Squamish Ds [Skwxwú7mesh, Gillon 2006: 100]
 S-en men kwélash-t í7xw ta mex-míxalh
nom-1sg.sbj just shoot-tr all det redup-bear
 ‘I shot all of the bears.’

The Nata overt augment is used in a variety of contexts, therefore is predicted to be used with a contextually restricted set denoted by a universally quantified DP, such as in (115). Here the DP *a = bhaana* ‘(the) children’ restricts the domain of the universal quantifier, by denoting a contextually salient set of children and not all the children in the world. Notice that when the quantifier *-oşę* is in singular form it denotes the universal quantifier *every* and when it is in plural it is *all*, and both must co-occur with the augment²³.

- (115) a. [u = mw-ana w-oşę] a-ghi-itęm-ęr-a mo = o = nyumba
 [u = mw-ana w-şé] a-ya-itęm-ęr-a mo = a-juumbá
 [D = C2-child C2-all] SA2-PST-enter-FV LOC18 = D = house
 ‘Every child entered into the house.’

23. Nata quantifiers do not sit in D⁰ position (i.e., do not create a generalized quantifier of type $\langle \langle e, t \rangle t \rangle$) as in English (see Chapter 4). However, Nata speakers use the Swahili form *kila* ‘every’, pronounced as *kira* in Nata, which seems to replace the augment and sits in D in object positions, as in (ia). This produces a QP structure as the English ‘every’ in *every child*. Speaker marginally accept the singular Nata quantifier *SG-oşę* in an object position, i(b).

- (i) a. N-ka-ghamban-a na kira mw-aana]
 N-ka-yámban-a na [kira mw-aná]
 1sg-PST-talk-FV with [every C1-child]
 ‘I talked with every child.’
 b. %N-ka-ghamban-a na [u = mw-aana w-oşę]
 %N-ka-yámban-a na [u = mw-aná w-şé]
 1sg-PST-talk-FV to [D = C1-child C1-all]
 ‘I talked to every children.’

It seems that the quantifier *SG-oşę* is undergoing some changes resulting into subject-object asymmetry but it is not clear to me why.

- b. [a = bha-ana bh-ɔɔsɛ] bha-ghi-itɛm-ɛr-a mo = o = nyumba
 [a = βa-ana βa-ɔsɛ́] βa-ɣa-itɛm-ɛr-a mo = a-nuumbá
 [D = C2-child C2-all] SA2-PST-enter-FV LOC18 = D = house
 ‘All #(the) children entered into the house.’
- c. N-ka-ghamban-a na [a = bha-aana bh-ɔɔsɛ]
 N-ka-ɣámban-a na [a = βa-aná βa-ɔsɛ́]
 1sg-PST-talk-FV to [D = C2-child C1-all]
 ‘I talked to all #(the) children.’

Here, the domain of the quantifier is contextually restricted. The quantifier then quantifies over elements/subsets of the range (a DP of type *e*) which picks out a restricted domain (see Matthewson 2001; Lyon 2013).

Finally, the Ds in Skwxwú7mesh and Okanagan are used in sentences that may carry an implicature of uniqueness/maximality. Both Gillon and Lyon give examples showing that domain-restriction Ds by default carry an implicature of uniqueness/maximality that can be cancelled.

- (116) Skwxwú7mesh Ds [Skwxwú7mesh, Gillon 2006: 89]
 Chen kwélash-t ta/tsi míxalh kwi chelák_{klh}. Chen kw’ách-nexw
1sg.s shoot-tr det bear det yesterday rl look-tr(lc)
 ta/tsi chánat míxalh, welh na tl’íw’-numut-wit
det three bears conj rl escape-refl-3pl
 ‘I shot a bear yesterday. I saw three bears, but some escaped.’

[Context: There was a bowl of berries on the table, but now it is gone. I ask “What happened to the berries?” You reply:]

- (117) Okanagan Ds [Okanagan, Lyon 2013: 143]
 a. ʔiɬ-ən iʔ s-p’y’q-aɬq
 eat-[DIR]-1SG.ERG DET NOM-ripe-fruit
 ‘I ate (all) the berries.’

- b. ʔiɫ-ən iʔ s-p'y'q-aɫq, náxəmɫ ilíʔ
 eat-[DIR]-1SG.ERG DET NOM-ripe-fruit CONJ DEM
 k'm-xt-m-n iʔ s-p'y'q-aɫq
 except-BEN-2SG.OBJ-1SG.ERG DET NOM-ripe-fruit
 'I ate some/#the berries, but I saved you some.'

Both Gillon and Lyon argue that when the domain restrictor Ds in Skwxwú7mesh and Okanagan are used, the hearer expects the referent(s) to be unique/maximal in any contexts, unless the context rules the uniqueness/maximality interpretation out, or the implicature is cancelled. As they argue, the Ds in Skwxwú7mesh and Okanagan imply the conversational implicatures of uniqueness/maximality as their default semantics.

In Nata, the overt augment can be used in sentences that may imply uniqueness, (118) or maximality of referents/entities, (119), which may be cancelled. The example in (118) refers to one gazelle; it is also possible for the addressee to think that this was the only gazelle in context, however, the second part cancels that implicature. In (119a) the addressee may think that the speaker is referring to the maximal soup; however, the proportional reading of (119b) cancels any maximality implicature that the speaker ate the entire bowl of soup.

- (118) N-ka-ras-a a = ma-yaani Tiiriina, n-ka-rɔr-a
 N-ka-rás-a a = ma-yaaní Tiiriina, n-ka-rɔr-a
 1sg-PST-see-FV D = C6-gazelle Tiriina, 1sg-PST-see-FV
 e-che-nde, mare chi-ka-ng'ɔs-a
 e = tʃe-nde, mare chi-kayaara
 D.PART = C10-other but SA10-PST-escape-FV
 'I shot a gazelle in Tiriina, I saw others but they escaped.'

[**Context:** Your friend is preparing some soup. There was a bowl of soup on the table, but now it's gone. I ask what happened to the soup? Your friend replies (replicated from Lyon 2013)]

- (119) a. o = mo-sori n = ne-nyw-ire
 o = mo-sóri n = né-ɲw-ire
 D = C3-soup FOC-1sg-ate-PFV
 ‘I ate some/the soup.’
- b. o = woo-ndé n = né-wi-it-ire
 o = woo-ndé n = né-wo-ite(r)-ire
 D = C9-another FOC-1sg-OM3-spill-PFV
 ‘The rest I spilled (it).’

The cancellation of the implicature really shows that the overt augment is not a maximality operator, otherwise it would force the infelicitous reading as with the English determiner *the* in *#I ate the soup, the rest I spilled*. In spite of the parallels in the data so far between the three languages, based on some differences shown immediately below I will propose a different analysis of Nata, according to which the D does not enforce domain restriction.

2.2.6.2 Differences between the Nata augment and domain restriction Ds

While the overt augment in Nata is used in domain restriction contexts and in sentences that may imply unique or maximal entities, I do not think that domain restriction is part of the representation of the Nata augment as is argued to be the case for the Ds in Skw̥wú7mesh and Okanagan. I argue instead that that the value for the interpretation of the DPs containing the overt augment in these contexts is supplied by the context and it does not come from the augment itself. I give reasons why the Nata augment is not a domain restrictor element like Ds in Skw̥wú7mesh and Okanagan.

First, if we consider further Nata data we see that the augment does not always refer to referents in a contextually restricted domain. In (120), for instance, the speaker presents their hope that they will buy a cup, even if they do not know where they will find one to buy. Similarly, in Nata, the overt augment is used in cultural assumptions that only

surmise that a referent exists but such referents cannot be analyzed as coming from a contextually restricted set, (121). The same is true with generics/characterizing statements presented above, which use referents that do not have context-dependent meaning²⁴.

[**Context:** M broke B's cup and she is hoping to go to the store. She articulates her compensation plan:]

- (120) N = ne-gho-ko-ghor-er-a e = yi-kɔɔmbɛ
 N = ne-yo-ko-yor-er-a e = yi-kɔɔmbɛ
 SAM = 1sg-2sg-buy-APPL-FV e = C7-cup
 'I will buy you a cup.'

[**Context:** B is chewing and she bites her lip. B says:]

- (121) o = mo-to n-aa-ku-n-gaamb-a bhwahɛɛɛ
 o = móo-to n-a-ku-ŋ-gaamb-a βwahéɛɛ
 D = C1-person SAM-SA1-PROG-1SG-talk well/good
 'Some person is speaking well of me.'

I argue that the augment cannot be a domain restrictor element, since upon saying (121), the speaker may have an unrestricted set of possibilities about who may be talking about them. For instance, the speaker only believes that such an individual exists but has no idea where they are located, i.e., whether or not they live in Nata, in Canada or in any part of the world. Thus context-dependence cannot be at issue here. In chapter 4, I present a proposal that explains the role of the augment in all these puzzling contexts²⁵.

My strongest reason for parameterizing Nata apart from Skwxwú7mesh/Okanagan Ds is not because Nata augments utilize

24. Nata augments also do not support Etxeberria and Giannakidou's (2010) view that the D head provides domain restriction or bears deictic features.

25. In my understanding Gillon or Lyon do not discuss data involving cultural assumptions. This is a new area of inquiry in relation to D meanings and domain restriction.

domain restriction only in a subset of contexts, but rather because Okanagan and *Skwxwú7mesh* Ds do not encode the contrast that forces augment choice in Nata. As I argue more elaborately in Chapters 3 and 4, the Nata augment has a contrast between the overt augment and the covert augment relative to non-factual operators. Both Gillon and Lyon illustrate that Ds in these languages can be used in declarative sentences as well as in non-factive environments. A classic example comes from the Okanagan domain-restriction determiner *iʔ* which can be used under the scope of a non-factive operator as well as outside the scope of such an operator²⁶.

(122) The Okanagan *iʔ* determiner [Okanagan, Lyon 2011: 26]

a. *iʔ sqəłtmíxʷ lutaʔ kaʔkíc-ís iʔ sənkl'caʔsqáxaʔ*
 Det man NEG find.(DIR)-3SG.ERG Det horse
 ‘The man didn’t find any horses.’

b. *iʔ sqəłtmíxʷ lutaʔ kaʔkíc-ís iʔ sənkl'caʔsqáxaʔ*
 Det man NEG find.(DIR)-3SG.ERG Det horse
 ‘The man didn’t find the horses.’

Gillon (2006) also shows that all deictic Ds in *Skwxwú7mesh* are equally available in declarative sentences as well as in those with non-factual operators. She argues that the non-deictic D, *kwi*, is the closest candidate to polarity sensitive Ds. However, *kwi*, like all the other Ds *ti/ti/kwa*, can occur in non-factive environments (123b), but can also be used in factive environments (123a)²⁷.

(123) *Skwxwú7mesh kwi* determiner

[*Skwxwú7mesh*, Gillon 2006: 6-7]

26. I do not talk about the Okanagan oblique element *t*, which according to Lyon (2013), is not a determiner but a semantically vacuous morphological reflex of semantic incorporation. This is not relevant for Nata.

27. Gillon shows that different DPs in *Skwxwú7mesh* can take different scope with respect to an operator.

- a. Chen silh7-án **ti/ta/kwa/kwi** sts'úkwi7
 1sg.s buy-tr det fish
 'I bought a/the fish.'
- b. Nú chexw silh7-án **kwi** sts'úkwi7?
 rl.Q 2sg.s buy-tr det fish
 'Did you buy a fish?'
- c. Háw, háwk sts'úkwi7
 Neg be.not fish
 'No there weren't any fish.'

Gillon concludes that non-factual operators do not force D choice in Skwxwú7mesh, and there is no polarity sensitive D. In contexts where the (strong) NPI reading applies, like (123c), apparently, none of the Ds is used, which is interesting given Gillon's claim that argument nominals in Squamish are DPs.

Nata speakers switch augments in these contexts, as I illustrate more elaborately in Chapters 3 and 4. In the examples below, Nata differs crucially from domain restrictor Ds which are insensitive to the interpretive contrast I reveal in Chapter 4.

- (124) a. N-ka-ghor-a a = ∅.swe [Nata]
 N-ka-yor-a a = ∅.swe
 1sg-PST-buy-FV D = C9.fish
 'I bought a/the fish.'
- b. N-ty-a-a-ghor-ire a = ∅.swe
 N-tj-a-a-yor-ire a = ∅.swe
 1sg-NEG-SA1-PST-buy-PFV D = C9.swe
 'I did not buy a/the fish.'

- (125) a. N-ty-a-a-ghor-ire ∅.swe
 N-tj-a-a-γor-ire ∅.swe
 FOC-NEG-SA1-PST-buy-PFV C9.fish
 ‘I did not buy **any fish.**’
- b. *N-ka-ghor-a ∅.swe
 *N-a-ka-γor-a ∅.swe
 FOC-1sg-SA1-PST-buy-FV C9.fish
 Intended: ‘I bought *a/the fish.*’

The differences in the semantics of the Nata augments and domain-restriction Ds introduced in the data above separate the Nata augment system from *Skwxwú7mesh/Okanagan* Ds. I argue in this thesis that it is a general property of Nata overt Ds that they can appear in a variety of contexts: in specific, non-specific, familiar, novel, context-dependent, or in pragmatic contexts that give rise to conversational implicatures of uniqueness or familiarity. This behaviour is predicted under the analysis I develop in Chapter 4, which has to do with speaker-oriented belief in the existence of a referent.

2.3 Solving the Nata puzzle: the two ingredients

To account for the distribution of both nominals appearing with the augment on the surface, and those without the augment on the surface, I adopt the hypothesis that the D category in Nata is instantiated by the augment. Two ingredients will be needed. The first ingredient comes from Longobardi’s hypothesis that nominal arguments are DPs and predicate nominals are NPs (Longobardi 1994, 2001, 2008). Longobardi’s proposal is also in line with the second ingredient I propose here; that in the overt syntax and at the meaning level, nominals may vary according to whether the augment is overt or covert (D_{\emptyset}). By covert, I mean that the augment has no phonological content, but is not semantically vacuous. Thus, to understand what is forcing augment choice in the puzzling data presented in the outset of this chapter, three nominal distinctions must be understood: argument

DPs with an overt augment, (126a); argument DPs with a covert augment, (126b); and nominal expressions without an augment, (126c):

- (126) a. Argument DPs with an overt augment: $[_{DP} D[\dots]]$
 b. Argument DPs with a covert augment: $[_{DP} D\emptyset[\dots]]$
 c. Non-argument nominals (no augment): $[_{\varphi P} \varphi[\dots]]$

The two ingredients for solving the Nata augment puzzles derive these distinctions. One is the contrast between nominal arguments versus nominal predicates; and ingredient two is the semantic distinction between argument nominals appearing with overt augment vs those with the covert augment. I briefly discuss both ingredients below.

2.3.1 Ingredient 1: argument vs predicate nominals

The hypothesis I adopt is that Nata augmented nominals are DP arguments; they denote entities of type e , (127). On the other hand predicate nominals denote a property and lack a DP shell, (128).

[Context: Bahati is a gender neutral name. A woman and a man are standing before us. M is wondering which person is Bahati]

- (127) a. Bahati n = o = mo-subhe [DP = Argument]
 Bahati n = o = mo-subhe
 Bahati COP = D = C1-man
 ‘Bahati is the man.’
- b. #Bahati m = mo-subhe [NP = Predicate]
 #Bahati n = mo-súβe
 Bahati COP = C1-man
 ‘Bahati is a man.’

(128) **Context:** M is describing Bahati's gender...]

a. Bahati m = mo-subhe [NP = Predicate]
Bahati n = mo-súβe
Bahati COP = C1-man
'Bahati is a man.'

b. #Bahati n = o = mo-subhe [DP = Argument]
#Bahati n = o = mo-subhe
Bahati COP = D = C1-man
'Bahati is the man.'

I will argue in the subsequent chapter that the proposal that arguments are DPs in Nata makes certain correct predictions about the syntactic distribution of augments.

2.3.2 Ingredient 2: overt versus covert augment

In Chapter 4, I will present my core semantic proposal that the choice between the overt augment and the covert augment depends on whether the speaker believes the noun phrase's referent exists or not. I will show that the Nata overt augment commits speakers to belief-of-existence, (129); and the covert augment does not commit speakers to belief of existence, (130a).

(129) a. o = mo-subhe a-gha-sək-a
o = mo-súβe a-γa-sək-a
D = C1-man SA1-PST-laugh-FV
'A/the man laughed.'

b. o = mo-subhe ta-a-sək-ire
o = mo-súβe ta-a-sək-iré
D = C1-man NEG-PST-laugh-PFV
'A/the man did not laugh.'

- (130) a. mo-subhe ta-a-şek-ire
 mo-súβε ta-a-şek-iré
 C1-man NEG-PST-laugh-PFV
‘No man laughed.’
- b. * mo-subhe a-gha-şek-a
* mo-súβε a-ya-şék-a
 C1-man SA1-PST-laugh-FV
Intended: ‘A/the man laughed.’

The overt augment contrasts with a phonologically null augment which requires syntactic licensing by a non-factual operator. Thus, an affirmative sentence like (130b) will always be ungrammatical. The details of my proposal are given in Chapters 3 and 4. In Chapter 4, I will argue that the interpretation of the augment requires an analysis involving choice functions (cf. Reinhart 1997; Matthewson 1999).

2.4 Summary and conclusion

In this chapter I have argued that the following proposals about the augments are upheld in Nata:

- (131) a. The Nata augment is not conditioned by mass-count distinctions.
- b. The Nata augment is not conditioned by Case.
- c. The Nata augment is not conditioned by deixis.
- d. The Nata augment is not conditioned by definiteness.
- e. The Nata augment is not conditioned by specificity.
- f. The Nata augment is not a domain restriction element.

I have ruled out various hypotheses. First, Nata augments are not of the Romance-type in which overt Ds appear as expletive Ds on mass and abstract nouns. In Chapter 4, I will argue more elaborately that Nata speakers switch the augments on semantic basis, and that augments are not semantically vacuous. I showed that neither Case nor deixis can condition the augment. I also argued that the Nata augment is not like English-type Ds as they do not encode or contrast for definiteness, i.e., augments do not induce a common ground interpretation or presuppose existence or uniqueness. I have shown that Nata utilizes OMs and DEMs to derive definite readings. Thus, definiteness and specificity features are not part of the semantics of the Nata augment; these features come from elsewhere in the grammar. The Nata augment also cannot be analyzed as a specificity marker as it appears in a variety of non-specific contexts. The position I have taken is that Nata overt augments are neutral with regard to (in)definiteness and (non)specificity and this explains why they appear in definite/specific as well as in indefinite/non-specific contexts.

I showed that Nata augments are compatible with domain restriction, however, they do not require domain restriction given that augments can be used in contexts that do not contextually restrict the interpretation of DPs containing them. Definiteness, specificity, deixis, and domain restriction come from elsewhere.

The exposition of this chapter forms the basis for the theoretical understanding of the syntax and the semantics of augments in the context of a broad typology of Ds cross-linguistically. In the next chapter I focus on the syntactic proposal then move to my proposal about the semantics of augments.

Chapter 3

The Syntax of Nata D

3.1 Introduction

On the basis of data from Nata, I argue in this chapter that the category D is instantiated by the augment. I provide arguments that support analyzing the augment as a realization of the functional category D (see similar claims in Bantu: Dreu 2008; Visser 2008; de Dreu 2008; Giusti 2008; Taraldsen 2010; Ndayiragije et al. 2012; Carsten and Mletche 2015). Many of the diagnostics are novel, and the data sets considered cover a wide range of contexts, so this study both deepens and broadens our understanding of the syntax of the augment.

The chapter is organized as follows. In §3.2 I discuss the DP internal structure and present the proposal that augments are Ds. In §3.3 I show that augments cannot be used in nominal predicates. In §3.4 I give evidence to show that Ds are obligatorily required in all argument positions. In §3.5 I discuss the distribution of polarity Ds and show that they are licensed by a non-factual operator. In §3.6 I talk about areas for future research, and in §3.7, I give a summary and conclusion.

3.2 The internal syntax of the Nata DP

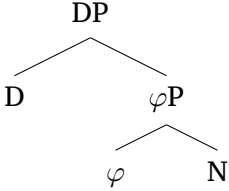
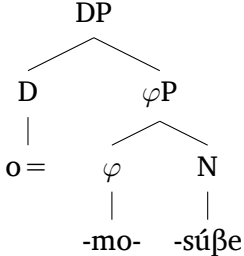
Traditional approaches to Bantu nouns treat the augment as part of the noun class prefix (N-prefix), as in (132a) (see Guthrie 1967-71; Meeussen 1967; and others). Based on evidence from Nata, I treat a noun such as (132a) as morphosyntactically complex, that is, as a DP, as shown in (132b).

- (132) a. omo-subhe
omo-súβe
C2-√man
'a/the man'
- b. o=mo-subhe [Nata]
o=mo-súβe
D=C2-√man
'a/the man'

I first discuss the decomposition of Nata nouns into $D = \varphi$ - N structure, then I provide arguments that the augment fits to be analyzed as D.

3.2.1 The decomposition of the Nata noun

I decompose the Nata noun into the lexical part (\sqrt{N}), the N-prefix (number/ φ), here labelled as C(class), and the augment (D). I treat the DP *o=mo-subhe* 'a/the man' in (132b), for instance, as having the lexical part/nominal stem *-subhe* 'man', which first merges with φ , and φ P merges with D, (133a). The full DP structure of *o=mo-subhe* is in (133b).

- (133) a. 
- b. 

I treat the augment *o=* and number/ φ *-mo-* in (133b) as functional elements (cf. Carstens 1991, 2001, 2008; Diercks 2012, 2010; Déchaine et al. 2014. See also Borer 2005; Marantz 1997; Wiltschko 2009 and others). I

agree with the Bantuists' proposal that the internal structure of the Bantu noun projects Number/φ as a functional head of $\text{NumP}/\varphi\text{P}$ (see Carstens 2001; Giusti 2008; Déchaine et al. 2013; Gambarage 2012, 2013; and others). The rationale for the assumption that number/φ projects as a functional head (F^0), is based on the fact that number is semantically predictable (cf. Kihm 2005; Carstens 2001, 2005, 2008). Therefore, I choose to use the label $\varphi\text{P}/\text{Phi}$ but Num can also be used (Aboh 1998; Morava-Contini 2000)¹. The choice between these two labels is completely arbitrary. Note also that in some Bantu accounts, number and class features are analyzed as playing a role in Agree relations, i.e., checking φ -features of agreement [$\text{gender}, \text{Number}$] (see Baker 2003; Diercks 2010; Carstens 2001; and others for discussion). In this thesis I will not investigate these claims, as they will take us far afield. For an extensive discussion of the descriptive and the evaluative function of N-prefixes in Bantu, see Fortune (1984), Déchaine et al. (2014) and for Nata see Déchaine and Gambarage (2016) and Déchaine et al. (2017). For insights about number see Schwarzschild (2002) and others. For various lattice approaches to number, see Link (1983), Landman (1991), Chierchia (1998), Rullmann and You (2006), and many others, and for Bantu see Déchaine et al. (2014).

While (133b) is an example of a DP formed from a non-deverbal noun, I extend the decomposition of the noun into D, φ and N to DPs formed from deverbal nouns as well. Deverbal nouns are nouns whose stems are composed of a verbal root and a final vowel morpheme (FV)². For instance,

1. There are other proposals about the F^0 that projects when the N-prefix merges with the lexical head/L:

- (i) a. N-prefix projects $n\text{P}$ (Ferrari-Bridgers 2008).
- b. N-prefix projects GenderP (Corbett 1991).
- c. N-prefix projects NumP (Aboh 1998, Cinque 1995).

I do not use the label $n\text{P}$ to avoid confusion with the use of this label for other functional elements, eg., see Déchaine et al (2017) on final vowels. I do not use genderP due to non-uniform treatments of N-prefixes as gender (see Ferrari-Bridgers (2008) and Carstens (2008).

2. I assume with Mudzingwa (2010) that stems and roots are coextensive in non-deverbal nouns, and that roots and FVs make a stem in deverbal nouns. The root is a radical, it does not have internal structure (see Bauer 1983; Good 2005; Gambarage 2011; and others).

the DP *o = mokomi* ‘a collector’ in (134a) has a verbal root *kom-* ‘collect’ and a FV *i*, while the non-deverbal noun in (133b) repeated in (134b) lacks these formatives.

- (134) a. $o = *(mo)\text{-}kom\text{-}i$ b. $o = *(mo)\text{-}subhe$ [Nata]
 $o = *(mo)\text{-}kóm\text{-}i$ $o = *(mo)\text{-}sú\beta e$
D = C1-√collect-FV D = C1-√man
‘a/the collector’ ‘a/the man’

Except for proper names which I discuss in Chapter 6, noun class is obligatory for all common nouns, hence both nominal roots and nominal stems must be inflected with φ before they take D. Thus, I treat the non-deverbal noun *o = mo-súβe* ‘a/the man’ in (135a) as structurally similar to the derived noun, (135b)³.

- (135) a. b.

I use the label *N* for lexical projections, which may contain FVs. However, for the discussion of types of roots and the contribution of the final vowel morpheme in Nata see Déchaine et al. (2017)⁴.

The structural position of Nata augments proposed in (135) is consistent with the DP hypothesis (Brame 1982; Abney 1987) and its various extensions (Szabolsci 1987; Déchaine 1993; Longobardi 1994 and others)

3. Note that one signature of deverbal nouns is that H-tone is always on the N-prefix; see Déchaine et al. (2017) and Angheliescu (to appear) for discussion.

4. In Déchaine et al. (2017) the deverbal nouns have type-flexible roots (e.g., they are verbal in the context of tense and are nominal in the context of φ P, while type-rigid roots cannot be used in the context of tense. Refer to Déchaine et al. (2017) for the implications of this claim in relation to Distributed Morphology (Marantz and Halle 1993; Marantz 1997, 2013; Embick and Noyer 2001).

in which heads must project to phrases. However, unlike word-level Ds in English and other languages with word-level Ds, the augment has morphosyntactic properties of a clitic as I argue below.

3.2.2 The augment as a proclitic D

One possible criticism of treating the augment as D may come from the morphosyntactic appearance of the augment, i.e., the augment does not appear as a word class determiner like *a* or *the* in English. Indeed the augment is not a word class D. I claim that the augment has the morphosyntactic status of a proclitic (Meeussen 1967; Van de Velde 2008; van de Velde 2019), a bound element that attaches to a phrase (eg., φ P in Nata) (cf. Zwicky 1977; Ajiboye 2005, Déchaine 1993). Thus, I make a distinction between a word category and a structural position in a tree that elements with similar structural status may occupy. I mark the augment with a clitic convention “=” throughout.

The dissociation between word classes and functional elements that are F^0 is elaborated in Ghomeshi et al. (2009) (see also Lyons 1999):

...determiners are assumed to occupy a position fixed by the hierarchy of functional categories, which allows for the dissociation between the word class (determiner) and the syntactic position its members occupy (D). Ghomeshi et al. (2009: 05)

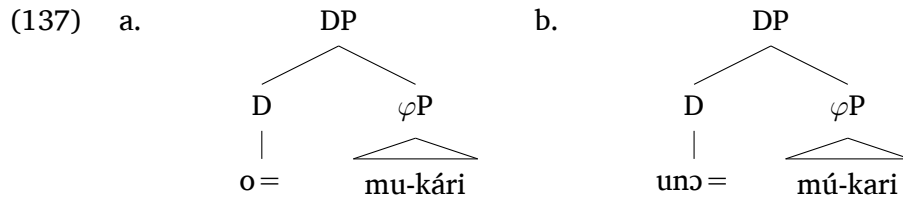
The treatment of augments as proclitics, instantiating the category D, may contribute to our understanding of why certain pre-nominal proclitics that may occupy the D position are in complementary distribution with the augment. Next, I focus on these distributional properties.

3.2.2.1 The augment does not co-occur with the DEM proclitic

The first case that supports the analysis of the augment in Nata as a proclitic D comes from the fact that it cannot co-occur with the pre-nominal DEM which also attaches to φ P as a proclitic D, as in (136a)⁵:

- (136) a. **u-nɔ** = mu-kari n-aa-ku-yaar-a
u-nɔ = mú-kari n-aa-ku-yáar-a
 C1-DEM = C1-woman C-SA1-PROG-run-FV
 ‘The woman is running.’
- b. ***u-nɔ** = **o** = mu-kari n-aa-ku-yaar-a
 ***u-nɔ** = **o** = mú-kari n-aa-ku-yáar-a
C1-DEM = D = C1-woman C-SA1-PROG-run-FV
 ‘The woman is running.’

I propose that the pre-nominal DEM in (136a) sits in D position, (137b). Thus the augment (137a) can only be used if the D slot is not occupied by other D material.



The one semantic difference between the augment and the pre-nominal DEM in Nata is that the pre-nominal DEM functions as a strong D (i.e., has anaphoric readings) (cf. Ashton 1944; Carstens 1991, 2008; Van de Velde 2005; 2019; and others) while the augment does not. I will analyze the augment and the pre-nominal DEM as proclitics that occupy the same structural position, hence the two cannot co-occur.

5. Nata has two demonstratives: the pre- and the post-nominal. Refer to Chapter 6 where I discuss the post-nominal DEM which co-occurs with the augment but differs both from the post-nominal DEM and the augment in phonological and deictic features.

3.2.2.2 The augment does not co-occur with the honorific proclitic

The proclitic *na=*, appears to have the honorific meaning ‘Mr /Ms/Master/Mistress’ and syntactically, appears to replace the augment. Compare the augment data in (138) with the examples with the *na=* honorific in (139):

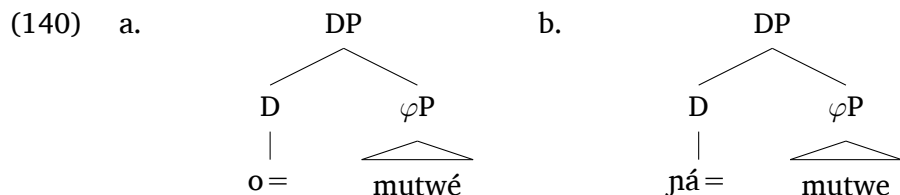
(138) The overt augment position

D = Cl-N	Gloss
a. o = mu-twé (C1)	‘a/the head’
b. a = ma-ṛána (C6)	‘(the) words’
c. a = ma-ḃí (C6)	‘(the) poop’

(139) The honorific proclitic position

Hon = Cl-N	Gloss
a. ṛá = (*o =) mu-twe (C1)	‘Master head’ (big-headed person)
b. ṛá = (*a =) ma-ṛana (C6)	‘Master words’ (talkative person)
c. ṛá = (*a =) ma-ḃi (C6)	‘Master poop’ (smelly kid)

Déchaine et al. (2014) report on a class of evaluatives in Shona called “honorifics” which translate as Mr/Ms, e.g., when *mù-kómáná* ‘a/the boy’ takes the honorific prefix *va-* as in *vá-mù-kómáná* it renders the meaning ‘Mr. boy’. In their analysis they argue that honorifics in Shona associate to the D position in the syntax. This is consistent with my treatment of the Nata honorific proclitic *na* as D, which predicts that it will be in complementary distribution with the augment as in (139). The corresponding structures for *o = mu-twé* ‘a/the head’ and *ṛá = mu-twe* ‘Mr/Ms head’ are in (140):



The Nata honorific proclitic does not function as an evaluative N-prefix as is the case in Shona, which allows prefix stacking. In Nata, evaluative meaning is created by substituting an ordinary N-prefix, e.g., *o = mu-twé* ‘head’ (C3), for the evaluative N-prefix as in *o = yu-twé* ‘big bad head’ (C20) (cf. Déchaine and Gambarage 2016). Therefore, both the evaluative and honorific interpretations are possible at the same time: *na = yu-twe* ‘Master/Mr/Ms big bad head’. I suggest that the honorific prefix and the augment occupy the same structural position.

3.2.3 Predictions for the proposal that augments are Ds

The proposal that the category D in Nata is instantiated by augments makes certain predictions about the syntactic distribution of augments on nominals. There is ample evidence in the literature that Ds serve to turn a predicate into an argument (cf. Carlson 1980; Higginbotham 1985; Stowell 1989; Longobardi 1994, 2001, 2008; Matthewson 1998; Van de Velde 2019). In a series of papers Longobardi provides extensive argumentation in favour of the view that D is required for argumenthood:

- (141) D and argumenthood (Longobardi 1994: 620, 628)
- a. A ‘nominal expression’ is an argument only if it is introduced by a category D (p. 620).
 - b. DP can be an argument, NP cannot.

I adopt the hypothesis that nominal arguments are DPs (Longobardi 1994, 2001, 2008). The Longobardi-style analysis is consistent with the split between arguments and predicates in Nata. I show below that predicates lack a D, (142a); .and nominal arguments are DPs which may vary in the overt syntax according to whether D is pronounced (overt), (142b) or unpronounced (covert/D \emptyset), (142c). The analysis developed here distinguishes three types of nominal expressions, as follows.

- (142) a. Nominal predicates (no augment): φ -N
- b. Argument DPs (overt augment): D- φ -N

c. Argument DPs (covert augment): D_{\emptyset} - φ -N

I discuss the syntactic distribution of each of these three structures with examples from Nata starting with predicates such as φ -N, (143a), then $D = \varphi$ -N arguments such as (143b), and arguments with a phonologically null D such as (143c).

(143) The contrast in argument DPs [Nata]

- a. Makuru m = mw-aana [DP = predicate]
 Makuru m = mu-aná
 Makuru COP = C1-child
 ‘Makuru is a child.’
- b. Makuru a-gha-sughut-a u = mw-aana [DP = argument]
 Makuru a-ya-súyut-a u = mu-aná
 Makuru SA-PST-push-FV D = C1-child
 ‘Makuru pushed a/the child.’
- c. Makuru t-a-a-sughut-ire mw-aana [DP = argument]
 Makuru t-a-a-súyut-ire mu-aná
 Makuru NEG-SA-PST-push-PFV C1-child
 ‘Makuru did not push any child.’

On the surface the DP containing the null D in (143c) appears with the same φ -N structure as a nominal predicate in (143a). I argue that they are different structurally. The seeming φ -N structure in (143c) is an argument DP containing a null D, which is accessed semantically in LF. This null D requires syntactic licensing, i.e., it must be licensed by a non-factual operator. The nominal predicate φ -N structure in (143a), on the other hand, lacks D altogether. In fact, we will see in Chapter 4 that while (143c) talks about entities that the speaker does not believe exist in the universe of discourse, nominal predicates denote some property and never an entity/individual.

3.3 Predicates

Cross-linguistically, verbal and nominal predicates have been reported to lack the D shell (see Déchaine 1993; Lyon 2013; Hedberg and Potter 2010; den Dikken, 2006; Witschko 2009; Matthewson 1998 and many others). In many languages, nominal predicates are found with the predicational copula where the post-copula nominal denotes a property predicated of the subject (Higgins 1973; Lyon 2013; Hedberg and Potter, 2010; den Dikken 2006; Mikkelsen 2005; and others). A classical example comes from German, where nominal predicates (NPs) which express a property appear without a D, (144a) but argument NPs which enter into identity relation (DP = DP) occur with a D, (144b):

(144) Predicate/Argument [German, Wiltschko 2009:26]

- a. Maria ist [**Lehrerin**] [NP = predicate]
Mariá is [teacher]
'Mary is [a teacher].'
- b. Maria sah [**die Lehrerin**] [DP = argument]
Maria saw [D teacher]
'Mary saw [the teacher].'

Another well known case of predicates is adjectival predicates which denote a property or quality (Levinson 1978; Partee 1986; Déchaine 1993; Villalba 2009; and others). Examples come from English copula constructions which also require a tensed form of the copula *be*. In (145) the post-copula predicate which is an adjectival predicate lacks a D:

(145) Adjectival predicates in English

- a. John is **busy**.
- b. Sarah is **honest**.

While in some languages like English nominal predicates may be DPs, as in *Sarah is a teacher*, and rarely are NPs as in *Lucy is boss* (see Zamparelli

1995, Longobardi 1994; Lyon 2013), I show that Nata nominal predicates consistently lack a D.

3.3.1 Nata nominal predicates are φ -N

Longobardi's generalization that DPs can be arguments will make a weak claim for Nata in which nominal predicates consistently lack a D. Thus, Nata needs a stronger version of this, something like (146).

(146) **Generalization for Nata nominal predicates**

Nata nominal predicates lack a D.

I will show that nominal predicates in Nata have the φ -N structure, which means they always agree with the subject of which the property is predicated (see Chapter 1 for discussion of concordial agreement). I argue that in Nata, φ qua class prefix diagnoses predicative expressions. I discuss simple nominal predicates, and secondary predicates, where I show all of these lack a D-layer.

3.3.1.1 Simple nominal predicates lack a D

Simple φ -N predicates are formed of number (φ) and the nominal stem (N) and must occur with the overt copula⁶. Nominal predicates denote a property where they lack a D, as the cases in (a) below show. Note that the predicate must agree in number with the subject. The caveat from the English translation in cases such as (147a) or (148a) is that nominal predicates in English may appear as DPs (see Higgins 1973; Déchaine 1993; Mikkelsen 2005; Zamparelli 1995 for arguments about DP predicates in English), even if there is no D in the actual Bantu examples.

(147) Question: What gender is Bhahati?

6. The copula is a homorganic nasal, as it assimilates to the place of articulation of the following consonant; see Johannes (2007) and Angheliescu (2019).

- a. Bhahati m = **mo-subhe**
 βahati m = **mo-súβe**
 Bhahati COP = **C1-man**
 ‘Bhahati is a man.’
- b. #Bhahati no = **o** = mo-subhe
 #βahati ne = **o** = mo-súβe
 Bhahati COP = **D** = C1-man
 ‘Bhahati is the man.’

(148) [**Context:** A friend is telling you about Masato’s behaviour:]

- a. Masáto m = **mw-iibh-i** [Nata]
 Masáto m = **mw-iiβ-í**
 Masato COP = **C1-steal-FV**
 ‘Masato is a thief.’
- b. #Masáto no = **o** = mw-iibh-i
 #Masáto no = **o** = mw-iiβ-í
 Masato COP = **D** = C1-steal-FV
 ‘Masato is the thief.’

Note that a property can be predicated of a plural subject and predicates must agree in number with the subject DP.

(149) [**Context:** What is the gender of Masato and Bhahati?]

- a. Masato na Bhahati m = **ba-subhe** [Nata]
 Masato na βahati m = **ba-súβe**
 Masato and Bhahati COP = **C2-man**
 ‘Masato and Bhahati are men.’

- b. #Masato na Bhahati n = a = **ba-subhe**
 #Masato na βahati n = a = **ba-súβe**
 Masato and Bhahati COP = D = C2-man
 ‘Masato and Bhahati are (the) men.’

(150) [Context: B commenting on the behaviour of two men]

- a. Masato na Bhahati m = **bi-ibh-i** [Nata]
 Masato na βahati m = **ba-iβ-í**
 Masato and Bhahati COP = C2-steal-FV
 ‘Masato and Bhahati are thieves.’
- b. #Masato na Bhahati n = a = **bhi-ibh-i**
 #Masato na βahati n = aa = **βa-iβ-í**
 Masato and Bhahati COP = D = C2-steal-FV
 Intended: ‘Masato and Bhahati are the thieves.’

Since nominal predicates are not entity-denoting DPs, they are not expected to be used as arguments. This is confirmed by (151) which shows that a φ -N nominal is not licit in argument position.

- (151) a. ***mo-subhe** a-a-hik-ire [Nata]
 ***mo-súβe** a-a-hik-ire
C1-man SA1-PAST-arrive-PFV
 Intended: ‘A/the man has arrived.’
- b. ***bha-subhe** bha-a-hik-ire
 ***βa-suβe** βa-a-hík-ire
C2-men SA2-PAST-arrive-PFV
 Intended: ‘(The) men have arrived.’

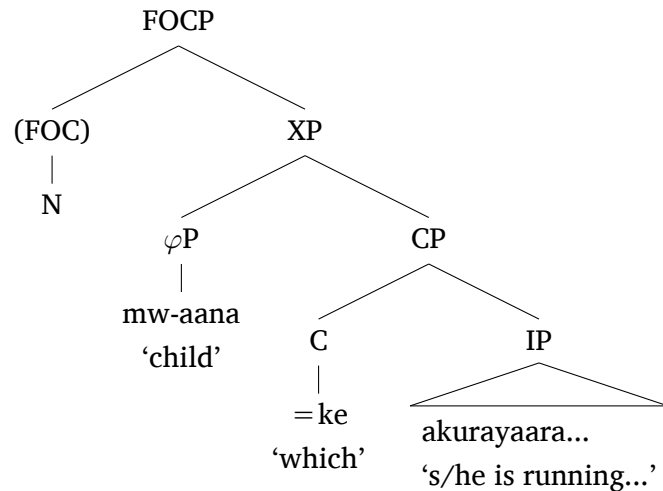
3.3.1.2 D-linked *wh*-phrases as complex nominal predicates

The ex-situ *wh*-questions are formed of a nominal predicate introduced by a copula nasal, followed by a *wh*-word, forming a cleft structure, as in (152a); or they may be formed of a predicate nominal and *wh*-word, without a copula nasal, as in (152b). The host NP never takes a D as (152c) shows. The non-use of the augment is predicted for predicate nominals if the augment is a D.

- (152) a. **m = mw-aana = ke** a-ku-rayaar-a ha-yo?
m = mu-ana = ke a-ku-rajáar-a ha-jɔ?
COP = C1-child = WH 3s-PROG-run-FV C16-there
 ‘[It] is which child running there?’
- b. **mw-aana = ke** a-ku-rayaar-a ha-yo?
mu-ana = ke a-ku-rajáar-a ha-jɔ?
C1-child = WH 3s-PROG-run-FV C16-there
 ‘Which child is running (out) there?’
- c. ***u = mw-aana = ke** a-ku-rayaar-a ha-yo?
 ***u = mu-aná = ke** a-ku-rajáar-a ha-jɔ?
D = C1-child = WH 3s-PROG-run-FV C16-there
 Intended lit: ‘[It] is which child running there?’
 ‘Which child is running (out) there?’

I treat the homorganic copula nasal in (152a) as a FOC marker (cf. Rizzi (1997); Allen 2014; Gambarage and Keupdjio 2013), and the φ -N = *ke* in (152a)-(152b) as a predicate nominal. I treat the invariable *wh*-element = *ke* which encliticizes on a nominal predicate as a complementizer (C), introducing the φ -N nominal predicate. As has been widely observed in Bantu expletive constructions, Bantu lacks overt expletive pronouns (cf. Simango 2006; Riedel 2009)

(153)



Since D-linked *wh*-questions ask about an entity/individual established in the discourse context i.e., which individual out of a larger salient set (Den Dikken and Giannakidou 2002; Hirose 2003), the lack of D in the ex-situ D-linked *wh*-phrases can only be explained by syntactic factors.

One piece of evidence showing that the cases in (152) involve predication comes from Nata in-situ type questions. When the *wh*-element and the copula nasal remain in-situ therefore separated from the nominal predicate, the NP may now take a D to form a DP.

- (154) a. *mw-aana u-yo a-ku-yaar-a ha-yo ne-we?
*mu-aná u-jo a-ku-jáar-a ha-jo ne-we?
C1-child C1-REL 3s-PROG-run-FV C16-there COP-C1.wh
Intended: 'The child who is running (out) there is which one?'
- b. u =mw-aana u-yo a-ku-yaar-a ha-yo ne-we?
u =mu-aná u-jo a-ku-jáar-a ha-jo ne-we?
D=C1-child C1-REL 3s-PROG-run-FV C16-there COP-C1.wh
Lit: 'The child who is running (out) there is which one?'

The syntactic status of D in D-linked questions varies across languages (see Pesetsky 1987; Den Dikken and Giannakidou 2002; Hirose 2003). In

a language like Zulu, D-linked questions may or may not co-occur with the D depending on the syntactic position of the *wh* element (Buell 2011; Poulos and Msimang 1998; Halpert 2012). For instance, Buell (2011) reports that when an agreeing element *-phi* ‘which’ follows the noun, the D cannot occur, (155a); however, when the right-dislocated noun occurs with it, the D shows up on the noun, (155b):

(155) D-linked *wh*-words [Zulu, Halpert 2012: 133]

- a. w-a-bona **mu-ntu** mu-phi?
2s-PST-see 1-person 1-which
‘Which person did you see?’
- b. w-a-bona mu-phi **u = mu-ntu**?
2s-PST-see 1-which AUG-1-person
‘Which person did you see?’

I leave open the question whether in the in-situ type, the *wh* element occupies the D position like English D-linked *wh*-word. Further research is needed to understand the locus of variation for D-linked questions within Bantu and beyond.

3.3.2 Nata adnominal predicates are φ -A

I follow the Bantuist tradition of grouping together nouns and adnominal modifiers (i.e. adjectives) as “nominal expressions” (see Wilkins and Kimenyi 1975; Givón 1970 and others). The language-internal evidence for this comes from the concordial agreement: adnominal modifiers are inflected for number/noun-class and must agree in number with a head noun. That is, adnominal modifiers appear with a φ -A structure (see Chapter 1 for discussion).

3.3.2.1 Post-copula adjectives lack a D

One category of adnominal predicates is post-copula adjectives which are φ -A. Post-copula adjectives appear with no D and pattern the same as other

clearly predicative nominals as we saw above (cf. Déchaine 1993, 2001; Lyon 2013).

- (156) a. o = mu-kari m = **mu-re** [Nata]
 o = mu-kári m = **mu-re**
 D = C1-woman COP = **C1-tall**
 ‘A/the woman is tall.’
- b. e = bhe-bhuse m = **be-nyiini**
 e = βe-βúse m = **be-ñiini**
 D = C8-monkey COP = **C8-clever**
 ‘Monkeys are clever.’

3.3.2.2 Adjectival modifiers lack a D

The second category of adnominal predicates are adjectival modifiers which also have φ -A structure and they immediately follow the nominal that they modify, resulting in a surface N-A order, (157).

- (157) a. o = mu-kari **mu-re** [Nata]
 o = mu-kári **mu-re**
 D = C1-woman **C1-tall**
 ‘a tall woman.’
- b. e = bhe-bhuse **be-nyiini**
 e = βe-βúse **be-ñiini**
 D = C8-monkey **C8-clever**
 ‘clever monkeys.’

As predicted under the current theory that all nominal predicates denote a property, φ -A adnominal predicates are ruled out in argument positions⁷.

7. To convey the equivalent of degree modification as in *very tall*, Nata deploys stress on a predicate, which as expected lacks a D (i):

- (158) a. ***mu-re** a-a-hik-ire [Nata]
 ***mu-re** a-a-hik-ire
C1-tall SA1-PAST-arrive-PFV
 Intended: ‘A/the tall one has arrived.’
- b. ***bhe-nyiini** bhe-e-hik-ire
 ***βe-ɲiini** βe-e-hik-ire
C8-clever SA8-PAST-arrive-PFV
 Intended: ‘The clever (ones) have arrived.’

In §3.4 I show that when the augment is used with φ -A predicates an argument DP is formed where it denotes an entity, and as such the DP can be used in argument positions. Here, I conclude that all φ -Ns and φ -A structures are predicates therefore they lack a D.

3.3.3 Nata secondary predicates are φ -X

Another context to illustrate predication is with secondary predicates found in small clauses. Secondary predicates are expressions that convey information about the subject or the object but are not the main predicate of the clause (Déchaine 1993; Huddleston and Pullum 2002; Ullrich 2018; Irimia 2005; Stowell 1981; Schneider-Zioga and Mutaka 2014). The current analysis predicts that predicates in these structures will lack a D. The common types of secondary predicates I discuss here are: (i) complement small clauses (SC) and (ii) adjunct predicates. In a language like English, complement SCs appear with no tense marker (159); with an infinitive copula like *to be* or the relator *as*, (160a). These compare to a full CP structure (a tensed clause) in (160b):

-
- (i) o=mo-te **MU-RE**
 o=mo-té **mú-re**
 D=C3-tree **very.C3-tall**
 ‘a very tall tree.’

- (159) a. I consider [Joe intelligent]. [= descriptive]
 b. I hammered [the metal flat]. [= resultative]
 c. The news made [Lucy sad]. [= causative]
 d. I saw [Lucy leave]. [= bare infinitive]

- (160) a. I consider [Joe (as/to be) intelligent].
 b. I believe [that Joe is intelligent].

On the other hand, adjunct predicates are not complements and may depict the subject, (161a) or the object, (161b) (see see Déchaine 1993; Irimia 2006; Pylkkänen 2002).

- (161) a. Lucy ran the race *hungry*. [subject depictive]
 b. Lucy prefers her meat *well-cooked*. [Object depictive]

There are various treatments of secondary predicates that I cannot exhaustively discuss here (see Déchaine 1993; Irimia 2006; Pylkkänen 2002). One popular syntactic analysis for secondary predicates is the one that treats depictives as adjunct phrases merged at the level of VP if they refer to direct objects, and at the level of vP if they modify the external argument. In contrast, resultatives are treated as complements merged to the V layer (see Irimia 2006; Pylkkänen 2002). I show that Nata secondary predicates lack a D, as we would expect if they were nominal predicates.

3.3.3.1 Nata secondary nominal predicates lack a D

I argue that secondary predicates in all the small clause structures available in Nata consistently lack a augment, as one would expect if the augment is D. The evidence comes from complement clauses with either the infinitive copula as in (162a), or with the relator *-anga* ‘as’ or ‘like’, (163a), which introduce a nominal predicate. Note the verb *rɔr-* here is multiply ambiguous between *see*, *consider* and *find*.

(162) What is your consideration about Wasato? [Nata]

- a. N = ni-haa-rɔr-a [Wasato m = **mu-ghabho**]
N = ni-haa-rór-a [Wasato m = **mú-yaβo**]
FOC = 1sg-HAB-see/find-FV [Wasato COP = **C1-healer**]
'I find [Wasato to be a healer].'
- b. #N = ni-haa-rɔr-a [Wasato no = **o** = mu-ghabho]
#N = ni-haa-rór-a [Wasato ne = **o** = mu-yaβo]
FOC = 1sg-HAB-see/find-FV [Wasato COP = **D** = C1-healer]
Intended: 'I find [Wasato to be a healer].'

(163) What do you think about Wasato's manner?

- a. N = ni-haa-rɔr-a [Wasato n = aanga **mw-aana**]
N = ni-haa-rór-a [Wasato n = aŋgá **mu-aná**]
FOC = 1sg-HAB-consider-FV [Wasato SAM = as **C1-child**]
'I see [Wasato as a child].'
- b. #N = ni-haa-rɔr-a [Wasato n = aanga
#N = ni-haa-rór-a [Wasato n = aŋgá
FOC = 1sg-HAB-consider-FV [Wasato SAM = as
u = mw-aana]
u = mu-aná]
D = C1-child]
Intended: 'I see [Wasato as a child].'

I confirm that the augment cannot be used in any nominal predicates. This conclusion is also reached with adjectival predicates.

3.3.3.2 Nata secondary adjectival predicates lack a D

Secondary adjectival predicates also appear with copulas and indicate the property is predicated of the subject. As expected, such predicates have a

φ -A structure and do not carry a D. Note that the copula is crucial for these cases as well:

(164) What do you think about Wasato's look? [Nata]

a. N = ni-haa-bhugh-a [Wasato m = **mu-chomu**]
 N = ni-haa-βúy-a [Wasato m = **mu-t[ómu]**]
 FOC = 1sg-HAB-consider-FV [Wasato COP = **C1-good**]
 'I consider Wasato beautiful.'

b. #N = ni-haa-bhugh-a [Wasato no = **o** = mu-chomu]
 #N = ni-haa-βúy-a [Wasato ne = **o** = mu-t[ómu]
 FOC = 1sg-HAB-consider-FV [Wasato COP = **D** = C1-good]
 Intended: 'I consider Wasato beautiful.'

Small clauses formed of predicate adjuncts are also found in Nata and show that predicate adjuncts lack a D as predicted by the current analysis. The depictive predicates, which are adjectives, may depict a property over the subject, (165), direct object (166a)⁸. In any case, the secondary predicate cannot appear with a D. Note that the predicates here are adjectival in nature.

(165) Secondary predicates [Subject depictive]

a. Maria a-ka-yar-a **mo-rwiire** [Nata]
 Maria a-ka-jáar-a **mo-rwíire**
 Maria SA1-PST-ran-FV **C1-sick**
 'Maria ran sick.'

8. Pykkänen (2002) argues that in English a depictive cannot modify an indirect argument (ia) or a DP inside PP (ib).

(i) a. *I gave Mary the meat *hungry*.

b. *I talked to Sue *drunk*.

Irimia (2006) shows with data from Romanian, Slavic and Albanian that these results are not cross-linguistically valid. In Nata, modification of an indirect object or of a DP inside PP is also not possible with regular φ -A, but is possible with typical adverbs.

- b. *Maria a-ka-yar-a o = mo-rwiire
 *Maria a-ka-jáar-a o = mo-rwíire
 Maria SA1-PST-ran-FV **D** = C1 = sick
 Intended: ‘Maria ran sick.’

(166) Secondary predicates [Object depictive]

- a. Masato a-ka-ri [a = n.yama **m-bese**]
 Masato a-ka-ri [a = p.ama **m-bése**]
 Masato SA1-PST-eat-FV [D = C9.meat **C9-raw**]
 ‘Masato ate [the meat raw].’
- b. #Masato a-ka-ri [a = n.yama a = m-bese]
 #Masato a-ka-ri [a = p.ama a = m-bése]
 Masato SA1-[PST-eat-FV D = C9.beef **D = C9-raw**]
 Intended: ‘Masato ate [the meat raw].’

The lack of augment in depictive predicates support the argument that the augment is D and that predicates cannot take a D.

3.3.4 Nata adverbials lack a D

There are two main classes of adverbials in Nata. One class is spatial adverbials which behave like the English adverbs *down* or *up*, which cannot take an augment/D.

(167) Spatial adverbs as non-argumental adverbials

- a. ghi-ka-gh-i [ighoro/haa-se]
 yi-ka-y-i [iyóro/haa-sé]
 C7-PST-go-FV [up/C16-down]
 ‘(It) went up/down.’

- b. *ghi-ka-gh-i [i = ighoro/a = haa-see]
 *yi-ka-y-i [i = iyóro/a = haa-sé]
 C7-PST-go-FV [D = up/D = C16-down]
 Intended: ‘(It) went up/down.’

The other class is temporal adverbials, which are treated as secondary (depictive) predicates (see Déchaine 1993). My analysis correctly predicts that adverbs may require a φ , and adverbial modification will block the augment/D. This is correct. Nata speakers reject sentences with the augment on a temporal adjunct equivalent to “all day/night” in English, (168b/169b). These cases also sound odd to me.

(168) Temporal adjuncts as non-arguments [Nata]

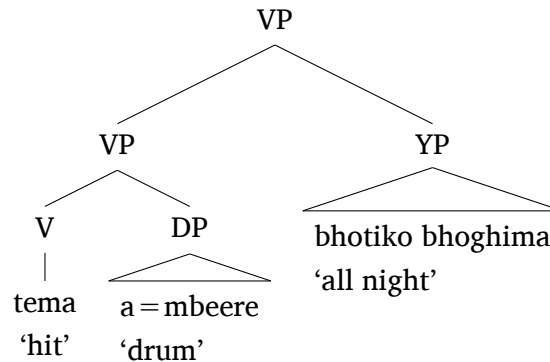
- a. a-gha-tɛm-a a-m-beere [bho-tiko bho-ghima]
 a-ya-tɛm-a a-m-béere [βo-tíko βó-yima]
 3sg-PST-hit-FV PPF-C9-drum [C14-night C14-whole]
 ‘S/he played a/the drum all night.’
- b. *a-gha-tɛm-a a-m-beere [o = bho-tiko bho-ghima]
 *a-ya-tɛm-a a-m-béere [o = βo-tíko βó-yima]
 3sg-PST-hit-FV PPF-C9-drum [o = C14-night C14-whole]
 Intended: ‘S/he played a/the drum all night.’

(169) Temporal adjuncts as non-arguments [Nata]

- a. a-ka-rer-er-a e-ki-ghɛsɔ [mw-ise mo-ghima]
 a-ka-rér-er-a e-kí-yɛsɔ [mw-isé mó-yima]
 3sg-PST-cry-APPL-FV PPF-C7-knife [C3-day C3-whole]
 ‘S/he cried for a/the knife all day.’
- b. *a-ka-rer-er-a e-ki-ghɛsɔ [o = mwise mo-ghima]
 *a-ka-rér-er-a e-kí-yɛsɔ [o = mw-ise mó-yima]
 3sg-PST-cry-APPL-FV PPF-C7-knife [o = C3-day C3-whole]
 ‘S/he cried for a/the knife all day.’

I analyze the temporal adjuncts as non-argument adjuncts which adjoin to the VP as shown below. This explains why they lack a D.

(170)



3.3.5 Nata infinitives lack a D-layer

In Bantu, infinitives are formed with the C15 prefix *ku-*, which Bantu grammarians have described as having both the properties of a verb and a noun (a.k.a verbo-nominal stems) (see Schadeberg 2006: 80). When *ku-*stems are used without a D they must be verbal predicates, (171a)/(172a):

(171) a. Ni-kwɛnd-a kw-eemb-a kɛ Masato
 Ne-kwend-á kw-eemb-á kɛ Masato
 1Sg.SM-want-FV C15-sing-FV like Masato
 ‘I want to sing like Masato.’

b. *Ni-kwend-a u = kw-eemb-a kɛ Masato
 *Ni-kwend-á u = kw-eemb-á kɛ Masato
 1Sg.SM-want-FV D = C15-sing-FV like Masato
 Intended: ‘I want to sing like Masato.’

- (172) a. Masato a-ke-end-a **ko-bhor-i**
 Masato a-kε-end-a **ko-βor-i**
 Masato SA1-PST-want-FV **INF-ask-FV**
 ‘Masato wanted to ask.’
- b. *Masato a-ke-end-a [o = **ko-bhor-i**]
 *Masato a-kε-end-a [o = **ko-βor-i**]
 Masato SA1-PST-want-FV [D = **INF-ask-FV**]
 Intended: ‘Masato wanted to ask.’

Stems attaching to INF or inflected with C15 and taking a D must function as gerunds rendering an entity denoting reading, as I show in §3.4.

The data with predicates above demonstrated that nominal predicates in Nata lack the augment which is consistent with the analysis of it as D-layer. We saw that predicates do not denote individuals but a property; as such they cannot be used in an argument position. In what follows, I turn to D = φ -N structures where I show that D is required with all argument nominals.

3.4 Argument nominals are D- φ -N

In the previous section I showed that Nata nominal predicates lack a D. Here, I claim that an augment is required to close off the NP predicate and create a DP, which is consistent with its analysis as D (Stowell 1989; Longobardi 1994; Alexiadou et al. 2007). One piece of evidence for analyzing the augment as a D is that it can turn a predicate into an argument (cf. Longobardi 1994; 2001; Déchaine 1993). The following examples may provide evidence for this argument⁹.

9. Partee (1986) argues that property-denoting nominals can be type-shifted to entity-denoting DPs of type e, and type e can raise to a property of type $\langle e, t \rangle$. Similar claims are found in Longobardi (1994), Heim and Kratzer (2010), but see Chierchia (1998) for a different approach, in which he argues that in some languages, plural/mass bare NPs are arguments on their own.

(173) [Context: I know that the police caught a thief but I didn't know the thief's name is Masato. The next day a friend asks me if I feel sorry for Masato. I ask: Who is Masato? He answers:]

a. #Masáto m = **mw-iibh-i** [Nata]
 #Masáto m = **mw-iiβ-í**
 Masato COP = **C1-steal-FV**
 'Masato is a thief.'

b. Masáto no = **o** = mw-iibh-i
 Masáto no = **o** = mw-iiβ-í
 Masato COP = **D** = C1-steal-FV
 'Masato is the thief.'

[Context: I know that the police caught two male thieves but I didn't know the thieves' names are Masato and Bhahati. The next day a friend asks me if I feel sorry for Masato and Bhahati. I ask: Who are Masato and Bhahati? He answers:]

(174) a. #Masato na Bhahati m = **bi-ibh-i** [Nata]
 #Masato na βahati m = **ba-iβ-í**
 Masato and Bhahati COP = **C2-steal-FV**
 'Masato and Bhahati are thieves.'

b. Masato na Bhahati n = **a** = bhi-ibh-i
 Masato na βahati n = **aa** = βa-iβ-í
 Masato and Bhahati COP = **D** = C2-steal-FV
 'Masato and Bhahati are the thieves.'

The cases in (173)-(174) point to equative and specificational copulas in which DP₁ denotes the same individual as DP₂ (cf. Higgins 1973; Mikkelsen 2005; Lyon 2013; Sneider-Zioga and Mutaka 2014). It is worth pointing out that the definite construal of *o* = *mwiiβhi* 'the thief' in (173) or *a* = *bhiibhi* 'the thieves' in (174) is not an inherent property of the D; rather the definiteness

effect comes from the context (refer to Chapter 2 for further discussion). I claim that the generalization in (175) is robust in all argument positions in Nata:

(175) **The generalization about argument nominals**

All Nata argument nominals must have a D

I present a range of Nata data to show that the D is required in all argument positions, consistent with Longobardi's claim that argument nominals must have a D. I focus on the D requirement with simplex Ns in argument position (§3.4.1) and with complex Ns in argument position: N-N compounds and D spreading contexts, (§3.4.2).

3.4.1 D is required in all argument positions

With the exception of proper names, which I discuss in Chapter 6, the D in Nata is obligatory in all argument positions. I consider in turn the subject (§3.4.1.1), direct object (§3.4.1.2), indirect object (§3.4.1.3), possessor (§3.4.1.4), and prepositional object positions (§3.4.1.5). For each of these contexts, I provide examples of both singular and plural DPs and for all noun types: count, abstract and mass nouns. This is because in many languages, plural DPs behave differently than singular DPs relative to the realization of overt D (see Vergnaud and Zubizarreta 1992; Krifka 1999, 2003; Borer 2005; Chierchia 1998; Longobardi 2001; Déchaine et al. 2018).

3.4.1.1 D is required in subject position

The D is obligatory in subject position. The (b) cases show that argument nominals are consistently ruled out if they do not appear with a D. I start with count nouns.

(176) Count N Singular, Subject Position

- a. e = ghi-kɔmbɛ ghi-ka-hiringit-a ha-ase
e = ʎi-kɔɔmbɛ ʎi-ka-hiriŋgit-a ha-asé
D = C7-cup SA7-PST-roll-FV down
'A/the cup rolled down.'
- b. *ghi-kɔmbɛ ghi-ka-hiringit-a ha-ase
*ʎi-kɔɔmbɛ ʎi-ka-hiriŋgit-a ha-asé
C7-cup SA1-PST-roll-FV down
Intended: 'A/the cup rolled down.'

(177) Count N Plural, Subject Position

- a. e = bhi-kɔmbɛ bhi-ka-hiringit-a ha-ase
e = βi-kɔɔmbɛ βi-ka-hiriŋgit-a ha-asé
D = C8-cup SA8-PST-roll-FV down
'(The) cups rolled down.'
- b. *bhi-kɔmbɛ bhi-ka-hiringit-a ha-ase
*βi-kɔɔmbɛ βi-ka-hiriŋgit-a ha-asé
C8-cup SA8-PST-roll-FV down
Intended: '(The) cups rolled down.'

Abstract nouns are argument DPs as they obligatorily occur with the D. Most abstract nouns take class 14 βo which marks abstract entities. The class is neutral with respect to the singular-plural contrast¹⁰.

(178) Abstract N, Subject Position:

10. Recall from Chapter 1 that there are exceptions with noun classifications, hence abstract nouns may feature with other classes as well: *u=rw-ambe* (C14), 'gossip', *a=ma-reghe* (C6) 'commotion' etc. I will not investigate here what controls the choice of the class marker/number morphology on these cases.

- a. o = bho-bhiihi bhu-gha-suut-a Maria
 o = βo-βíihi βu-γasúut-a Maria
 D = C14-lies SA14-PST-cost-FV Maria
 ‘(The) lies cost Maria.’
- b. *bho-bhiihi bhu-gha-suut-a Maria
 *βo-βíihi βu-γasúut-a Maria
 C14-lies SA14-PST-cost-FV Maria
 Intended: ‘(The) lies cost Maria.’

As with count and abstract nouns, a D is obligatory with mass nouns in argument position. Certain mass nouns denoting fluids that clot or entities described as ‘some amount of X’ or ‘a count of X’, (??) as opposed to ‘lots of X or X’, (??) can take singular morphology (refer also to Chapter 2):

(179) Mass N, Subject Position:

- a. ri = i-saḩe ri-ko-om-a
 rí = í-saaḩe ri-ka-om-á
 D = C5-blood SA5-PST-dry-FV
 ‘The/some amount of blood dried up.’
- b. *i-saḩe ri-ko-om-a
 *í-saaḩe ri-ka-om-a
 C5-blood SA5-PST-dry-FV
 Intended: ‘The/some amount of blood dried up.’

(180) Mass N, Subject Position:

- a. a = ma-saaḩe gha-ghi-itek-a
 a = ma-saaḩe γa-γa-iték-a
 D = C6-blood SA6-PST-spill-FV
 ‘(The) blood spilled.’

- b. ***ma-saahe** gha-ghi-itek-a
 ***ma-saahe** ya-ya-iték-a
 C6-blood SA6-PST-spill-FV
 Intended: ‘(The) blood spilled.’

Mass nouns that show no singular plural count take plural morphology always. A noun such as *a = manche* ‘water’ in (181) as opposed to fluids that clot as in (179) above, takes plural morphology, but still takes the D. This shows that the D is obligatory in all these cases:

(181) Mass N, Subject Position:

- a. **a =** ma-nche gha-ghi-itek-a
a = ma-ntjé ya-ya-iték-a
D = C6-water SA6-PST-spill-FV
 ‘(The) water spilled.’
- b. ***ma-nche** gha-ghi-itek-a
 ***ma-ntjé** ya-ya-iték-a
 C6-water SA6-PST-spill-FV
 Intended: ‘(The) blood spilled.’

Ds are required on all subject arguments, whether they are in the main clause (182) or in the subordinate clause (183):

(182) Subjects in main clauses

- a. [**u =** -mw-aana a-ka-bhugh-a] ango Maria
 [**u =** -mu-ana a-ka-βuy-a] aŋgo Maria
 [**D =** C1-child SA1-PST-say-FV] that Mary
 a-gha-sek-a
 a-ya-sek-a
 SA1-PST-laugh-FV
 ‘[A/the child said] that Mary laughed.’

- b. *[**mw-aana** a-ka-bhugh-a] ango Maria a-gha-sək-a
 * [**mu-ana** a-ka-βuy-a] ango Maria a-ya-sək-a
 [C1-child SA1-PST-say-FV] that Mary SA1-PST-laugh-FV
 Intended: ‘[A/the child said] that Mary laughed.’

(183) Subjects in subordinate clauses

- a. Maria a-ka-bhugh-a [ango u = -mw-aana
 Maria a-ka-βuy-a [ango u = -mu-aná
 Mary SA1-PST-say-FV [that D = C1-child
 a-gha-sək-a]
 a-ya-sək-a]
 SA1-PST-laugh-FV]
 ‘Mary said [that a/the child laughed].’
- b. *Maria a-ka-bhugh-a [ango **mw-aana** a-gha-sək-a]
 *Maria a-ka-βuy-a [ango **mu-aná** a-ya-sək-a]
 Mary SA1-PST-say-FV [that C1-child SA1-PST-laugh-FV]
 Intended: ‘Mary said [that a/the child laughed].’

3.4.1.2 D is required in direct object positions

When an argument is complement to V (i.e., is a direct object) the D is still obligatory, as the examples in (184) and (185) show:

(184) Count N, Direct Object Singular

- a. Maria a-kę-ęghi e = ghi-kõmbę
 Maria a-ka-ęy-í e = yi-kõmbę
 Mary SA1-PST-wash-FV D = C7-cup
 ‘Mary washed a/the cup.’

- b. *Maria a-ke-ęghi **ghi-kombę**
 *Maria a-ka-ęy-í **yi-kómbę**
 Mary SA1-PST-wash-FV C7-cup
 Intended: ‘Mary washed a/the cup.’

(185) Count N, Direct Object Plural

- a. Maria a-ke-ęghi e = bhi-kombę [Count, pl.]
 Maria a-ka-ęy-í e = βi-kómbę
 Mary SA1-PST-wash-FV D = C8-cup
 ‘Mary washed (the) cups.’
- b. *Maria a-ke-ęghi **bhi-kombę**
 *Maria a-ka-ęy-í **βi-kómbę**
 Mary SA1-PST-wash-FV C8-cup
 Intended: ‘Mary washed (the) cups.’

Abstract nouns behave the same as count nouns in requiring a D in as the examples below show:

(186) Abstract N, Object position

- a. Makuru a-ka-ghamb-a o = bho-bhiihi
 Makuru a-ka-ghamb-a o = βo-βíihi
 Makuru SA1-PST-speak-FV D = C14-lies
 ‘Makuru told lies.’
- b. *Makuru a-ka-ghamb-a **bho-bhiihi**
 *Makuru a-ka-ghamb-a **βo-βíihi**
 Makuru SA1-PST-speak-FV C14-lies
 ‘Makuru told lies.’

There is no exception for mass nouns not to take a D in any syntactic position. Recall that mass nouns may exhibit a number contrast taking

either singular morphology, (187), or plural morphology, (188); whereas mass nouns that show no such contrast take plural morphology always, (189). As the (b) cases show, the D is obligatory in all these cases:

(187) Mass N, Object position

- a. a-gha-sangor-i ri = i-saaḥe
 a-ya-sáṅgor-i rí = í-saahe
 3sg-PST-clean.up-FV D = C5-blood
 ‘S/he cleaned up the/some amount of blood.’

- b. *a-gha-sangor-i **i-saaḥe**
 *a-ya-sáṅgor-i **í-saahe**
 3sg-PST-clean.up-FV C5-blood
 Intended: ‘S/he cleaned up the/some amount of blood.’

(188) Mass N, Object position

- a. a-ka-ruus-i a = ma-saaḥe
 a-ka-rúus-i a = má-saahe
 3sg-PST-draw-CAUS D = C6-blood
 ‘S/he drew (the) blood.’

- b. *a-ka-ru-si **ma-saaḥe**
 *a-ka-rúu-si **má-saahe**
 3sg-PST-draw-CAUS C6-blood
 Intended: ‘S/he drew (the) blood.’

(189) Mass N, Object position

- a. a-ka-rɛɛt-a a = ma-nche
 a-ka-rɛɛt-a a = má-ntʃé
 3sg-PST-bring-CAUS D = C6-water
 ‘S/he brought (the) water.’

- b. *a-ka-rɛt-a **ma-nche**
 *a-ka-rɛt-a **má-ntʃé**
 3sg-PST-bring-FV C6-water
 Intended: ‘S/he brought (the) water.’

3.4.1.3 D is required in indirect object position

Not only are Ds required when the argument is a direct object of the main predicate, but also when an argument is an indirect object, as in (191):

(190) Count N, Indirect Object Singular

- a. Maria a-ka-ha u = -mw-aana e = ghi-kɔmbɛ
 Maria a-ka-h-á u = mu-aná e = yi-kɔɔmbɛ
 Maria SA1-PST-give-FV D = C1-child D = C7-cup
 ‘Maria gave a/the child a/the cup.’
- b. *Maria a-ka-ha **mw-aana** e = ghi-kɔmbɛ
 *Maria a-ka-h-á **mu-aná** e = yi-kɔɔmbɛ
 Maria SA1-PST-give-FV C1-child D = C7-cup
 Intended: ‘Maria gave [a/the child] a/the cup.’

(191) Count N, Indirect Object Plural

- a. Maria a-ka-ha a = bha-ana e = ghi-kɔmbɛ
 Maria a-ka-h-á u = βa-aná e = yi-kɔɔmbɛ
 Maria SA1-PST-give-FV D = C2-child D = C7-cup
 ‘Maria gave (the) child a/the cup.’
- b. *Maria a-ka-ha **bha-aana** e = ghi-kɔmbɛ
 *Maria a-ka-h-á **βa-aná** e = yi-kɔɔmbɛ
 Maria SA1-PST-give-FV C2-child D = C7-cup
 Intended: ‘Maria gave a/the children a/the cup.’

The D is required with abstract nouns, (192) and mass nouns, (193) in an indirect object position as well. Note that the verb here carries applicative inflection to add an inanimate indirect object argument. The order of arguments is rigid due to what is believed to be a Focus marking effect which I do not discuss here (see Sadlier-Brown 2013 for a discussion of word order between DO and IO in Nata).

(192) Abstract N, Object position

- a. A-ka-bhøh-er-a Makuru o = bho-bhiihi
 A-ka-βóh-er-a Makuru o = βo-βíihi
 SA1-PST-sue-APPL-FV Makuru D = C14-lies
 ‘S/he sued Makuru because of lies.’
- b. *A-ka-bhøh-er-a Makuru **bho-bhiihi**
 *A-ka-βóh-er-a Makuru **βo-βíihi**
 SA1-PST-sue-APPL-FV Makuru C14-lies
 Intended: ‘S/he sued Makuru because of lies.’

(193) Mass N, Object position

- a. a-gha-tah-er-a a = ma-nche e = ghi-kømbe
 a-ya-táh-er-a a = má-ntfế e = yi-kóòmbe
 SA1-PST-fetch-APPL-FV D = C6-water D = C7-cup
 ‘S/he fetched (the) water with a/the cup.’
- b. *a-gha-tah-er-a a = ma-nche **ghi-kømbe**
 *a-ya-táh-er-a a = má-ntfế **yi-kóòmbe**
 SA1-PST-fetch-APPL-FV D = C6-water **C7-cup**
 Intended: ‘S/he fetched (the) water with a/the cup.’

Finally, I turn to gerundive nouns which I show require D, unlike infinitive predicates which lack one all together.

3.4.1.4 D is required with gerunds

The infinitives or *ku*-stems in Nata cannot be used in argument positions as the (b) cases show. When the augment/D is present, the infinitive verb (the predicate) is turned into a DP/gerund and it is used as an argument¹¹:

(194) a. u = kw-eemb-a ko Masato n = gu-chomu
 u = kw-eemb-á ko Masáto η = gu-t{ómu
 D = C15-sing-FV of15 Masato COP = C15-good
 ‘Masato’s singing is good.’

b. *kw-eemb-a ko Masato n = gu-chomu
 *kw-eemb-a ko Masato η = gu-t{ómu
 C15-sing-FV of15 Masato COP = C15-good
 Intended: ‘Masato’s singing is good.’

(195) a. o = ko-mer-a ghu-ka-mor-er-i
 o = ko-mer-a yu-ka-mó-rer-i
 D = C15-swallow-FV SA-PST-OM-cry-CAUS
 ‘(The) swallowing made him/her cry.’

b. *ko-mer-a ghu-ka-mor-er-i
 *ko-mer-a yu-ka-mó-rer-i
 C15-swallow-FV SA-PST-OM-cry-CAUS
 Intended: ‘(The) swallowing made him/her cry.’

11. For Bantu languages with no augments/Ds such as Swahili, the stem with the infinitive *ku-* can be used in the context of a verbal predicate (infinitive) as in (1a), or as a gerund, (1b) (cf Carstens 1993: 178):

- (i) a. Ni-na-tak-a ku-imba kama Juma [Swahili]
 1sg-PRES-want-FV C15-sing like Juma
 ‘I want to sing like Juma.’
- b. ku-imba kwa Juma ku-me-ni-furah-ish-a
 C15-sing 15of Juma SA15-PFV-1sg-be.happy-CAUS-FV
 ‘Juma’s singing made me happy.’

3.4.1.5 D is required with temporal arguments

We saw in §3.3.2 that temporal adjuncts equivalent to “all day/night” in English (196a) cannot take a D as they modify a VP.

(196) Temporal adjuncts as non-arguments [Nata]

- a. a-ka-rer-er-a e-ki-ghəʂə [mw-ise mo-ghima]
 a-ka-rér-er-a e-kí-γəsə [mw-isé mó-γima]
 3sg-PST-cry-APPL-FV PPF-C7-knife [C3-day C3-full]
 ‘S/he cried for a/the knife all day.’
- b. *a-ka-rer-er-a e-ki-ghəʂə [o = mwise mo-ghima]
 *a-ka-rér-er-a e-kí-γəsə [o = mw-ise mó-γima]
 3sg-PST-cry-APPL-FV PPF-C7-knife [o = C3-day C3-whole]
 ‘S/he cried for a/the knife all day.’

My analysis predicts that when a temporal expression is an argument, it must be a DP, and so will be licit with the augment/D. This property obtains with Nata adverbials which parallel adverbials in many languages: for instance, temporal adjunct cases found in St’át’imcets, on which Matthewson (1998) remarks,

If temporal nouns such as *day* have an intrinsic temporal component, the temporal adjuncts may already be licensed (or ‘situated’) without the need for a determiner to perform this function... When a determiner is needed for syntactic reason to create an argument, even temporal phrases will require a D, (p.81).

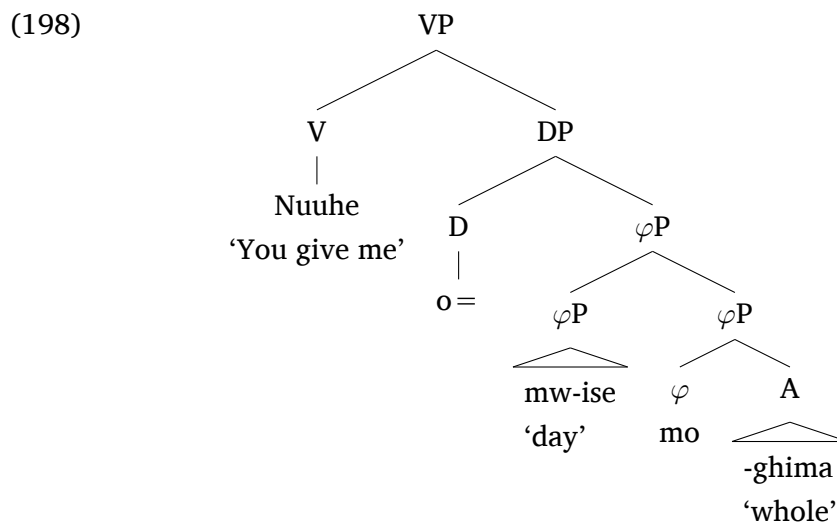
This seems to be borne out in the following Nata example:

(197) Question: How much time do you need to assemble my table?

- a. Nu-u-h-ə [o = mwise mo-ghima]
 Ne-u-h-ε [o = mwisé mó-γima]
 1sg-2sg-give-MOD [o = C3-day C3-whole]
 ‘You give me a/the whole day.’

- b. *Nu-u-h-e [mw-ise mo-ghima]
 *Ne-u-h-ε [mw-isé mó-yima]
 1sg-2sg-give-MOD [C3-day C3-whole]
 Intended: ‘You give me a/the whole day.’

For the cases like (197) I propose the tree in (198), in which φ projects a φ P which merges with the D to create an argument DP.



3.4.2 D is required with complex nouns

This section shows that compounds and nouns in partitive structures (those which are a result of D spreading) must have an augment to function as arguments, which supports an analysis of the augment as D.

3.4.2.1 D is required with N-N compounds

It is widely known that DPs which are formed by the compounding of two nouns allow one determiner (cf. Ndayiragije et al. 2012; Stegen 2002; Bauer 2003; and others). The English examples in (199) show that independent DPs have each a D; however, if they form a compound, the two nouns result in one DP which will retain only the leftmost D, as in (200a):

(199) a. A baby

b. A sitter

(200) a. A baby-sitter

b. *baby a sitter

c. *A baby a sitter

The table below indicates that both stem (N-prefix plus √N) and root (√N) compounds exist in Nata. Crucially, when an N-N compound is formed, only one D is realized, namely the D of the head (which is the left-hand member of the N-N compound):

(201) Stem-stem compound

	D = C7-√N	D = C9-√N	D = C7-√N-C9-√N
a.	e = ke-mer-a D = C7-swallower 'a swallower'	a = ɲ-tʃɔka D = C9-snake 'a snake'	e = ke-mer-a-ɲ.tʃɔka D = C7-swallower-FV-C9.snake 'a/the snake-swallower'.
b.	"	"	*ke-mer-a-a = ɲ.tʃɔka C7-swallower-FV-D = C9.snake Intended: 'A/the snake-swallower'.
c.	"	"	*e = ke-mer-a-a = ɲ.tʃɔka e = C7-swallower-FV-D = C9.snake Intended: 'A/the snake-swallower'.

(202) Root-root reduplication

	D = C1-√N	D = C1-√N	D = C1-√N-√N
a.	o = mo-súβe D = C1-man 'a man'	o = mo-súβe D = C1-man 'a man'	o = mo-súβe-suβé D = C1-man-RED 'a real man.'
b.	"	"	*mo-súβe-o = mo-suβé C1-man-D = C1-man Intended: 'a real man.'
c.	"	"	*o = mo-súβe-o = mo-suβé D = C1-man-D = C1-man Intended: 'a/the real man.'

As is evident from these examples, all nominal compounds in Nata allow one D¹².

3.4.2.2 D is required with determiner spread

In some languages, when DPs take certain modifiers (i.e., adjectives, quantifiers, etc.), a determiner or a clitic-like particle occurs on the modifiers. This phenomenon is commonly known as D-spreading/doubling (see Buell 2011; Giusti 1994 on Hebrew; Delsing 1993 on Scandinavian dialects; Morwood 2001; and numerous authors on Classical (CG) and Modern Greek (MG), Alexiadou et al. 2007, Alexiadou 2014)¹³.

(203) D Spreading with adjectives

- a. he gune he sofe [CG, Morwood 2001: 125]
 DET women DET wise
 'The wise woman.'

12. There are different types of compounding discussed in the literature; here I only present crucial data for the current proposal.

13. Note also that languages like Albanian, Lithunian, and Romanian have D doubling that involves Ds appearing as suffixes or clitic-like-material (see Alexiadou et al. 2007).

- b. to vivlio to oreo [MG, Alexiadou et al. 2007: 73]
 the book the good
 ‘The good book.’
- c. en stor en kar [Northern Swedish, Delsing 1993: 143]
 a big a man
 ‘A big man.’

This agreement phenomenon does not receive a uniform treatment across languages. In some languages D spreading has a semantic contribution (e.g., in Greek it is definiteness spreading, and in Northern Swedish dialect it is indefiniteness spreading (Delsing 1993). In other languages like Modern Hebrew, the contribution is debatable; some scholars say D doubling correlates with the construct state (Borer 1988; Ritter 1991; Siloni 2002; Kremers 2009; Alexiadou et al. 2007; Alexiadou 2014; and others); while others say it is purely a syntactic phenomenon (see Giusti 2002)¹⁴.

In Nata, augments display an agreement phenomenon similar to D-doubling/spreading. First, a modified nominal expression in argument position permits a D on a head noun but does not require D-doubling on the modifier, (204). These DPs have an “indefinite construal” e.g., are used in discourse-new contexts.

- (204) o = mu-kari mo-nyiini a-ka-het-a hanɔ [Nata]
 o = mu-kári mo-ɲíini a-ka-hét-a hánɔ
 D = C1-woman C1-wise SA1-PST-pass-FV here
 ‘A wise woman passed here.’

In D-doubling structures both the nominal expression and the modifier appear with the overt D, (205)-(206). I argue that D-doubling in Nata is not pleonastic. The function of the extra D on adjectives and weak quantifiers

14. Androutsopoulou (1996) argues that the double determiners found with Definite Spreading structures are “expletive” Ds at least to some Greek speakers. Giusti argues the D spreading in Hebrew serves a purely syntactic role, particularly that of encoding agreement between the DP and its satellites by bearing φ and case features.

is to create DPs that can pick out a subset from the set referred to by the first DP, hence rendering a presuppositional/partitive reading (cf. Alexiadou and Wilder 1998, Kolliakou 2004; Alexiadou et al, 2007; Alexiadou 2014)¹⁵.

(205) D-spreading: Adjectives

- a. \bar{o} = mu-kari \bar{o} = mo-nyiini a-ka-het-a
 \bar{o} = mu-kári \bar{o} = mo-ńíini a-ka-hét-a
D = C1-woman D = C1-wise SA1-PST-pass-FV
ha-nɔ [Nata]
há-nɔ
16-here

Lit: ‘The woman, the wise (one) passed here’
‘The wise woman passed here.’

- b. \bar{e} = ghi-tabho \bar{e} = ghi-chomu ghi-ka-gwa
 \bar{e} = yi-taβo \bar{e} = yi-tjómu yi-ka-yw-a
D = C7-book D = C7-good C7-PST-fall-FV

Lit: ‘The book, the good (one) fell’
‘The good book fell.’

(206) D-spreading: weak quantifiers

- a. \bar{a} = bha-ana \bar{a} = bha-nde bha-ka-het-a ha-nɔ
 \bar{u} = βa-aná \bar{a} = βáa-nde βa-ka-hét-a há-nɔ
D = C2-child D = C2-some/other SA2-PST-pass-FV 16-here

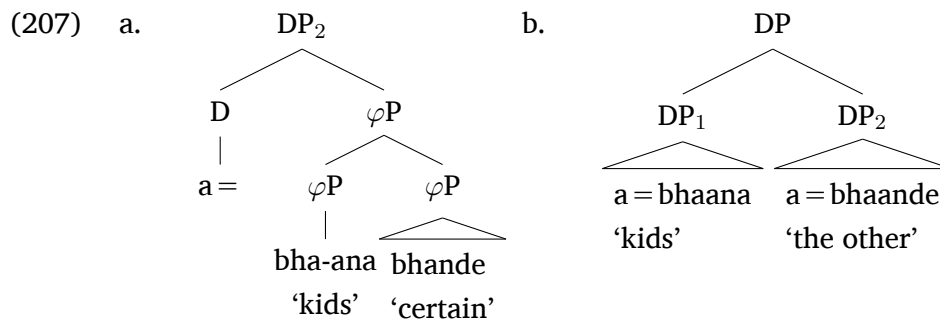
‘The other kids passed here.’

- b. \bar{a} = bha-ana \bar{a} = bha-ru bha-ka-het-a hanɔ
 \bar{a} = βa-aná \bar{a} = βaa-rú βa-ka-hét-a hánɔ
D = C2-child D = C2-many SA2-PST-pass-FV here

‘Many of the kids passed here.’

15. There is evidence in the literature that D-spreading never applies to demonstratives. This is true in Nata, as we saw in Chapter 1.

Here the presuppositional/partitive reading is that there is one individual or multiple individuals out of a group of individuals being talked about. I analyze the D-doubling structures as appositive structures with $D = \varphi-N$ and $D = \varphi-A$ arguments. I treat the DP internal modification by none D-doubling structures as corresponding to the structure in (207a), and the D-doubling cases as corresponding to the structure in (207b), which is the appositive structure.



D-doubling structures in Nata correlate to the construct state in Hebrew (Ritter 1991; Siloni 2002), and to Greek, in which clitic-doubling has a familiarity effect (see Anagnostopoulou 1994; Alexiadou et al. 20007; Alexiadou 2014). However, as I argued in Chapter 2, the presuppositional/familiarity reading of the D-doubling structures is not inherently from Ds, but from the contextually salient set. In the next section I will focus on the distribution of covert Ds.

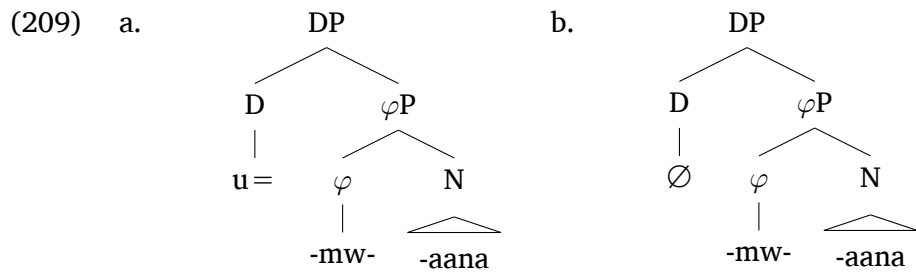
3.5 Polarity-sensitive argument DPs are $D_{\emptyset}-\varphi-N$

The Nata overt D in (208a) contrasts with the covert D_{\emptyset} in (208b).

- (208) a. N-ka-rɔr-a u = mw-aana
 N-ka-rɔr-a u = mu-aná
 1sg-PST-see-FV D = C1-child
 ‘I saw a/the child.’

- b. N-ty-a-a-rooch-e mw-aana
 N-tj-a-a-root[-e] m-anái
 1sg-NEG-SA1-PST-see-PFV C1-child
 ‘I didn’t see any child.’

The contrasting Nata Ds are presented as in (219), where (219a) is an overt D and (219b) is a covert D:



The phonologically null D is restricted in its distribution, appearing only in polarity contexts where it is c-commanded by a non-factual operator; for this reason I refer to it as a polarity-sensitive D_{\emptyset} , a label I use interchangeably with the null D_{\emptyset} (cf. Progovac 1993; Haspelmath 1997; Matthewson 1998; Lahiri 1998; Farkas 2002; Giannakidou 2001, 2011; von Stechow 1999; and others). Consistent with the literature on polarity-sensitive elements, I claim that the distribution of the polarity-sensitive D_{\emptyset} is captured by the following generalization:

(210) **Polarity licensing condition for null D:**

The polarity D_{\emptyset} must fall under the c-command domain/scope of a non-factual operator. (The set of non-factual operators in Nata includes Negation, Modality, Question operators, and Conditionals.)

The terms ‘C-command’ and ‘Operator’ need to be defined. For c-command, I adopt the definition of asymmetrical c-command given in (211) (Reinhart

1976; Chomsky 1981). This type of c-command is consistent with the fact that the operator always c-commands the polarity D_{\emptyset} ¹⁶.

(211) α c-commands β iff:

- a. The first binary-branching node that dominates α also dominates β .
- b. Neither α nor β dominate each other.
- c. α c-commands β but β does not c-command α .

The term ‘Operator’ is defined as an element which binds a variable (see Heim 1982; Chierchia and McConnell-Ginet 1990; Longobardi 1994; Cinque 1990; and others). For instance Heim (1982) gives the following examples of Operators:

We take operators to include quantifiers, negation, temporal and modal operators (which are in some sense quantifiers, i.e., quantifiers over times and possible worlds).

[Heim 1982:143]

Heim’s examples of operators include both factual and non-factual operators. I distinguish a set of operators that licenses polarity Ds from those which do not. I argue that DP operators such as quantifiers, (212a), null DPs in Spec, CP, (212b) or *wh*-phrases, (212c) do not license the polarity D_{\emptyset} . This is the case in Nata, (213)-(214) (see also Matthewson 1998 for similar observations in Salish). Since I discuss Nata *wh*-phrases in §3.5.2 I will not give any examples here to avoid repetition.

(212) DP operators

- a. **Every child** found a key.
- b. [The man [Op_i that found my keys t_i]] was Socrates.
- c. **Who** found my keys?

16. Evidence for this comes from lexical negation and the negative light verb which cannot license a subject DP containing the D_{\emptyset} , as we shall see below.

(213) a. $u = mw = aana$ $w-ɔɔsɛ$ $a-a-tɔɔr-ire$ $o = ro-hunguro$
 $u = mw = aana$ $w-ɔɔsɛ$ $a-a-tɔɔr-ire$ $o = ro-hungurɔ$
 D = C1-child C1-every SA1-PST-find-FV D = C11-key
 ‘Every child found a key.’

b. $*u = mw = aana$ $w-ɔɔsɛ$ $a-a-tɔɔr-ire$ $ro-hunguro$
 $*u = mw = aana$ $w-ɔɔsɛ$ $a-a-tɔɔr-ire$ $ro-hungurɔ$
 D = C1-child C1-every SA1-PST-find-FV C11-key
 Intended: ‘Every child found a key.’

(214) a. $o = mo-to$ $u-nɔ$ $a-a-tɔɔr-ire$ $o = ro-hunguro$
 $o = mɔo-to$ $u-nɔ$ $a-a-tɔɔr-ire$ $o = ro-hungurɔ$
 D = C1-person C1-REL SA1-PST-find-FV D = C11-key
 $rw-anɛ$ $m-Makuru$
 $rw-anɛ$ $n-Makuru$
 C11-my FOC-Makuru
 ‘A person who found my key was Makuru.’

b. $*o = mo-to$ $u-nɔ$ $a-a-tɔɔr-ire$ $ro-hunguro$
 $*o = mɔo-to$ $u-nɔ$ $a-a-tɔɔr-ire$ $ro-hungurɔ$
 D = C1-person C1-REL SA1-PST-find-FV C11-key
 $rw-anɛ$ $m = Makuru$
 $rw-anɛ$ $n = Makuru$
 C11-my FOC-Makuru
 Intended: ‘A person who found my key was Makuru.’

Crucially, all operators sit in A'-position; the DP cases in (212a)/(212b) in English, and the corresponding examples in Nata, have already raised to an A'-position in LF, while (212c) has done so in the overt syntax (see Longobardi 1994; Cinque 1990; Matthewson 1998 and others).

I will largely focus on ‘non-factual’ operators, operators which license the polarity D_{\emptyset} . I show that in some cases the non-factual operators may

take the entire proposition under their scope/c-command. I use an English negation example for illustration:

- (215) a. John **didn't** see *any woman*.
b. It is **not** the case [that there is a woman that John saw].

The DP containing the D_{\emptyset} must always fall under the scope of a non-factual operator. In Chapter 4 I argue that in this environment Nata DPs do not allow an existential interpretation (cf. Hoeksema 2012; Matthewson 1998, 1999; Progovac 2000; Giannakidou 2000, 2011; von Stechow 2009; and others). In (215b), the sentence does not assert existence of a woman that John saw. This contrast will be discussed extensively in Chapter 4.

Crucially, the Nata polarity-sensitive D_{\emptyset} appears in a variety of ‘polarity environments’, consistent with the typology of environments allowing polarity sensitive elements. These environments include super-strong, strong, weak, and super-weak (see (see Zwarts 1998; Progovac 1998, 2000; Giannakidou 1998, 2000, 2006; Hoeksema 2012; Krifka 1995; von Stechow 1997; Gajewski 2011; Lin 2015; and others). Building on polarity classifications, the appropriate term that fits the broad range of environments in which the Nata D_{\emptyset} occurs is non-veridical (cf. Giannakidou 2006; Gajewski 2011; Hoeksema 2012; Ladusaw 1980)¹⁷. Giannakidou and Mari (2018) define veridicality as followings:

- (216) a. F is veridical iff Fp entails p i.e., when Fp is true p is also true.
b. F is non-veridical iff Fp does not entail p i.e., when Fp is true p may or may not be true.

One other possibility we may discuss regarding licensing of the polarity D is with downward entailing (DE) operators (cf. Ladusaw 1980; Progovac 1993; Halpert 2012; Giannakidou 2011). While the Nata polarity D may

17. There are many other ways of testing levels of negativity, e.g., anti-additive and anti-morphic, which I do not discuss here. For a discussion of these cases see Hoeksema 2012 and others.

be licensed in a variety of downward entailing environments such as negation, conditional, etc., I do not assume that the Nata polarity D can only be licensed in DE environments. Typical cases of non-DE operators are Q-morphemes in polar questions, and modals which may license the polarity D in Nata but are not DE operators (see Progovac 1993; 2000). Another reason is that not all DE operators may license the polarity D in Nata. For instance, a quantifier like *-suhu* ‘few’ is a DE operator but does not inherently license the polarity element; I showed in Chapter 2 that all QPs in Nata take a range/a DP that contains an overt D (see further discussion in Chapter 4). In what follows I present a variety of licensing environments to show that polarity Ds consistently appear under the scope/c-command domain of a non-factual operator: negation (§3.5.1), question operators (§3.5.2), conditionals (§3.5.3) and modals (§3.5.4).

3.5.1 Negation

Negation as a non-factual operator licenses the polarity D in Nata. Unlike many languages that display a strong tendency for polarity elements to follow their licenser, Nata presents a different parameter for licensing of polarity Ds on subject DPs, i.e., the subject DP in (217a) precedes NEG in the overt syntax¹⁸. In Nata, overt c-command is not a licensing requirement as the D_{\emptyset} in any non-existential construction may precede the licenser as (217a) illustrates. In negative existential constructions, the DPs containing a polarity D_{\emptyset} may precede the licenser, (217a) or follow it (217b), with no difference in meaning in the two structures.

(217) Negative existential constructions in Nata

- | | | | | |
|----|----------|------------------|------------------|--------|
| a. | mu-kari | ta-a-nyihə | a-a-rooch-e | Yohana |
| | mu-kári | ta-a-ɲíhə | a-a-rootʃ-é | johaná |
| | C2-woman | NEG-3SG-there-is | 3SG-PST-like-PFV | John |

Lit: ‘There is no woman (who) saw John’

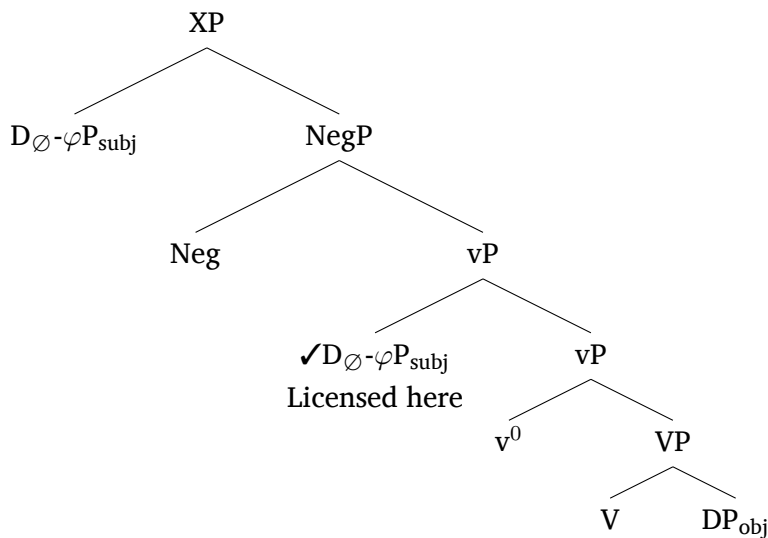
¬[∃x [woman (x) & x saw John]].

18. Needless to say, objects DPs follow negation.

- b. **ta-a-nyihø** **mu-kari** a-a-rooch-e Yohana
ta-a-ɲíhø **mu-kári** a-a-rootʃ-é johaná
NEG-3SG-there-is **C2-woman** 3SG-PST-see-PFV John
- Lit: ‘There is no woman (who) saw John’
 $\neg[\exists x$ [woman (x) & x saw John]].

Based on these data I claim that it is the underlying (syntactic) representation, i.e., input structure/the structure before spell-out, that fixes the scope relation in Nata (see Sportiche et al. 2013 for a related discussion). The claim that scope relations are determined by the input structure coincides with the well-known Bantuist claim that subject DPs are base generated at Spec, vP and are realized at a higher position, Spec, XP after movement (see Koopman and Sportiche 1991; Ngonyani:1998; Carstens 2005, 2001; Halpert 2012; and many others)¹⁹. I claim that licensing happens in the covert syntax at which point the Op c-commands the subject before raising to Spec, XP.

(218) Licensing of subject polarity Ds



19. I do not discuss the structural position of various functional elements such as tense and subject agreement (INFL) in Nata (see Ngonyani 1999 and references therein for discussion in Bantu.)

The landing site of the subject DP is a matter of controversy in Bantu, and I will not discuss this topic here (see Ngonyani 1998, 1999, 2001; Kinyololo 1991; Diercks 2010 for discussion). In Chapter 6, I discuss the c-command parameter in other Bantu languages and show that Nata is consistent with Giannakidou’s (2001, 2011) observation that not all polarity elements must be c-commanded by their licensers in the overt syntax; language-specific conditions may apply.

I show that different kinds of negation license the D_{\emptyset} in Nata. The cases I discuss here include sentential negation, adverbial negation, adverbial/negative predicates, and intonational negation. I start with the sentential one.

3.5.1.1 Sentential negation licenses D_{\emptyset}

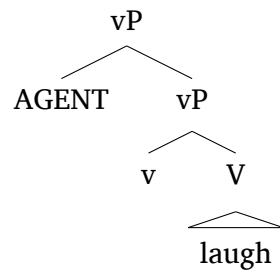
Sentential negation licenses the polarity D_{\emptyset} in all argument positions. Some accounts may predict that licensing of polarity D may be restricted to argument position or with some verb asymmetry. For instance, there may be some restriction with either unergative verbs for which the subject of the verb is the agent argument or with unaccusative intransitive verbs for which the subject of the verb is a patient/theme argument (see Perlmutter 1978; Burzio 1986; Zeller and Ngoboka 2013)²⁰.

20. In Nata, unergative and unaccusative verbs seem to pattern differently when they take a passive morpheme. Unergative verbs allow passivization, (ia), while unaccusative verbs do not, (ib). (Adding an applicative morpheme here will neutralize the contrast.).

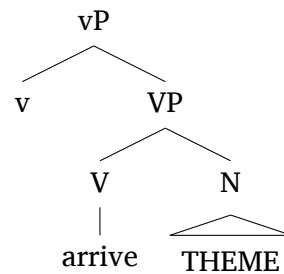
- (i) a. \emptyset =mu-gharuka a-gha-sek-u [unergative verb]
 \emptyset =mu-yáruka a-ya-sek-u
 D=C1-elder SA1-PST-laugh-PASS
 ‘An/the elder was laughed at.’
- b. * \emptyset =mu-gharuka a-ka-hik-u [unaccusative verb]
 * \emptyset =mu-yáruka a-ka-hik-u
 D=C1-elder SA1-PST-arrive-PASS
 Intended: An/the elder was caused to arrive.’

I take this as language internal evidence that there is an unergative/unaccusative contrast in Nata. Other tests available in the literature are inapplicable in Nata. For instance, in English unergative subjects pattern differently from unaccusative subjects when used with *there*-constructions: **There laughed two men* vs *There arrived two men*. See also Zeller and

(219) a.



b.



I start by showing there is no verb asymmetry or number restriction in the licensing of D_{\emptyset} . I argue that since NEG occurs above vP a polarity sensitive D_{\emptyset} in the subject position of an unergative intransitive verb, (220); or with an unaccusative intransitive verb, (221) will be licensed:

(220) a. mu-gharuka ta-a-sək-ire [unergative verb]

 mu-γáruka ta-a-sək-iré

 C1-elder NEG-PST-laugh-PFV

‘No elder laughed.’

b. bha-gharuka bha-ta-a-sək-ire

 βa-γáruka βa-ta-a-sək-iré

 C2-elder SA2-NEG-PST-laugh-PFV

‘No elders laughed.’

(221) a. muu-ki ta-a-hik-ire [unaccusative verb]

 muu-kí ta-a-hik-iré

 C1-lady NEG-PST-arrive-PFV

‘No lady arrived.’

b. bhaa-ki bha-ta-a-hik-ire

 βaa-kí βa-ta-a-hik-iré

 C1-lady SA2-NEG-PST-arrive-PFV

‘No ladies arrived.’

Ngoboka 2014; Bresnan and Kanerva 1989; Demuth 1997 who use a locative inversion test which also does not work for Nata.

Additionally, sentential negation can license D_{\emptyset} in in-situ objects; this holds of both singular (222a) and plural (222b) DPs:

- (222) a. N-tj-a-ghor-ire ■ ki-ghəṣo
 N-te-a-γór-iré ■ kí-γḗṣo
 1sg-NEG-PST-buy-PFV ■ C7-knife
 ‘I didn’t buy any knife.’
- b. N-tj-a-ghor-ire ■ bhi-ghəṣo
 N-te-a-γór-iré ■ βί-γḗṣo
 1sg-NEG-PST-buy-PFV ■ C8-knife
 ‘I didn’t buy any knives.’

Sentential negation can also license the D_{\emptyset} with a transitive verb on subject (223a), object (223b) or both subject and object, (223c)²¹.

- (223) a. ■ mw-aana t-a-a-rooch-e Makuru
 ■ mu-aná t-a-a-rootʃ-é Makuru
 ■ C1-child NEG-SA1-PST-see-FV Makuru
 ‘No child saw Makuru.’
- b. Makuru t-a-a-rooch-e ■ mw-aana
 Makuru t-a-a-rootʃ-é ■ mu-aná
 Makuru NEG-SA1-PST-see-FV ■ C1-child
 ‘Makuru didn’t see any child.’
- c. ■ mo-subhe t-a-a-rooch-e ■ ma-yaani
 ■ mo-suβé t-a-a-rootʃ-é ■ ma-jaaní
 ■ C1-man NEG-SA1-PST-see-FV ■ C1-gazelle
 ‘No man saw any gazelle.’

21. Since I have already shown that number does not matter in licensing, from now on I will present singular-plural pairs only when necessary.

Similarly, for the ditransitive verb *ha* ‘give’ in (224), NEG can license null D with any one of the arguments of the verb: with the subject DP *mu-kari* ‘woman’, the Goal/indirect object *mw-aana* ‘child’, and the theme/direct object *ma-βээрε* ‘milk’:

- (224) a.

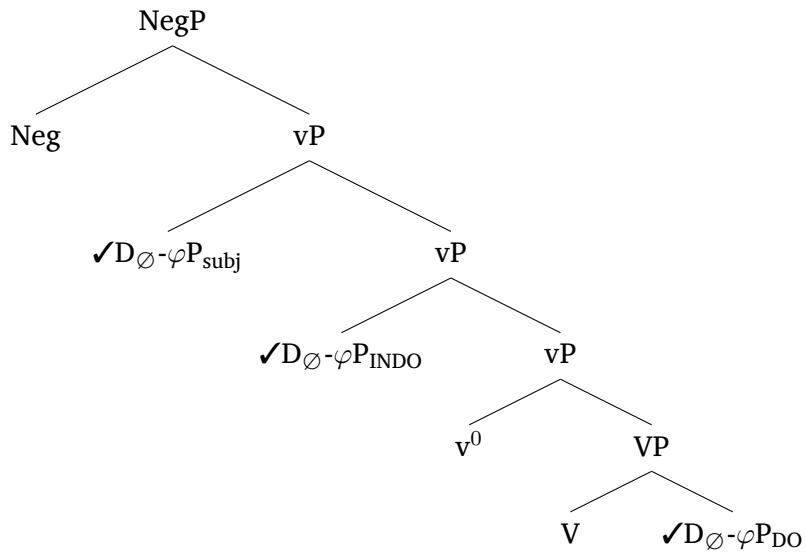
mu-kari	t-a-a-h-ere	mw-aana
mu-kári	t-a-a-h-eré	mu-aná
C1-woman	NEG-SA1-PST-give-PFV	C1-child
ma-bheęę		
ma-βээрε		
C6-milk		

‘No woman gave any child any milk.’

- b. $\neg[\exists xyz \text{ [woman (x) \& milk (z) \& child (y) \& x gave z to y]}]$.

The informal semantics in (224) corresponds to the underlying (syntactic) representation in (225) where NEG scopes over the entire proposition, thereby c-commanding all the polarity Ds in the sentence (cf. Uribe-Etxebarria 1994; Bruening 2014; Matthewson 1998).

(225) Licensing of polarity Ds in ditransitive verbs



Extensional suffixes such as applicatives (APPLs) take a specifier-argument, hence add an extra argument (see Rugemalira 1993; Pylkkänen 2002; Halpert 2012)²². An example of a sentence with a transitive applicativized verb in (226) shows that NEG can scope over the subject (226a), any one of the objects (226b-d), all the objects (226e), or the subject and all the objects (226f):

- (226) a.

	mo -subhe	t-a-a-kw-eegh-er-i		o =mu-gheni	u -nɔ
	mo -súβe	t-a-a-kw-eeɣ-éer-i		o =mú-yeni	ú-nɔ
	C1-man	NEG-SA1-PST-teach-APPL-FV		D=C1-visitor	C1-DEM
	u =mw-ana	u -yɔ	e =ki-ghambɔ	ki-nɔ	
	u =mw-aná	u -jɔ	e =kí-ɣambɔ	ki-nɔ	
	D=C1-child	C1-DEM	D=C7-language	C7-DEM	

‘No man is teaching that child that language for this visitor.’

- b.

	o =mo-subhe	u -nɔ	t-a-a-kw-eegh-er-i		mu -gheni
	o =mo-súβe	ú-nɔ	t-a-a-kw-eeɣ-éer-i		mú -yeni
	o =C1-man	C1-DEM	NEG-SA1-PST-teach-APPL-FV		C1 -visitor
	u =mw-aana	u -yɔ	e =ki-ghambɔ	ki-nɔ	
	u =mu-aná	ú-jɔ	e =kí-ɣambɔ	ki-nɔ	
	D=C1-child	C1-DEM	D=C7-language	C7-DEM	

‘This man is not teaching that child this language for any visitor.’

- c.

	o =mo-subhe	u -nɔ	t-a-a-kw-eegh-er-i		o =mu-gheni
	o =mo-súβe	ú-nɔ	t-a-a-kw-eeɣ-éer-i		o =mú-yeni
	D=C1-man	C1-DEM	NEG-SA1-PST-teach-APPL-FV		D=C1-visitor
	u -nɔ	mw -aana	e =ki-ghambɔ	ki-nɔ	
	ú-nɔ	mu -aná	e =kí-ɣambɔ	ki-nɔ	
	C1-DEM	C1 -child	D=C7-language	C7-DEM	

‘This man is not teaching any child this language for this visitor.’

22. The applicative morpheme has the highest valency (i.e., number of arguments), for that reason I do not give examples of causativized verbs which take fewer arguments.

- d. o=mo-subhe u-nɔ t-a-a-kw-eegh-er-i o=mu-gheni
 o=mo-súβe ú-nɔ t-a-a-kw-eeɣ-ээр-i o=mú-yeni
 D=C1-man C1-DEM NEG-SA1-PST-teach-APPL-FV D=C1-visitor
 u-nɔ u=mw-aana u-yɔ ki-ghambɔ
 ú-nɔ o=mu-aná u-jɔ kí-yambɔ
 C1-DEM D=C1-child C1-DEM C7-language

‘This man is not teaching that child any language for this visitor.’

- e. o=mo-subhe u-nɔ t-a-a-kw-eegh-er-i mu-gheni
 o=mo-súβe ú-nɔ t-a-a-kw-eeɣ-ээр-i mú-yeni
 D=C1-man C1-DEM NEG-SA1-PST-teach-APPL-FV C1-visitor
 mw-aana ki-ghambɔ
 mu-aná kí-yambɔ
 C2-child C7-language

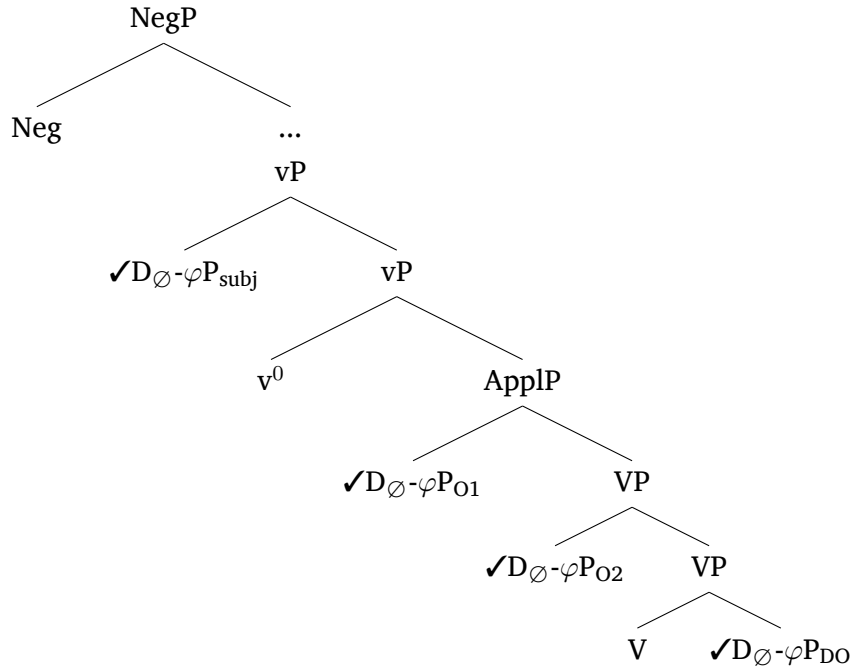
‘This man is not teaching any children any language for any visitor.’

- f. mo-subhe t-a-a-kw-eegh-er-i mu-gheni
 mo-súβe t-a-a-kw-eeɣ-ээр-i mú-yeni
 C1-man NEG-SA1-PST-teach-APPL-FV C1-visitor
 mw-aana ki-ghambɔ
 mu-aná kí-yambɔ
 C2-child C7-language

‘No man is teaching any kids any language for any visitor.’

Given the evidence that polarity-sensitive D_{\emptyset} is licensed in any argument position in an applicative sentence, it must be the case that sentential NEG occurs above both Spec, vP and Spec, ApplP in covert syntax:

(227) Licensing of polarity Ds in ditransitive applicative verbs



NEG, in a matrix clause, can license the polarity D_\emptyset in the subject and/or the object of an embedded clause, (228a). It can also take the entire root clause licensing any argument in its c-command in the covert syntax, (228b)

- (228) a. Makuru t-a-a-bhugh-ire [ango mw-aana
 Makuru t-a-a-bhugh-ire [ango mw-aana
 Makuru NEG-3sg-PST-say-PFV [that C1-child
 a-ki-ibh-a ma-kuwa]
 a-ka-iβ-a ma-kuwa]
 3sg-PST-steal-FV C6-sugarcane]
 ‘Makuru didn’t say that any child stole any sugarcane.’

- b.

	[] mu-ghabho	t-a-a-bhugh-ire	[ango	[] mw-aana
	[] mu-γaβo	t-a-a-βuy-ire	[aŋgo	[] mw-aana
	[] C1-healer	NEG-3sg-PST-say-PFV	[that	[] C1-child
	a-ki-ibh-a	[] ma-kuwa]		
	a-kaiβ-a	[] ma-kuwa]		
	3sg-PST-steal-FV	[] C6-sugarcane]		

‘No healer said that any child stole any sugarcane.’

I now consider adversative predicates, which confirm the generalization that licensing occurs when NEG appears above the DP containing D_{\emptyset} in covert syntax.

3.5.1.2 Adversative predicates license D_{\emptyset}

Adversative predicates, which are verbs that are inherently negative (a.k.a. lexical negations), can license D_{\emptyset} in object position but not in subject position (cf. Progovac 1993, 2000; Giannakidou 1998, 2001). This is consistent with Yoon’s (2013) observation that lexical negations cross-linguistically do not truth-conditionally negate a proposition. For example, adversative predicates such as *ang-* ‘refuse’ can license D_{\emptyset} in object position, (229a), but not in subjects of either an intransitive, (229b), or transitive sentence, (229c).

- (229) a.

	A-ka- ang -a	ku-ghəgh-a	[] mw-aana
	A-ka- ang -a	ku-γéγ-a	[] mu-aná
	SA1-PST- refuse -FV	INFT-carry-FV	[] C1-child

‘S/he refused to carry any child.’

b. *

	[] mw-aana	a-ka- ang -a	ghu-sək-a
	[] mu-aná	a-ka- ang -a	γu-sék-a
	[] C1-child	SA1-PST- refuse -FV	INFT-laugh-FV

*‘Any child refused to laugh.’

- c. * mu-kári a-ka-**ang**-a ku-ghəgh-a mw-aana
 * mu-kári a-ka-**anj**-a ku-γéγ-a mu-aná
 C1-woman SA1-PST-**refuse**-FV INFT-carry-FV C1-child
 *Any woman refused to carry a child.'

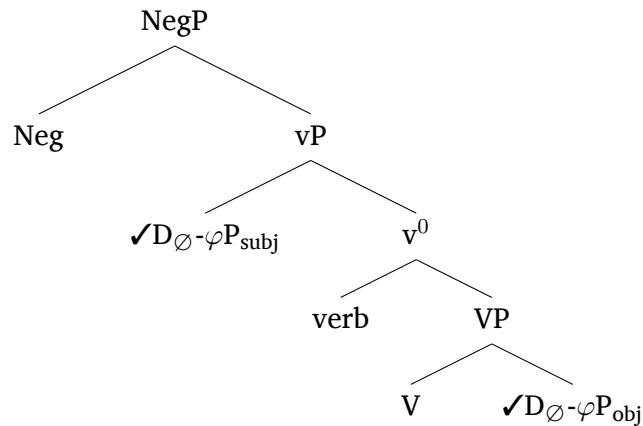
The data in (229) contrast with cases with overt Ds in the subject position of adversative predicates, (230). These are correctly predicted to be acceptable as overt Ds do not need to be c-commanded by a licenser.

- (230) a. =mw-aana a-ka-**ang**-a ghu-sək-a
 =mu-aná a-ka-**anj**-a γu-sék-a
 D = C1-child SA1-PST-**refuse**-FV INFT-laugh-FV
 'A/the child refused to laugh.'
- b. =mu-kári a-ka-**ang**-a ku-ghəgh-a mw-aana
 =mu-kári a-ka-**anj**-a ku-γéγ-a mu-aná
 D = C1-woman SA1-PST-**refuse**-FV INFT-carry-FV C1-child
 'A/the woman refused to carry any child.'

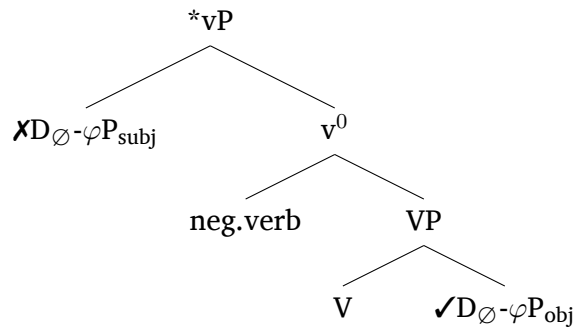
The restriction on licensing the polarity D_{\emptyset} in subject argument DPs with the adversative predicates in (229b,c) can be represented as in (231b). This contrasts with the non-lexical licensing in (231a) in which the lexical negation is lower in the tree than NEG.

(231) Syntactic constraints on licensing of D_{\emptyset}

a. Sentential negation can license D_{\emptyset} in subjects



b. Lexical NEG cannot license D_{\emptyset} in subjects



Lexical negation in Nata can be used as a diagnostic for the position in which Nata subject DPs with D_{\emptyset} are licensed. It shows that not only do subjects have to be under Spec, vP to be licensed, also the licenser has to c-command the polarity element, hence the structure in (231b) is not possible.

3.5.1.3 Covert negation/reduced pitch licenses D_{\emptyset}

It appears that Nata lacks lexical items corresponding to the English negative predicates ‘doubt’ or ‘deny’ in (232).

- (232) a. I doubt that Mary ate *anything*. [Progovac 1998: 08]
 b. I deny that Mary ate *anything*.
 c. *Mary ate *anything*.

When Nata speakers are casting doubt on or disagreeing about the existence of an entity, they can use a special kind of reduced pitch, rendering similar meanings to ‘I doubt’ or ‘I deny’. This may license the polarity D_{\emptyset} on either subject, (233a), object, (233b), or both, (233c). I mark this pitch effect with the symbol ∇ as in (233):

- (233) a. ∇ mu-kari a-ka-bhaator-a Makuru
 ∇ mu-kári a-ka- β áátor-a Makuru
 C1-woman 3sg-PST-spank-FV Makuru
 ‘(I deny that) any woman spanked Makuru.’
- b. ∇ Makuru a-ka-bhaator-a mw-aana
 ∇ Makuru a-ka- β áátor-a mw-aná
 Makuru 3sg-PST-spank-FV C1-child
 ‘(I deny that) Makuru spanked any child.’
- c. ∇ mu-kari a-ka-bhaator-a mwa-ana
 ∇ mu-kári a-ka- β áátor-a mwá-ana
 C1-woman 3sg-PST-spank-FV C1-child
 ‘(I doubt that) any woman spanked any child.’

A voice recording of a Nata male consultant captured differences in the intonation patterns between the regular sentence (Figure 3.1) and the sentence containing the covert negation (Figure 3.2). In the regular sentence (Figure 3.1), the blue curve (pitch) in the waveform has higher frequency than in the sentence marked with covert negation (Figure 3.2), which appears with compressed pitch, thus low frequency:

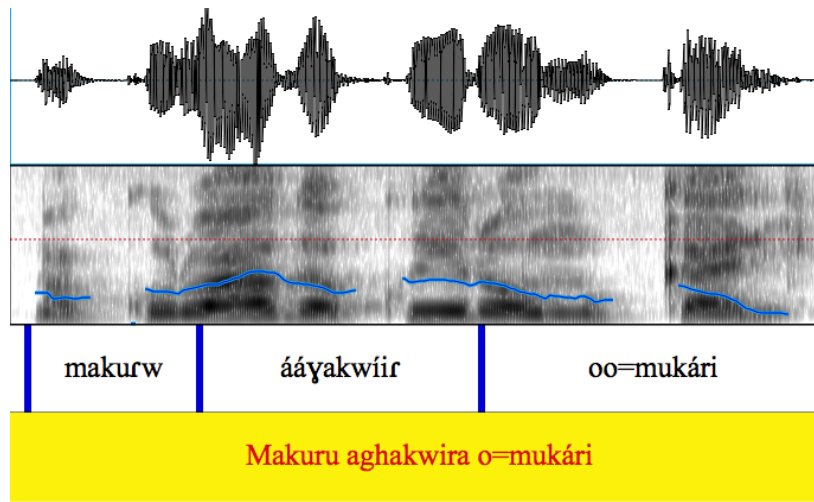


Figure 3.1: Pitch pattern for regular sentences



Figure 3.2: Pitch pattern for sentences with covert negation

To account for the licensing of D_{\emptyset} in the cases like (233), I propose that the reduced pitch is realized as a covert negation (cf. Uribe-Etxebarria 1994; Hoeksema 2012; Swart 2009; and others) which licenses the D_{\emptyset} . The covert negation unselectively licenses the D_{\emptyset} in subject, object or both as seen in (233). Since the overt D requires no licensing it is expected that it

will also be used with the covert negation. This prediction is correct as the example below shows:

- (234) ▽**o**=mu-gheni a-ka-bhaator-a **u**=mwa-ana
 ▽**o**=mú-yeni a-ka-βáátor-a **u**=mwá-ana
 D=C1-guest 3sg-PST-spank-FV **u**=C1-child
 ‘(I doubt that) a/the visitor hit a/the child.’

The semantic contrast between the overt and the covert D_{\emptyset} will be dealt with in Chapter 4. The last case under negation is about the negative adverbs *keéré* ‘yet’ and *naabha* ‘never’, which I now turn to.

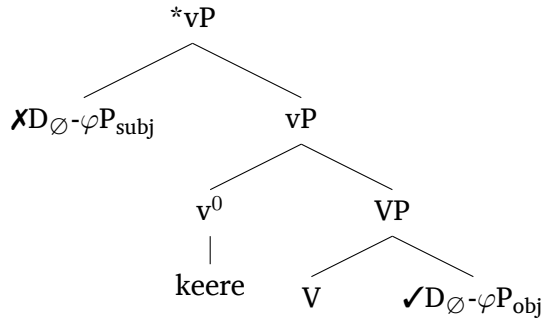
3.5.1.4 Negative light verbs license D_{\emptyset}

Polarity Ds can be licensed by a negative light verb *keéré* ‘be before’ ‘be without’ or ‘be yet’ (cf. Giannakidou 2002; Watanabe 2004; Halpert 2012; and others), (235). This negative light verb cannot license the subject, as the case in (235b) shows. This restriction also points to a common fact about licensing, namely that the subject DPs containing a D_{\emptyset} are licensed at Spec, vP, hence they cannot be licensed by the negative light verb they precede:

- (235) a. **u**=mw-aana a-kere ku-nyw-a **ke**-rongoori
 u=mw-aana a-keré ku-ɲw-a **ke**-róŋgoori
 D=C1-child 3sg-be.yet INFT-drink-FV C7-porridge
 Lit: ‘A/the child is yet to eat any porridge.’
- b. * **mw**-aana a-kere ku-nywa **ke**-rongoori
 * **mw**-aana a-keré ku-ɲwa **ke**-róŋgoori
 C1-child 3sg-be.yet INFT-drink C7-porridge
 Intended: ‘Any child is yet to eat any porridge.’

Since the licenser heads the vP, the subject DP containing the D_{\emptyset} generated in its Spec cannot be licensed:

(236) The negative light verb cannot license D_{\emptyset} on subjects

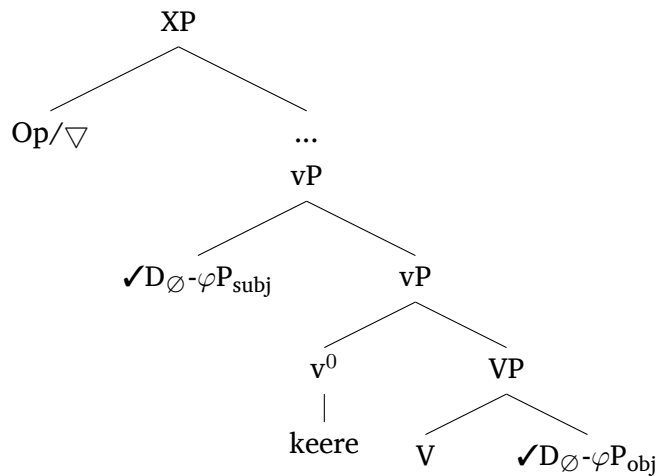


If we use a covert negation or other kinds of licensors that can occur with the minimizer, the subject will be licensed by such a licensor:

- (237) ∇ mw-aana a-kere ku-nywa ke-rongoori
 ∇ mw-aana a-keré ku-ɲwa ke-róŋgoori
 C1-child 3sg-yet INFT-drink C7-porridge
 ‘(I doubt that) any child is yet to eat any porridge.’

The structure in (238) corresponds to the licensing of the subject by a higher operator. This shows that licensing of D_{\emptyset} in subject DPs strictly observes the syntactic condition in (210) that the licensor is above Spec, vP , where it scopes over/c-commands the subject in the covert syntax.

(238) An Op above vP can license D_{\emptyset}



I close this subsection by showing that the speaker can switch the D_{\emptyset} to the overt D in the cases discussed above:

- (239) $u = mw$ -aana a-kere ku-nywa $e = ke$ -rongoori
 $u = mw$ -aana a-keré ku-ɲwa $e = ke$ -róŋgoori
 D = C1-child 3sg-yet INFT-drink D = C7-porridge
 ‘A/the child is yet to eat (the) porridge.’

I will argue in chapter 4 that this switch corresponds to a semantic difference to do with the notion of existence.

3.5.2 Questions

I first discuss polar/yes-no questions which license the polarity D_{\emptyset} and then turn to content questions where I show that DP operators do not license the polarity D_{\emptyset} . For a discussion of D-linked *wh*-questions refer to predicate clefts under §3.5.4.

3.5.2.1 Polar questions license D_{\emptyset}

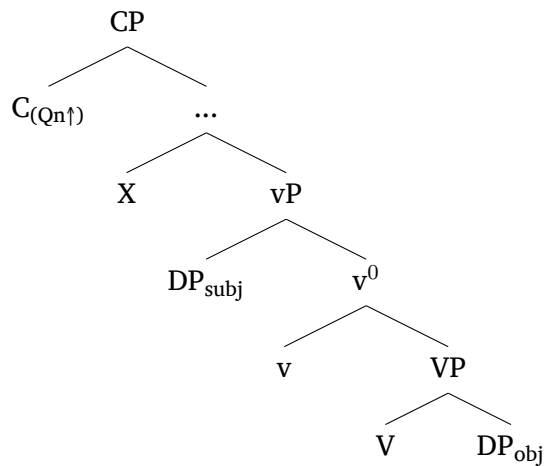
In polar/yes-no questions, D_{\emptyset} can be licensed under the scope of the question operator. This is shown in (240):

(240) [Context: Speaker is not sure if there was any child]

- a. ango \square mw-aana a-ka-rɔr-a Maria? [Subject]
 ango \square mw-áana a-ka-rór-a María?
 Q \square C1-child 3s-PST-see-FV Mary
 ‘Did any child see Mary?’
- b. ango Maria a-ka-bhɔn-a \square mw-aana? [Object]
 ango María a-ka-βón-a \square mw-áana?
 Q Mary 3s-PST-find-FV \square C1-child
 ‘Did Mary find any child?’

As Gambarage and Keupdjio (2013) demonstrate, polar questions in Nata do not have an overt Q(uestion) morpheme. The Q-morpheme in Nata derives from a rising intonation (↑) (cf. Cheng 1991; Rooryck 1994; Cheng and Rooryck 2000). Thus, the Q-operator is sitting in C where it c-commands the DP containing the D_{\emptyset} (see Progovac 2000; Gambarage and Keupdjio 2013):

(241) Licensing of D_{\emptyset} in polar questions



In this analysis, the Q-operator takes the clause as its complement, hence c-commanding the DP containing the D_{\emptyset} in the covert syntax. I claim that this rising intonation is a realization of C which licenses D_{\emptyset} .

As expected, overt Ds are not restricted in their distribution which means they can be used with the polar question. The question about what forces different D choices in Nata will be answered in Chapter 4 which talks about the semantics of Nata D.

(242) [Context: Speaker is talking about his friend's child]

- a. angó u =mw-aana a-ka-rór-a María? [Subject]
 angó u =mw-áana a-ka-rór-a María?
 Q D=C1-child 3s-PST-see-FV Mary
 'Did a/the child see Mary?'

- b. angó María a-ka-bhón-a u = mw-aana? [Object]
 angó María a-ka-βón-a u = mw-ána?
 Q Mary 3s-PST-find-FV D = C1-child
 ‘Did Mary find a/the child?’

In Chapter 4, I will adopt the common analysis that the DP containing the overt D such as in (242) scopes above the non-factual operator (cf. Matthewson 1998,1999; Giannakidou 2002; Gambarage 2012; and many others).

3.5.2.2 *Wh*-questions do not license D_{\emptyset}

Wh-phrases, like some other DP operators like quantifiers discussed above, cannot license the polarity D in any object DP argument, hence the overt D must be used, (243). In subordinate clauses, however, some other non-factual operator, e.g, the evidential verb *bhugha* (discussed below) can license the D_{\emptyset} , (244):

- (243) a. Ne = we a-a-rooch-e e = ke-bhuse?
 Ne = wa a-a-róotj-é e = ke-βúse?
 COP = WH 3sg-PST-see-FV D = C7-monkey
 ‘Who saw a/the monkey?’

- b. *Ne = we a-a-rooch-e ke-bhuse?
 *Ne = we a-a-rootj-é ke-βúse?
 COP = WH 3sg-PST-see-FV C7-monkey

Intended: ‘Who saw a/the monkey?’

[Consultant comment: If you do not have anything in mind, why would you ask?]

[Context: There are no monkeys in Vancouver. B heard someone claiming to have seen one; he thinks it was some other animal. B says with incredulous voice:]

(244) Ne = we **abhughire** a-ka-rɔr-a ke-bhuse?
 Ne = we **a-βuy-ire** a-ka-rɔr-a ke-βúse?
 COP = WH **SA-say-PFV** 3sg-PST-see-FV C7-monkey

‘Who said s/he saw a monkey? (I don’t believe there was any).’

In Chapter 4 I argue that this restriction has to do with the presuppositional property of the *wh*-phrases (cf. Erteshik-shir 1993; Matthewson 1998; Gambarage 2013). For the discussion of Nata D-linked questions which are concealed predicate clefts in which case they lack a D, see §3.6. I next turn to conditionals where I show that, like negative sentences and polar questions, conditionals also license D_{\emptyset} .

3.5.3 Conditionals

Polarity Ds are licensed in non-factual if-clauses/conditional sentences.

[**Context:** A mother has a sick child and only elderly people know the traditional cure of the disease. She would be happy if any elder comes but that’s impossible, because there are no elders in this community]²³.

[Adapted from Matthewson, 1999: 90]

23. When I re-ordered (245) such that the apodosis (consequent) came before the protasis (antecedent), some speakers accepted it marginally and some accepted it fully:

- (i) %Maria n = a-nga-choɔmiir-u mu-gharuka a-nga-bhɔnek-ire
 %Maria n = a-ŋga-tʃɔmiir-u mu-ɣaruka a-ŋga-βɔnek-ire
 Maria SAM = SA1-COND-be.happy-FV C1-elder SA1-COND-show.up-PFV

‘Mary would be happy if any elder showed up.’

[**Consultant comment:** She cannot talk about wellness of a child first if there are no elders.]

Based on the consultant’s comment, the issue why this is not straightforwardly good or bad may have to do, I believe, with the reordering effect (the consequent before the antecedent). Further research is needed to pin down what exactly is going on with cases like (i).

- (245)

	mu-gharuka	a-nga-bhønek-ire	Maria
	mu-yáruka	a-nga-βønek-ire	Maria
	C1-elder	SA1-COND-show.up-PFV	Maria

n = a-nga-chømiir-u

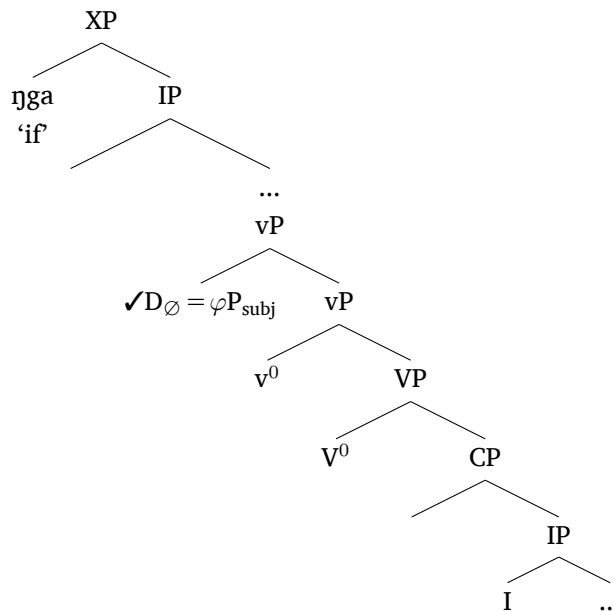
n = a-nga-tʃømir-u

SAM = SA1-COND-be.happy-FV

‘If any elder showed up Mary would be happy.’

For conditional sentences, I claim that the conditional Operator *nga* ‘if’ sits in C position above the matrix clause, where it c-commands the subject in the antecedent as the proposed structure in (249) shows (cf. Progovac 1993, 2000):

- (246) Licensing of D_{\emptyset} in conditionals



As expected, the overt D is not restricted in its distribution therefore it may be switched with the polarity D, (247).

[Context: A mother has a sick child and only elderly people know the traditional cure of the disease. There is a specific elder who knows the medicine for the disease. A mother says she will be happy if that elder showed up] [Adapted from Matthewson, 1999: 90]

(247) o = mu-gharuka a-nga-bhəŋək-ire Maria
 o = mu-ɣáruka a-ŋga-βəŋək-ire Maria
 o = C1-elder SA3-COND-show.up-PFV Maria

n = a-nga-chəmiir-u

n = a-ŋga-t[ɔ]mir-u

SAM = PST-COND-be.happy-FV

‘If an/the elder showed up Mary would be happy.’

In Chapter 4, I will explain what the semantic difference is between the overt and the covert D. The next section is about modals where I show that they are also non-factual operators that can license the polarity D like negation, the Q-morpheme in polar questions, and conditionals.

3.5.4 Modals

To conclude this section, I consider epistemic modals, which express the strength of a speaker’s commitment to the truth of a proposition. In Nata, they include possibility modals, the subjunctive mood, and hearsay evidentials. My assumption behind treating mood and evidentials as subclasses of modality in Nata is that these two also express uncertainties or hypothetical situations (see Givón 2018; De Haan 1999; Matthewson et al. 2007; and others)²⁴.

3.5.4.1 Epistemic modals license D_{\emptyset}

The weak epistemic modal, the adverbial *hamwe* ‘maybe’ or ‘perhaps’, can license the polarity D_{\emptyset} , (248). When this adverbial modal is used it

24. See Aikhenvald (2014, 2015) for the view that in some languages evidentiality is not a subcategory of modality; also see Déchaine et al. (2017) for arguments that some, but not all, evidentials have modal force.

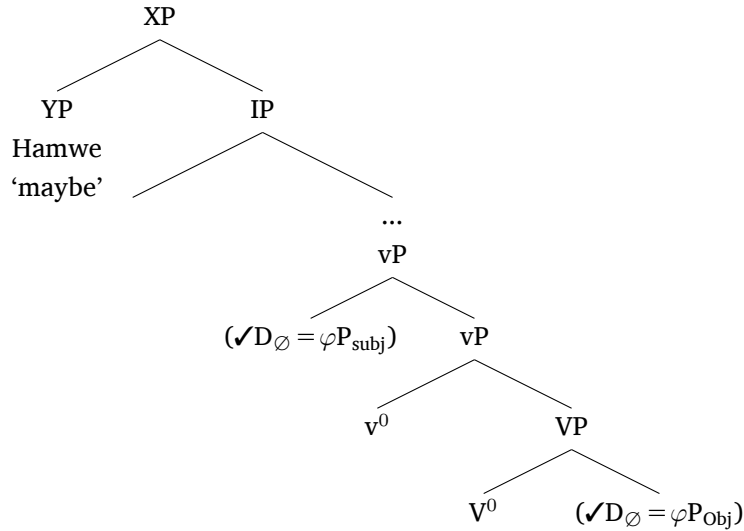
means that the speaker is casting doubt on the validity of the proposition under the modal (cf. Heim 1992; Giannakidou 1998; Condoravdi (2002); Matthewson 1998, Matthewson et al. 2007; Giannakidou and Mari 2018; and others).

[**Context:** It's started raining and it's getting dark. A girl comes home crying; someone pushed her at the playground. She tells Mom and Grandma that almost everyone has left by now. Mom goes to the playground to ask who did that. Grandma is wondering about Mom's delay:]

- (248) a. **Hamwe** mw-ana a-a-mo-bhereki-ire
Hamwe mu-aná a-a-mó-βereke(r)-ire
Maybe C1-child SA1-PST-OM1-call-PFV
 'Maybe a kid called her.'
- b. **Hamwe** a-bhwin-e mw-ana ha-yo a-a-bhor-iri
Hamwe a-βwíin-e mw-aaná há-jɔ a-a-βór-iri
Maybe 2s-find-PFV C2-child C16-there SA1-PST-ask-PFV
 'Maybe she found a kid there and asked.'

The syntactic licensing of the D_{\emptyset} must be that the modal operator *hamwe*, which adjoins to IP as an adjunct, c-commands the DP argument with D_{\emptyset} . Given the examples in (248) the Operator must occur higher than the subject or the object, c-commanding the polarity element:

(249) Licensing of D_{\emptyset} in Modals



We have seen very consistently that an overt D may be used with any of the operators since it is not syntactically restricted. Indeed, the overt D can be used with the modal²⁵.

[Context: It is a sunny day and it's around 3PM and lots of kids are at the playground. A girl comes home crying; someone pushed her at the playground. Mom goes to ask who did that but she is delayed coming back. Grandma is wondering about Mom's delay]:

- (250) a. **Hamwe** u = mwa-ana u-yo n-a-yar-ire
Hamwe a = mw-aná u-jɔ n-áá-jar-ire
Maybe D = C1-child C1-DEM SAM-SA1-run-PFV
 'Maybe that kid ran away.'

25. When the copula nasal which functions as a strong assertion marker (SAM) or Focus marker is used, the polarity D_{\emptyset} cannot be used.

- (i) **Hamwe** (*n-)a-a-bhwin-e mw-ana ha-yo a-a-bhor-iri
Hamwe (*n-)a-a-βwín-e mw-aaná há-jɔ a-a-βór-iri
Maybe SAM-SA1-PST-find-PFV C2-child C16-there SA1-PST-ask-PFV
 %Intended: 'Maybe she did find a kid there and asked.'

A combination of a strong assertion marker and the polarity D_{\emptyset} may be ruled out for semantic reasons. I do not investigate the restrictions involving this element on this occasion.

- b. **Hamwe** n-a-ku-ghamban-a nu-u =mw-aana u-yo
Hamwe n-a-ku-yamban-a na-u =mu-aná u-jo
Maybe SAM-SA1-PROG-talk-FV with-D =C1-child C1-DEM
‘Maybe she is talking to that kid.’

The semantic contrast between the overt D and the polarity D_{\emptyset} will be discussed in Chapter 4.

3.5.4.2 Subjunctive mood licenses D_{\emptyset}

Subjunctive clauses are often analyzed as being non-factual. The precise formalization differs widely, with proposals treating them as non-assertive (Bolinger 1972; Hooper 1975), as irrealis (Givón 2018; Palmer 1968), as nonveridical (Giannakidou 2009), or as modal (Giorgi and Pianesi (1998); Portner 1998). Whatever the precise mechanism, relevant to the present analysis is the fact that, in Nata, the subjunctive patterns together with other non-factual operators in licensing D_{\emptyset} . Example (251) illustrates the licensing of D_{\emptyset} in the context of a subjunctive clause, where the subjunctive clause type is marked by the subjunctive mood marker -ε. The (a) example illustrates D_{\emptyset} in subject position, and the (b) example illustrates D_{\emptyset} in object position:

(251) [**Context:** An athlete wondering if there are any rope-hurdles.]

- a. ro-siri roo-n-dich-ε n-te-kw-imeerer-a
 ro-siri ro-n-ritj-é n-te-kw-iméérer-a
 C11-rope SA11-1sg-trip-SUBJV 1sg-NEG-PROG-stop-FV
‘Should a rope trip me, I am not stopping.’
- b. m-bon-ε ro-siri eni n-ko-bhururuk-a tu
 m-bon-é ro-síri eni n-ko-βúúruk-a tu
 1sg-find-SUBJV C11-rope I 1sg-PROG-jump-FV just
‘Should I encounter a rope, I am just jumping over.’

Here the subjunctive mood conveys the speaker’s attitude that they are not committing to the truth of the embedded proposition, which is what Giannakidou (2009) means by non-veridicality. Since the overt D is not restricted in its distribution it can be use in subjunctive sentences as (251) shows:

(252) [Context: An athlete talking about rope-hurdles on the jumps.]

- a. o = ro-siri roo-n-dich-ε n-te-kw-imeerer-a
 o = ro-siri ro-n-ritʃ-é n-te-kw-iméerer-a
 o = C11-rope SA11-1sg-trip-SUBJV 1sg-NEG-PROG-stop-FV
 ‘Should a/the rope trip me, I am not stopping.’
- b. n-dɔr-ε o = ro-siri, eni n-ko-bhururuk-a tu
 n-dɔr-é o = ro-síri, eni n-ko-βúúruk-a tu
 1sg-see-SUBJV o = C11-rope, I 1sg-PROG-jump-FV just
 ‘Should I see a/the rope, I am just jumping over.’

In Chapter 4, I show that there is a clear semantic contrast which forces Nata D choice in all these environments. The last case is about evidentials.

3.5.4.3 Evidentials license D_{\emptyset}

Evidentiality is a grammatical way of encoding the source of information, e.g., the speaker has firsthand information (i.e., using sensory evidence) or non-firsthand information (i.e., s/he heard about the event or was just told about it) (Jakobson 1957; Aikhenvald 2004 and many others). Languages differ in the way they code evidentials, with some languages coding the source of information morphologically (Nuu-chah-nulth), others syntactically (Plains Cree) and yet others lexically (English) (see Waldie 2012; Matthewson et al. 2007; Déchaine et al. 2016; and others). I discuss lexical evidentials in Nata, which have to do with the verb of perception *-oogu* ‘hear’ and the verb of report *-bhugha* ‘say’. The use of these evidential verbs is based on participants presenting the meaning of a proposition *p* without

committing to the truth of p , hence p may not be asserted. I show that evidentials, as non-factual operators, may license the D_{\emptyset} .

3.5.4.3.1 Reportative evidential verbs

When the verb *-oogu* ‘hear’ is used, the speaker may be casting doubt on the reliability of the information source. In such contexts, the D_{\emptyset} is used:

[Context: B hears a rumour about a death of a child. The person who said it is not a reliable source and also no wailing was heard. B reports:]

- (253) a. **ny-og-u** mw-aana a-a-ku-re
ɲ-oog-u mu-aná a-a-ku-ire
1sg-hear-PASS C1-child 3sg-PST-die-PFV
 ‘I heard a child died (I doubt it).’
- b. **ny-og-u** Maria a-kw-er.ir-u mw-aana
ɲ-oog-u Maria a-kw-ээр.ir-u mu-aná
1sg-hear-PASS Maria SA1-die-APPL2-PASS C1-child
 ‘I heard Maria lost a child (I doubt it).’

The overt D which is not restricted in its syntactic distribution is also possible with this operator.

[Context: A/the child had no hope to recover from leukaemia. There was wailing last night. B reports the bad news]

- (254) a. **ny-og-u** u =mw-aana a-a-ku-re
ɲ-oog-u u =mu-aná a-a-ku-ire
1sg-hear-PASS D =C1-child 3sg-PST-die-PFV
 ‘I heard a/the child died (and it’s confirmed).’

- b. **ny-og-u** Maria a-kw-er.ir-u u = mw-aana
ɲ-oog-u Maria a-kw-ээр.ir-u u = mu-aná
1sg-hear-PASS Maria SA1-die-APPL2-PASS u = C1-child
 ‘I heard Maria lost a/the child (and it’s confirmed).’

If the child is believed to exist but it did not die this will also lead to the use of the overt D. In Chapter 4, we will see that the semantics of the Nata Ds aligns with the fact that when interlocutors cast doubt on the information source about the existence of the DP referent, D_{\emptyset} is licensed, and when they trust the information source and believe that the DP referent exists, the overt D is used.

3.5.4.3.2 The quotative evidential marker -bhugha

Like the evidential verb -oogu ‘hear’, the verb -bhugha ‘say’ is used as a quotative evidential and can license the D_{\emptyset} as shown below:

[Context: Person A and B are walking, and C stops B to inform her of the death of a child. C is not a reliable source and also no wailing was heard. B tells A:]

- (255) a. **a-bugh-a** mw-aana a-a-ku-re
a-βuy-a mu-aná a-a-ku-ire
3sg-say-FV C1-child 3sg-PST-die-PFV
 ‘She says (that) a child died.’
- b. **a-bugh-a** Maria a-kw-er.ir-u mw-aana
a-βuy-a Maria a-kw-ээр.ir-u mu-aná
3sg-say-FV Maria SA1-die-APPL2-PASS C1-child
 ‘She says that Maria lost a child.’

The overt D can also be used with the quotative evidential verb as shown in (256) below²⁶.

[**Context:** Person A and B are walking, and C stops B to inform her of a death of a child who has been sick for long time. C is a trustworthy person. Before A asks B what was C saying, B says:]

- (256) a. **a-bugh-a** u = mw-aana a-a-ku-re
a-βuy-a u = mu-aná a-a-ku-ire
 3sg-say-FV D = C1-child 3sg-PST-die-PFV
 ‘She says (that) a/the child died.’
- b. **a-bhugh-a** Maria a-kw-er.ir-u u = mw-aana
a-βuy-a Maria a-kw-ээр.ir-u u = mu-aná
3sg-say-FV Maria SA1-die-APPL2-PASS D = C1-child
 ‘She says that Maria lost a child.’

As I show in Chapter 4, if the speaker believes that the child exists but does not believe that it died, the overt D should be used. We have seen that the evidentials are non-factual operators that can license the D_{\emptyset} . Thus evidentials are consistent with all the other non-factual operators we discussed above, which govern the meaning of the polarity D_{\emptyset} appearing in their c-command. The question about what forces D choice with these operators will be answered in Chapter 4.

26. There is a (dis)confirmational particle *ango* (here marked as a complementizer (C) that can be used with the polarity D_{\emptyset} as in the example below:

- (i) **Ango a-bhugh-a** mw-aana a-a-ku-re
Ango a-βuy-a mu-aná a-a-ku-ire
 C 3sg-say-FV C1-child 3sg-PST-die-PFV
 ‘She says a child died (I disconfirm it).’

I do not discuss this discourse particle here.

3.6 Summary and conclusion

In this chapter, based on various distributional tests for Nata Ds, I have reached the conclusion that the Nata augment is syntactically a D. I have distinguished nominal expressions that are predicate nominals from those which are argument nominals. Nominal predicates predictably lack a D, thus appear with the φ -N structure. Such nominals do not denote an individual, rather they denote a property. On the other hand, argument nominals have the D-layer, either overtly or covertly.

The DP containing the null D appear with the same φ -N structure as a nominal predicate. However, I have shown that the syntactic distribution of each of these structures vary. Predicate nominals need no licensing, while the polarity-sensitive D_{\emptyset} is syntactically restricted and it must be c-commanded by a non-factual operator. The operators that license D_{\emptyset} are summarized in Table 3.1.

Table 3.1: Operators that license the polarity-sensitive D_{\emptyset}

Environments	Op licensing D_{\emptyset}	Subj	Obj	Diagnostics from
Negation	Sentential Neg	✓	✓	Klima 1964
	Intonational Neg	✓	✓	Swart 2009
	Lexical Neg	✗	✓	Yoon 2013
	Negative light v	✗	✓	Halpert 2012
Interrogatives	Yes/No Qns	✓	✓	Cheng 1991
	WH-Qns	✗	✗	Pesetsky 1987
Conditionals	If-clauses	✓	✓	Matthewson 1999
Modals	Modals	✓	✓	Matthewson 1998
	Subjunctive mood	✓	✓	Giannakidou 2002
	Hearsay evidentials	✓	✓	Matthewson 1998

I argued that subject DPs with D_{\emptyset} are generated in Spec, vP and are licensed under the c-command domain of Negation. This correctly rules out licensing of D_{\emptyset} in subjects by lexical negation and negative light verbs which do not c-command the subject DP with a D_{\emptyset} . I have shown that unaugmented NPs referred to as "bare NPs" in much Bantu literature (see

Progovac 1993; Hyman and Katamba 1993; Visser 2008; Halpert 2012; and others), in Nata, are in fact DPs containing a polarity D_{\emptyset} . Nata argument DPs cannot be bare NPs/ φ Ps as demonstrated in this chapter; only nominal predicates can be bare NPs/ φ Ps.

On the overt Ds, I have shown that the overt Ds appear as a syntactic default; as such, they appear in a variety of syntactic environments and they need no licensing. Having established that the Nata augment is a D, in the next chapter I present and then argue for the semantic proposal that underlies the two Ds presented below:

- (257) a. Argument DPs: D
b. Polarity-sensitive Argument DPs: D_{\emptyset}

I will claim that D choice in (257) is forced by the semantic notion of ‘existence’.

Chapter 4

The semantics of Nata D

4.1 Introduction

Before we delve into my proposal about the semantic function of augments/Ds in Nata, I wish to make a quick recap of what we have learned so far about Nata augments. In the previous chapter, I established that the augment is the realization of the functional category D. In chapter 2, I examined various potential D contrasts, and concluded that the generalizations in (258) are upheld in Nata:

- (258)
- a. Augments/Ds do not encode (in)definiteness.
 - b. Augments/Ds do not encode (non)specificity.
 - c. Augments/Ds do not encode deictic features.
 - d. Augments/Ds do not encode Case.
 - e. Augments/Ds do not encode mass-count distinction.
 - f. Augment/Ds are not domain restriction elements.

In this chapter, I present and then argue for a proposal about the semantic function of the Nata D. I seek to provide a definitive answer to the

question of what semantic principle underlies the contrast between the two Nata DP types in (259):

- (259) a. Argument DPs with an overt D.
b. Argument DPs with a covert D/D \emptyset .

I claim that the contrast between Nata DPs with an overt D in (259a) and the DPs with a covert D/D \emptyset in (259b) involves the notion of ‘existence’ (see Givón 1978; Matthewson 1998; Van de Velde 2005; Gambarage 2012). I will show that the Nata D system is strikingly similar to the D system of St’át’imcets (Lillooet Salish), hence the two represent an emerging typology of ‘speaker-oriented existence Ds.’ Within a formal account, I claim that Nata Ds require an analysis involving choice functions (Reinhart 1997). I provide an existence-based choice function account following Matthewson (1999). However, since languages differ in the way they encode existence, i.e., the Nata belief-of-existence Ds differ from the assertion-of-existence Ds in St’át’imcets, I will discuss the implication of Nata Ds for this approach.

This chapter is organized as follows. In §4.2 I introduce the system of existence Ds. In §4.3 I present my proposal for Nata Ds and discuss the impetus for treating augments as speaker-oriented existence Ds. In §4.4 I discuss the main properties of speaker-oriented existence Ds. In §4.5, I discuss other correlated properties of existence Ds where I argue that they follow from the main properties of speaker-oriented existence Ds. Thus, §4.4 and §4.5 highlight the many parallels found between Nata and St’át’imcets D systems. In §4.6 I show that languages encode semantic notions of existence slightly differently. Following this, I discuss various factors for parameterizing existence Ds in Bantu and Salish. The choice function account is presented in §4.7. In §4.8 I present further predictions and the theoretical implications. In §4.9 I conclude.

4.2 Defining Existence Ds

Matthewson (1998) provides an analysis of indefinite Ds in St’át’imcets which encode ‘assertion of existence.’ According to Matthewson, the overt

Ds *X...-a*, (where *X* is a placeholder for different elements encoding deictic distinctions), as in (260a,b), consistently encode assertion of existence; on the other hand, *ku* (260c) encodes non-assertion of existence, though not by denying it:

(260) Encoding Existence St'át'imcets, Matthewson 1998: 55-56

- a. ʔáz-ən-aš [ti šćúq^waz-a] k^w-š Sophie
 az'-en-as [ti sts'úqwaz-a] kw-s Sophie
 buy-TR-3ERG [DET fish-DET] DET-NMLZR Sophie
 'Sofie bought [a fish].'
 = ∃x, x a fish, Sofie bought x
- b. x^wʔaz k-š ʔáz-ən-aš [ti šćúq^waz-a]
 cw7aoz kw-s áz-en-as [ti sts'úqwaz'-a]
 NEG DET-NMLZR buy-TR-3ERG [DET fish-DET]
 k^w-š Sophie
 kw-s Sophie
 DET-NMLZR Sophie
 'Sofie didn't buy [a fish].'
 = ∃x, x a fish, ¬Sofie bought x
- c. x^wʔaz k^w-š ʔáz-ən-aš [k^w-u šćúq^waz]
 cw7aoz kw-s áz'-en-as [ku sts'úqwaz']
 NEG DET-NMLZR buy-TR-3ERG [DET fish]
 kw-š Sophie
 kw-s Sophie
 DET-NMLZR Sophie
 'Sofie didn't buy [a/any fish].'
 = ¬∃x, x a fish, Sofie bought x

Within Bantu, Givón illustrates using Bemba data that DPs with an overt D refer to entities that 'exist' in the world of discourse. However, Givón opts to use the term 'referentiality', which I will not adopt here because of

the confusion that may arise given that some scholars use that term synonymously with ‘specificity.’ The Bemba D distinction is consistent with Matthewson’s characterization of the *assertion of existence* Ds in St’át’imcets. In (261a,b) for instance, Givón shows that nominals with overt Ds (those with an initial vowel and a class prefix (VCV nominals, his term) denote existence/referentiality, while their counterparts (those without an overt D) always fall under the scope of a non-factual operator (negation, modals, conditional, etc.) where they denote non-existence/non-referential meaning, (261c). Note that (261d) is bad because there is no licenser.

(261) D contrast in Bemba [Adapted from Givón 1978: 301]

- a. u = mu-ana a-a-somene i = ci-tabo
 D = C1-child SM1-PST-read D = C7-book
 ‘A/the child read a/the book.’
- b. u = mu-ana t-a-a-somene i = ci-tabo
 D = C1-child NEG-SM-PST-read D = C7-book
 ‘A/the child did not read a/the book.’
- c. u = mu-ana t-a-a-somene ci-tabo
 D = C1-child NEG-SM-PST-read C7-book
 ‘A/the child did not read any book.’
- d. *u = mu-ana a-a-somene ci-tabo
 *D = C1-child SM1-PST-read C7-book
 ‘*A/the child read any book.’

Based on this characterization, both Givón (1978) and Matthewson (1998) define *existence* in the following terms:

(262) **Informal definition of existence**

It involves, roughly, the speaker’s intent to ‘refer to’ or ‘mean’ a nominal expression to have non-empty references– i.e. to ‘exist’ –

within a particular universe of discourse (i.e., not necessarily within the real world) Givón (1978: 293-294).

Below I present my full proposal where I claim that the D contrast in Nata is also based on the notion of existence. Given that not all languages encode exactly the same notion of existence, the type of existence encoded in Nata Ds is extensively discussed in this chapter.

4.3 The proposal: Nata Ds encode ‘existence’

The existence D distinction found in St’át’imcets and Bemba Ds also derives the D choice in Nata. As the examples in (263a,b) show, when Nata speakers intend to commit to the existence of a referent contained in the proposition, the overt D is used. When speakers do not wish to commit to existence, the only option available is to use the null D/polarity sensitive D, which must fall under the c-command domain of a non-factual operator, e.g., negation, (263c). For this reason, speakers will never use the polarity D in affirmative/positive declarative sentences as they have no licenser, (263d).

(263) D contrast in Nata

- a. Makuru a-ka-ghor-a e = ghi-tabho
 Makurú a-ka-γór-a e = γí-taβo
 Makuru SA1-PST-buy-PFV D = C7-book
 ‘Makuru bought **a/the book.**’
 = $\exists x$ [book(x) & [Makuru bought x]]
- b. Makuru t-a-a-ghor-ire e = ghi-tabho
 Makurú t-a-a-γor-iré e = γí-taβo
 Makuru NEG-SA1-PST-buy-PFV D = C7-book
 ‘Makuru did not buy **(a/the) book.**’
 = $\exists x$ [book(x) & \neg [Makuru bought x]]

- c. Makuru t-a-a-ghor-ire ghi-tabho
 Makurú t-a-a-yor-iré yí-taβo
 Makuru NEG-SA1-PST-buy-PFV C7-book
 ‘Makuru did not buy **any book.**’
 ¬[∃x [book(x) & Makuru bought x]]
- d. *Makuru a-ka-ghor-a ghi-tabho
 *Makurú a-ka-yór-a yí-taβo
 Makuru SA1-PST-buy-PFV C7-book
 Intended: ‘Makuru bought **a/the book.**’

The semantic core of the D distinction in St’át’imcets, Bemba and Nata is the notion of ‘existence’ consistently. Based on Givón’s characterization of Bemba Ds, we may simply present the contrast expressed in the Nata D system for the examples in (263) as (264):

(264) **Determiner choice in Nata (Preliminary)**

- a. Overt D: conveys the speaker’s commitment to existence of an entity for the noun phrase.
- b. Covert D: conveys a lack of speaker commitment to existence.

While (264) seems at first glance to be a fair characterization of Nata Ds, within the emerging typology of speaker-oriented existence Ds discussed in this thesis, (264) cannot be a sufficient generalization to capture the different existence D distinctions. As Matthewson illustrates, in St’át’imcets, speakers fail ‘positively’ to assert existence in examples similar to (265), in which a referent has not materialized yet. I show below that this is not the case with Nata.

- (265) a. I will marry the next chief of Fountain (whoever it is).
 b. I will donate a chair for the new school.

I claim that both the Nata and the St'át'imcets D systems indeed have existence as their semantic core. The core difference between the two systems relates to cases where the speaker believes in the existence of a referent of a noun phrase, but does not have positive evidence for its existence. To be more precise, in St'át'imcets existence is asserted, while in Nata existence is believed. Thus, the two speaker-oriented existence Ds behave differently with respect to the requirement for asserting existence. The Nata overt D behaves as a weaker version of St'át'imcets assertion-of-existence Ds, as a speaker's personal evidence for the referent is not a requirement for encoding existence in Nata. To account for the general behaviour of Nata Ds, I claim that the generalization in (266) is crucial:

(266) **Informal definition**

Nata Ds encode 'speaker's belief of existence': the speaker *believes* that a nominal expression has a non-empty reference– i.e., a referent 'exists' within a particular universe of discourse (not necessarily within the actual world).

The Nata D contrast proposed in (264) has to be revised as in (267):

(267) **Determiner choice in Nata (Final)**

- a. Overt D: conveys the speaker's commitment to a belief of existence of an entity for the noun phrase.
- b. Covert D: conveys a lack of speaker commitment to a belief of existence for the noun phrase.

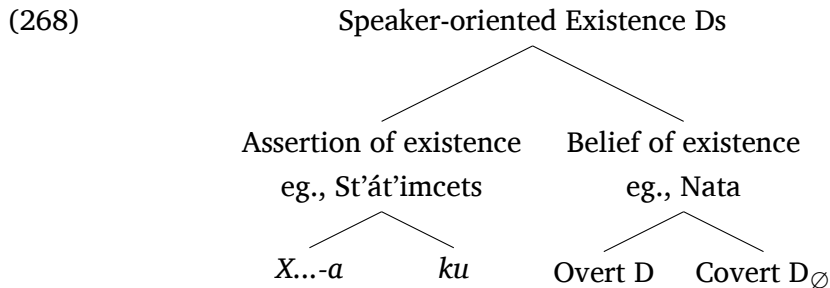
The interpretive contrast given in (267) is consistently supported throughout the Nata data¹. I discuss data from both Nata and St'át'imcets and claim that the parameter of variation between the two D systems is as presented in Table 4.1:

1. Note that 'belief of existence' is a cover term for the description of Nata Ds. One may also choose to call Nata Ds *presumptive*, *assumptive*, *suppositional*, etc. Thanks to Michael Rochemont for this observation.

Table 4.1: Requirements for use of the existence Ds

	St'át'imcets	Nata
Locus of parametric variation		
Existence of an entity is only believed	✗	✓
Existence of an entity is always asserted	✓	✗

I will argue that the Nata belief-of-existence Ds do not have a requirement for asserting existence, as is the case in St'át'imcets. Based on this fact, I propose a split in speaker-oriented-existence Ds as in (268):



While the contrast in the St'át'imcets Ds is expressed overtly, the lack of phonological content for the polarity sensitive D_{\emptyset} /the covert D in Nata is also explained within the syntactic-semantic mapping. The covert D is interpretable at LF as marking DPs with non-existential interpretation. This mapping for Nata is presented in (269) below:

(269) **Syntactic-Semantic mapping**

Semantic function	Phonology	Overt syntax
Commitment to existence	Pronounced D	Argument DP: D
Lack of commitment to existence	Unpronounced D	Argument DP: D_{\emptyset}
Property denoting	N/A	Predicate: NP

In (269), the D contrast is expressed overtly in the syntax where it involves the deployment of the phonological content of D. My claim in Chapter 3 was that property-denoting nominals differ from the DPs containing

a D_{\emptyset} in that predicate nominals do not have a D shell, but argument nominals in Nata are DPs (cf. Stowell 1989; Longobardi 1994; Déchaine and Tremblay 2011; and others)². The motivation for analyzing Nata overt Ds as existence Ds is discussed below.

A major motivation for the proposal that Nata Ds encode the notion of existence comes from the many parallels that Nata Ds have with the ‘speaker-oriented existence Ds’ in languages such as Bemba (Bantu) (Givón 1978), Luganda (Bantu) (Van De Velde 2005) and St’át’imcets (Salish) (Matthewson 1998; 1999).

Givón argues clearly that the core notion that forces Bemba D choice is that an entity ‘exists’ in the world of discourse. Givón’s definition of existence is repeated below:

(270) Givón’s definition of existence

It involves, roughly, the speaker’s intent to ‘refer to’ or ‘mean’ a nominal expression to have non-empty references– i.e. to ‘exist’ – within a particular universe of discourse (i.e not necessarily within the real world)’
Givón (1978: 293-294).

More explicitly, Matthewson acknowledges that the Bantu D system is similar in many respects to the St’át’imcets system, as she remarks:

Givón makes the cross-linguistic claim that nominals falling under the scope of a possible modality or negative modality may receive either a referential (i.e. assertion of existence) or non-referential interpretation; otherwise all nominals are interpreted referentially (1978: 294). This is the case in Bemba as well as in Salish. [...]Givón’s definition is based on Bemba (Bantu), whose determiner system shows similarity with Salish systems.
[Matthewson 1998: 55, 69]

2. As I argued previously, I will maintain unaugmented NPs (referred to as “bare NPs” in much Bantu literature (cf. Progovac 1993; Hyman and Katamba 1993; Visser 2008; Halpert 2012)), in Nata are DPs containing a covert D.

The parallels between Bantu Ds and the Salish ‘assertion of existence’ Ds have also been observed by Van de Velde (2005) in Luganda:

[...]the recurrent observation that objects of negative verbs and nouns modified by a question word do not have an augment is reminiscent of the role of the determiner in Salish languages. According to Matthewson (1998), Salish determiners encode assertion of existence. In the Salish languages there are determiners that assert the existence of a referent and there are determiners that do not assert existence (without, however, denying it). The non-assertion of existence marker in St’át’imcets is *ku*. It is restricted in its syntactic distribution... As I see it, the determiner *ku* in St’át’imcets corresponds to a certain extent to the absence of the augment in Ganda (J15), whereas the assertion of existence determiners correspond to the augment.

[Van de Velde 2005: 16]

While I agree also that the two language families (Bantu and Salish) have ‘existence’ as the core semantics of their Ds, I argue below (and in Chapter 5) that Nata, like Luganda, encodes the notion of belief of existence which is slightly different from the notion of assertion-of-existence found in St’át’imcets and Bemba systems. The parallels between Nata belief-of-existence Ds and St’át’imcets assertion-of-existence Ds provide further evidence that speaker-oriented existence is robustly available as a determiner distinction (see Gambarage and Matthewson 2019). Below I will discuss the two different notions of existence which introduce the locus of variation within the speaker-oriented existence Ds. I first discuss core properties of the speaker-oriented existence Ds.

4.4 Properties of speaker-oriented existence Ds

The Nata belief-of-existence system shares some core properties with other existence Ds, e.g., assertion-of-existence Ds in St’át’imcets. I propose that (271) provides the defining core properties of existence Ds.

- (271) a. Existence Ds are speaker-oriented systems.
b. Existence Ds encode existence (i.e., by assertion or belief).

I discuss these properties with data from both Nata and St'át'imcets starting with the speaker-based property.

4.4.1 Speaker-oriented existence Ds

Speaker-oriented existence Ds, unlike the speaker-hearer English system which involves common ground knowledge, have a negative setting of the common ground parameter, i.e., do not access the hearer's knowledge (Matthewson 1998). Both in Salish and Bantu (Nata) the speaker is the sole arbiter. This does not mean that assertion-of-existence or belief-of-existence Ds cannot feature in definite/familiar discourse contexts. Matthewson, for instance, illustrates that the D *X...-a* Ds in St'át'imcets only encode assertion of existence and not a novel-familiar distinction. The same is true in Nata. Belief-of-existence Nata Ds are neutral with respect to the novel-familiar distinction; as a result, they are used both in novel and in familiar contexts (see Van de Velde 2019; and Chapter 2).

4.4.2 Ds encode a core notion of existence

In both systems, the D choice is forced by the notion of 'existence', and not definiteness or specificity. I show that existence Ds may encode the existence of either actual things or non-actual things in the world of discourse.

4.4.2.1 Existence with actual referents

Matthewson argues explicitly that D choice in St'át'imcets is based on assertion of existence. She illustrates that the DP *tí sts'úqwaz'a* with the D *tí...a* in (272) is interpreted with existential force whereby it asserts the existence of a fish, as the informal semantics show. On the other hand, the DP with the polarity D *ku* is interpreted under the scope of a non-factual operator (negation, conditionals, modals, and question-morphemes) where

it is associated with a non-existential interpretation. In (273) *ku* is licensed by negation.

(272) Existential Force [St'át'imcets, Matthewson 1998: 55]

- a. ʔáz-ən-aš [ti šćúq^waž-a] k^w-š Sophie
 az'-en-as [ti sts'úqwaz-a] kw-s Sophie
 buy-TR-3ERG [DET fish-DET] DET-NMLZR Sophie

'Sofie bought [a fish].'

= ∃x, x a fish, Sofie bought x

- b. x^wʔaz k-š ʔáz-ən-aš [ti šćúq^waž-a]
 cw7aoz kw-s áž-en-as [ti sts'úqwaz'-a]
 NEG DET-NMLZR buy-TR-3ERG [DET fish-DET]

k^w-š Sophie

kw-s Sophie

DET-NMLZR Sophie

'Sofie didn't buy [a fish].'

= ∃x, x a fish, ¬Sofie bought x

(273) No-existential Force [St'át'imcets, Matthewson 1998: 56]

- a. x^wʔaz k^w-š ʔáz-ən-aš [k^w-u šćúq^waž]
 cw7aoz kw-s áž-en-as [ku sts'úqwaz']
 NEG DET-NMLZR buy-TR-3ERG [DET fish]

kw-š Sophie

kw-s Sophie

DET-NMLZR Sophie

'Sofie didn't buy [a/any fish].'

= ¬∃x, x a fish, Sofie bought x

The Nata belief-of-existence D/the overt D can be used in contexts which assert existence, (274). Here, the DP *e = ghi-tabho* 'a/the book' is interpreted with existential force paralleling the use of the St'át'imcets overt D *tí...a* in (272) above:

(274) Existential Interpretation

[Nata]

- a. Makuru a-ka-ghor-a e = ghi-tabho
Makurú a-ka-γor-a e = γí-taβo
Makuru SA1-PST-buy-PFV D = C7-book
'Makuru bought **a/the book.**'
= $\exists x$ [book(x) & [Makuru bought x]]
- b. Makuru t-a-a-ghor-ire e = ghi-tabho
Makurú t-a-a-γor-ire e = γí-taβo
Makuru NEG-SA1-PST-buy-PFV D = C7-book
'Makuru did not buy **(a/the) book.**'
= $\exists x$ [book(x) & \neg [Makuru bought x]]

Likewise, the non-belief-of-existence D must be interpreted under the scope of a non-factual operator such as negation to render the non-existential interpretation:

(275) Non-existential Interpretation

[Nata]

- Makuru t-a-a-ghor-ire ghi-tabho
Makurú t-a-a-γor-ire γí-taβo
Makuru NEG-SA1-PST-buy-PFV C7-book
'Makuru did not buy **any book.**'
 $\neg[\exists x$ [book(x) & Makuru bought x]]

The polarity/non-belief-of-existence D in Nata parallels the determiner *ku* in St'át'imcets, which fails to assert existence; hence, both Ds are not associated with existential interpretation. Note crucially that while DPs interpreted under the scope of negation may be argued to deny existence of a referent denoted by the NP, speakers do not always deny existence. When a polarity DP is interpreted under the scope of a modal or a question morpheme, the speaker is not denying existence, but rather conveying a lack of commitment to existence (see Matthewson 1998, 1999).

4.4.2.2 Existence with non-actual referents

Both Givón (1978) and Matthewson (1998) show that in certain contexts, existence Ds can be used to talk about referents that exist only in the mind of the speaker, i.e., the Ds can be used in non-actual worlds such as visions and dreams. Thus, the use of the assertion-of-existence D *tí...a* in (276) is consistent with the existential interpretation of the policemen in the speaker's dream (i.e., the policeman is a participant that exists only in the mind of the speaker).

(276) Existence Ds in dreams [St'át'imcets, Matthewson 1998: 132]

- a. $k^w\eta k^w lax^w$ -kan k^w -a-š túp-un'-aš
 $kw\eta kw lacw$ -kan kw -a-s túp-un'-as
 dream-1SG-SUB DET-PROG-NMLZR punch-TR-3ERG
 š-John [ti plíšmən-a]
 s-John [ti plíšmen-a]
 NMLZR-John DET policeman-EXIS
 'I dreamed that John hit a policeman.'
- b. * $k^w\eta k^w lax^w$ -kan k^w -a-š túp-un'-aš
 * $kw\eta kw lacw$ -kan kw -a-s túp-un'-as
 dream-1SG-SUB DET-PROG-NMLZR punch-TR-3ERG
 š-John [ku plíšmən]
 s-John [ku plíšmen]
 NMLZR-John NON-EXIS policeman
 Intended: 'I dreamed that John hit a policeman.'

The same is true in Nata: the belief-of-existence Ds can also be used in describing dreams or visions. Example (1) talks about non-actual worlds. The speaker is only describing mythical creatures such as ogres that he dreamt about³.

3. One may wonder if it is possible to convey existence in non-actual world using a third person, for instance, *Maria dreamed about ogres fighting with each other*. Unlike St'át'imcets where lack of speaker personal knowledge is linked with the use of an non-assertion of

(277) Description of dream

[Nata]

a. n-ka-rɔɔt-a a = amanani gha-ra-rwaan-a
n-ka-rɔɔt-a a = ma-nani ya-ra-ruan-a
SAM-1sg-PST-drean-FV D = C6-ogres SA-PROG-fight-FV
'I dreamed about ogres fighting with each other.'

b. *n-ka-rɔɔt-a ma-nani gha-ra-rwaan-a
*n-ka-rɔɔt-a ma-nani ya-ra-ruan-a
SAM-1sg-PST-drean-FV C6-ogres SA-PROG-fight-FV
Intended: 'I dreamed about ogres fighting with each other.'

Below I show that all other correlated properties of existence Ds follow from the core properties of speaker-oriented existence Ds.

4.5 Correlated properties of speaker-oriented existence Ds

I discuss the correlated diagnostics of speaker-oriented existence Ds and claim that they follow from the core properties of the speaker-oriented existence Ds discussed in §4.4 above. These are summarized below:

existence D, in Nata it is possible for the speaker to use the overt D in such contexts if he has reason to believe that the subject of the sentence. If the speaker has a reason to not commit to a belief that Maria dreamt s/he will embed the proposition under a reportative or quotative verb which will license the polarity D, and render the non-belief of existence interpretation of ogres; something like:

(i) Nyoghw-a M. a-ka-rɔɔt-a amanani gha-ra-rwaan-a
ɲ-oɣw-a M. a-ka-rɔɔt-a ma-nani ya-ra-ruan-a
1sg-hear-FV M. SAM-1sg-PST-drean-FV C6-ogres SA-PROG-fight-FV
'I hear (that) M. I dreamed about ogres fighting with each other.'

For the discussion about evidential lexical verbs see Chapter 3.

Table 4.2: Summary of correlated diagnostics

Correlated diagnostics of Ds in the two languages	St'át'imcets	Nata
Encoding definiteness	✗	✗
Encoding specificity	✗	✗
Polarity sensitivity	✓	✓

Some of the Nata data discussed here are repeated from Chapters 2 and 3 for the purpose of comparing the Nata belief-of-existence system and the St'át'imcets assertion-of-existence system.

4.5.1 Speaker-oriented Ds do not encode definiteness

The lack of a definiteness distinction in St'át'imcets and Nata follows from my analysis that Ds in these languages are speaker-based; they do not access the hearer's knowledge. Matthewson argues explicitly that Ds in Salish do not make any familiar-novel distinction, as the English system does. The St'át'imcets data in (278) show that the assertion-of-existence *D ti...a* is used when the individual is novel and when it is familiar:

(278) No familiar-novel contrast [St'át'imcets, Matthewson 1998:34]

- a. húy-łkan ptak^{wł}, ptak^{wł}-min lčʔa
 huy'-lhkan ptakwlh, ptakwlh-min lts7a
 going.to-1SG.SUB tell.story tell.story-APPL here
 [ti šmémłáč-a]...
 [ti smém'lhats-a] ...
 [DET woman(RED)-DET]...
 'I am going to tell a legend, a legend about [a girl]_i.' (novel)
- b. waʔ k^wuʔ ʔílal látiʔ [ti šmémłáč-a]
 wa7 ku7 ílal láti7 [ti smém'lhats-a]
 PROG QUOT cry DEIC [DET woman(RED)-DET]
 '[The girl]_i was crying there.' (familiar)

The novelty-familiarity distinction is also irrelevant in Nata. The same D is used with novel and in familiar referents, as shown below:

- (279) a. hayo kare [o=mu-temi] a-gha-simok-a
 hayo kare [o=mu-temi] a-ya-simok-a
 there long.ago [D=C1-chief] SA1-PST-rise-FV
 ‘Long ago **a chief** was enthroned.’ (novel)
- b. o-ro-siko ru-mwe, [o=mu-temi] a-gha-kom-a
 o-ro-siko ru-mwe [o=mu-temi] a-ya-kom-a
 D=C11-day C11-one [D=C1-chief] SA1-PST-gather-FV
 a = bha-to bha-ache
 a = βáa-to βá-atʃe
 D = C2-people C2-his
 ‘One day **the chief** gathered his people.’ (familiar)

The St’át’imcets assertion-of-existence Ds *X...-a* and the Nata belief-of-existence D do not encode definiteness. What the interpretations of DPs like *ti šmám̄tač-a* ‘a/the girl/woman’ and *o = mu-temi* ‘a/the chief’ have in common here is that they are associated with an existential interpretation. Next I consider specificity.

4.5.2 Speaker-oriented Ds do not encode specificity

The data in both languages show that existence Ds do not contrast for specificity. The Ds can be used both in specific and non-specific contexts. In St’át’imcets the same assertion-of-existence D can be used to refer to a specific referent or a non-specific referent⁴:

- (280) [**Context:** The speaker has just heard on the telephone that a teacher she knows named Leo is coming. She reports this infor-

4. Note that in these examples the enclitic =a portion of the determiner is phonologically deleted following the auxiliary wa⁷.

mation to a colleague] [St'át'imcets, Matthewson 1998: 42]):
 x^wuz' k^wu? čʔaš [ti wa? čunám'-xal] [Specific]
 cuz' ku7 ts7as [ti wa7 tsunám' -xal]
 going.to QUOT come [DET PROG teach-INTR]
 'A teacher is coming.'

- (281) [Context: The speaker has just heard on the telephone that a teacher is coming (she does not know who). She reports this information to a colleague] [St'át'imcets, Matthewson 1998: 42]):
 x^wuz' k^wu? čʔaš [ti wa? čunám'-xal] [Non-specific]
 cuz' ku7 ts7as [ti wa7 tsunám'-xal]
 going.to QUOT come [DET PROG teach-INTR]
 'A teacher is coming.'

Similarly in Nata, Ds do not encode specificity. The same D is used to refer both to specific, (282) and non-specific referents, (283).

- (282) [Context: The speaker has just heard on the telephone that a farmer she knows is coming. She reports this information to a colleague:]
 [Context adapted from Matthewson 1998]

a. o = mo-remi n = aa-ku-cha [Specific]
 o = mó-rem-i n = aa-ku-tʃá
 D = C1-farm-FV SAM-3sg-FUT-FV
 'A farmer is coming.'

b. * mo-remi n = aa-ku-cha
 * mó-rem-i n = aa-ku-tʃá
 C1-farm-FV SAM-3sg-FUT-FV
 Intended: 'A farmer is coming.'

(283) [Context: The speaker has just heard on the telephone that a farmer is coming (she does not know who). She reports this information to a colleague:] [Context adapted from Matthewson 1998]

a. o=mo-remi n=aa-ku-cha [Non-specific]

o=mó-rem-i n=aa-ku-tʃá

D=C1-farm-FV SAM-3sg-FUT-FV

‘A farmer is coming.’

b. *mo-remi n=aa-ku-cha

*mó-rem-i n=aa-ku-tʃá

C1-farm-FV SAM-3sg-FUT-FV

Intended: ‘A farmer is coming.’

These examples show that when the St’át’imcets assertion-of-existence Ds and the Nata belief-of-existence Ds are used, they encode existence of a referent of a noun phrase. They do not care about whether the referent denoted by a noun phrase is specific or non-specific, hence the D distinction in these languages is not based on the notion of specificity.

4.5.3 Polarity Ds must be licensed

As we saw in Chapter 3, polarity Ds are syntactically restricted in that they must be licensed by a non-factual operator. Both non-assertion-of-existence and non-belief-of-existence Ds are polarity sensitive Ds, hence must be interpreted under the scope of a non-factual operator, where they cannot be associated with an existential interpretation. It is important to note that languages whose Ds do not contrast for the notion of existence may disguise this contrast. Consider for instance, a system like English, (284), or Okanagan, (285), whose D systems do not contrast for existence. The indefinite Ds can be used both in assertion-of-existence and non-assertion-of-existence contexts. The Okanagan data are repeated from Chapter 2.

- (284) a. I didn't talk to **a man** who yelled at me. [existential]
 b. I didn't talk to **a man/any man**. [non-existential]

(285) Ds do not contrast for existence [Okanagan, Lyon 2011: 26]

- a. iʔ sqəłtmíx^w lutaʔ kaʔkíc-ís iʔ sənklčaʔsqáxaʔ
 Det man NEG find.(DIR)-3SG.ERG **Det** horse
 'The man didn't find **the horses**.'
- b. iʔ sqəłtmíx^w lutaʔ kaʔkíc-ís iʔ sənklčaʔsqáxaʔ
 Det man NEG find.(DIR)-3SG.ERG **Det** horse
 'The man didn't find **any horses**.'

Unlike in English and Okanagan, D choice is forced by existential interpretation in both St'át'imcets and Nata. As we have seen from the outset, the Ds used in contexts where a referent is either asserted or believed to exist must be morphologically distinct from the ones used in contexts that render a non-existential interpretation. I discuss such contexts first in St'át'imcets, then in Nata.

4.5.3.1 Licensing in St'át'imcets

Matthewson demonstrates that the polarity D *ku* in St'át'imcets is syntactically restricted and must fall under the c-command domain of a non-factual operator such as negation (286), a question morpheme (287), a modal (288), or a conditional operator, (289). In such environments, the speaker does not intend an existential interpretation.

- (286) Negation licenses *ku* [St'át'imcets; Matthewson, 1999: 88]
cw7aoz kw-s áts'x-en-as [**ku** sqaycw]
 NEG DET-NMLZR see-TR-ERG NON.EXIS.DET man
 'She didn't see any men.' (≠ 'She didn't see the men.')

(287) Yes/no Q licenses *ku* [St'át'imcets; Matthewson, 1999: 88]
 áts'x-en-lhkácw **ha** [**ku sqaycw**]
 see-TR-2SG.SUBJ YNQ [DET man]
 'Did you see a man/any man?'

(288) The modal *kelh* licenses *ku* [St'át'imcets; Matthewson, 1998: 54]
 tæx^wp-mín-lhkan **kł** [**k^wu** puk^w] natx^w
 tæcw^p-mín-lhkan **kelh** [**ku** pukw] natcw
 buy-APPL-1SG.SUBJ might [DET book] tomorrow
 'I might buy [a book] tomorrow'.

[Context: Mary will be happy if any elders come, but that's impossible, because there are no elders in this community].

(289) Conditional licenses *ku* [St'át'imcets, Matthewson 1999: 90]
 cuz' tsa7cw kw-s Mary lh-t'íq-as [**ku**
 going.to happy DET-NMLZR Mary HYP-arrive-3CONJ [DET
 qelhmémen']
 old.person(DIMIN)]
 'Mary will be happy if any elder comes.'

Matthewson states that when a speaker has an entity in mind that matches the NP description, the assertion-of-existence D must be used. In this case, the DPs containing a determiner ending with *a* take wide scope with respect to these operators, where they receive an existential interpretation. Compare the D data in the modal contexts in (288) and in conditionals in (289) and the data below, in which the assertion-of-existence D is used.

- (290) Modal environment [St'át'imcets, Matthewson 1998: 54]
 təx^wp-mín-lkan kɬ [ti púk^w-a] natx^w
 təcwp-mín-lhkan kelh [ti púk^w-a] natcw
 buy-APPL-1SG.SUB might [DET book] tomorrow
 'I might buy a/the book tomorrow'.

[Context: There are a bunch of elders in this community. Mary dislikes most of these elders and doesn't want them to come. There is just one elder who she wants to come].

- (291) Conditional environment [St'át'imcets, Matthewson 1999: 90]
 cuz' tsa7cw kw-s Mary lh-t'íq-as [ti
 going.to happy DET-NOM Mary HYP-arrive-3CONJ [DET
 qelhmémen'-a]
 old.person(DIMIN)-EXIS]
 'Mary will be happy if an elder comes.'

4.5.3.2 Licensing in Nata

We saw in St'át'imcets that the polarity sensitive D must be licensed; the same is true for Nata D_{\emptyset} . As we saw in Chapter 3, the D_{\emptyset} may be licensed by negation (292), the Q-morpheme (293), the modal operator (294), and the conditional morpheme (295). With all of these operators, when speakers are not conveying belief of existence of the DP referent, they always switch to using the D_{\emptyset} .

- (292) Negation licenses D_{\emptyset} [Nata]
- a. ghi-tabho ghi-ta-a-hun-ire Makuru
 yí-taβo yi-ta-a-hun-ire Makuru
 C7-book C7-NEG-PST-hit-PFV Makuru
 'No book hit Makuru.'

- b. Makuru t-a-a-ghor-ire ghi-tabho
 Makurú t-a-a-yor-ire yí-taβo
 Makuru NEG-SA1-PST-buy-PFV C7-book
 ‘Makuru did not buy **any book**.’

(293) [Context: Speaker is not sure if there was any child.]

- a. angó mw-aana a-ka-ror-a Maria?
 angó mu-ána a-ka-rór-a María?
 Q C1-child 3s-PST-see-FV Maria
 ‘Did any child see Maria?’
- b. angó Maria a-ka-bhõn-a mw-aana?
 angó María a-ka-βón-a mu-ána?
 Q Maria 3s-PST-find-FV C1-child
 ‘Did Maria find any child?’

(294) [Context: B is not sure if there were children at the playground.]

- a. **hamwe** mw-ana n-a-are a-ra-bharaana ha-yo
hamwe mw-aná FOC-SA1-PST-aré a-ra-βaraana há-jɔ
maybe C1-child FOC-SA1-PST-be SA1-PROG-play there
 ‘Maybe a kid was playing there’.
- b. **hamwe** Makuru a-ka-bhõn-a mw-ana ha-yo
hamwe Makuru a-ka-βón-a mw-aná há-jɔ
maybe Makuru 3sg-find-PFV C1-child C16-there
 ‘Maybe Makuru found a kid there’.

(295) [Context: Maria has a sick child and she would be happy if any elder comes and shows her a cure but that’s impossible, because there are no elders in this community] [Adapted from Matthewson

1999:90].

mu-gharuka	a-ngi-i-ch-ire	Maria
mu-γáruka	a-nga-i-tʃ-íre	Maria
C1-elder	SA3-COND-REFL-come-PFV	Maria

n = a-nga-chomir-u

n = a-nga-tʃomer-u

SAM = PST-COND-be.happy-PASS

‘If any elder came Maria would be happy.’

As we saw in St’át’imcets, if a Nata speaker intends to commit to the belief of existence of an entity, s/he has to switch and use the belief-of-existence D. As can be seen below, the overt D can be used with negation (296), with the Q-morphemes (297), with the modal (298), and with the conditional (299). In all these cases the DPs with the overt D are associated with an existential interpretation.

- (296) a. e = ghi-tabho ghi-ta-a-hun-ire Makuru
e = γí-taβo yi-ta-a-hun-ire Makuru
D = C7-book C7-NEG-PST-hit-PFV Makuru
‘A/the book did not hit Makuru.’

- b. Makuru t-a-a-ghor-ire e = ghi-tabho
Makurú t-a-a-γor-ire e = γí-taβo
Makuru NEG-SA1-PST-buy-PFV D = C7-book
‘Makuru did not buy a/the book.’

(297) [Context: Speaker is inquiring about some child]

- a. angó u = mw-aana a-ka-ror-a Maria?
angó u = mw-áana a-ka-rór-a María?
Q D = C1-child 3s-PST-see-FV Maria
‘Did a/the child see Maria?’

- b. ango Maria a-ka-bhɔn-a u = mw-aana?
 ango María a-ka-βón-a u = mw-ána?
 Q Maria 3s-PST-find-FV D = C1-child
 ‘Did Maria find a/the child?’

[**Context:** It is a sunny day and lots of kids’ noises are coming from the playground. Makuru went to the playground. Mom is wondering why he is not back for lunch].

- (298) a. hamwe a = bha-ana m = bha-ku-bharaan-a na-we
 hamwe a = βa-aná m = bá-ku-βáaraan-a na-wé
 maybe D = C2-children FOC = SA2-IMPFV-play-FV with-3sg
 ‘Maybe the/some children are playing with him’.
- b. hamwe n = a-a-ku-bharaan-a na a = bha-ana
 hamwe n = á-á-ku-βáaraan-a na a = βa-aná
 maybe FOC = SA1-IMPF-play-FV with D = C2-children
 ‘Maybe he is playing with (the) children’.

- (299) [**Context:** Maria has a sick child and only elderly people know the traditional cure of the disease. There is a specific elder who knows the medicine for the disease. Maria says she would be happy if that elder showed up] [Adapted from Matthewson 1999: 90].

o = mu-gharuka a-ŋgi-i-ch-ire Maria
 o = mu-ɣáruka a-ŋga-i-tj-íre Maria
 D = C1-elder SA3-COND-REFL-come-PFV Maria
 n = a-ŋga-chɔmiir-u
 n = a-ŋga-tjɔmer-u
 SAM = PST-COND-heal-PFV

‘If an/the elder came Maria would be happy.’

I adopt the common analysis for these cases that the DP containing the overt D is interpreted semantically as scoping above the non-factual operator (see Matthewson 1998, 1999; Giannakidou 1998; Gambarage 2012; and others).

The many parallels between the Nata augment/D system and the St'át'incets assertion-of-existence D system are based on the fact that the core semantics of both systems is a speaker-oriented commitment to existence of a referent. While this seems to be the case, the two systems also seem to slice their semantic pie slightly differently. I discuss these differences below.

4.6 The Locus of Parametric Variation

The upshot of the semantic/pragmatic factors that form the basis of the parametric variation for St'át'incets and Nata is given below.

Table 4.3: Locus of variation between St'át'incets and Nata

Locus of variation among Ds	St'át'incets	Nata
Speaker's personal knowledge is required	✓	✗
Speaker conveys existence by surmising	✗	✓
Speaker conveys existence of non-materialized entities	✗	✓
Speaker conveys existence in possible worlds	(✗)	✓
Deictic features in D	✓	✗

To understand how Nata belief-of-existence Ds and St'át'incets assertion-of-existence Ds slice up their semantic pie differently in terms of the points in Table 4.3, I consider the generalization in (300):

(300) **The relation between Nata and St'át'incets Ds**

Assertion of existence asymmetrically entails belief of existence.

Nata overt Ds are more permissive than St'át'incets Ds ending with *-a*. The entailment relation in (300) predicts that in all the contexts

where a St'át'imcets assertion-of-existence *D X...-a* is used, the Nata belief-of-existence *D* will also be used, but the reverse implication does not hold. For example, the Nata *D* can be used in surmising contexts but the St'át'imcets assertion-of-existence *Ds* cannot. Another way to say this is that the existence-related *Ds* are in a subset-superset relationship (i.e., the St'át'imcets system is a subset of the Nata system). I discuss the relevant contexts below.

4.6.1 Requirement for speaker's personal knowledge

The requirement for speaker's personal knowledge is one of the conditions for asserting existence which seems to be missing in Nata. Matthewson (1998) shows that in St'át'imcets, if the speaker did not personally witness the event or does not have personal knowledge of a referent, the speaker will only use the non-assertion-of existence *ku*. As Matthewson demonstrates, in (301), the speaker was only told by someone that a chief came to visit her (e.g., she was sick in bed at the time and did not witness any chief visiting), hence the use of the non-assertion-of existence *ku*. Note the usage of the quotative particle *ku7*, which is an evidential marker indicating speaker direct knowledge is missing (i.e., s/he did not witness the event) (Matthewson et al. 2007; Matthewson 1998; 2011):

- (301) The determiner *ku* [St'át'imcets; Matthewson 1998: 179]
 ʔak k^wu? ʔáçx-ən-č-aš [k^wu k^wúk^wupi?]
 t'ak ku7 áts'x-en-ts-as [ku kukwpi7]
 go QUOT see-TR-1SG.OB-3ERG NON.EXIS.DET chief
 ʔi nátx^w-aš
 i natcw-as
 when.PAST day-3SG.CONJ
 'A chief came to see me yesterday (I was told).'

However, when a St'át'imcets speaker is a witness, i.e., has full knowledge of the individual, the assertion-of-existence enclitic *-a* is used. Here the QUOT particle disappears because the speaker has witnessed the event:

- (302) *X...a* determiners [St'át'imcets; Matthewson 1998: 179]
 ʎak ʎáçx-ən-č-aš [k^wu k^wúk^wupiʔ-a] ʎi
 t'ak áts'x-en-ts-as [ku kukwpiʔ-a] i
 go see-TR-1SG.OB-3ERG DET chief-EXIS when.PAST
 nátx^w-aš
 natcw-as
 day-3SG.CONJ
 'A chief came to see me yesterday (I saw him).'

In Nata, speaker's personal knowledge/first hand evidence is not a requirement for belief of existence. As I showed in Chapter 3, the Nata lexicon does not have evidential particles/clitics like St'át'imcets, but the language does have verbs that can function as evidentials—for instance, the quotative verb *nyoogwa* 'I heard' as in (303). Unlike the St'át'imcets example (301), Nata belief-of-existence Ds will be used even in contexts where the speaker was only told about a chief's visit and never met him, (303). Recall from Chapter 3 that the quotative verb *nyoogwa* can in fact license the polarity D in contexts where the speaker does not trust the source of information/does not believe that a chief exists, which will parallel the St'át'imcets D *ku*.

- (303) ny-oghw-a o = mu-tɛmi a-ka-cha ku-n-dɔr-a
 ɲ-oɣhw-a o = mu-tɛmi a-kaa-tʃá ku-ne-rór-a
 1sg-hear-FV D=C1-chief SA1-PST-come C15-1sg-see-FV
 ichɔ
 itʃá
 yesterday
 'I heard a chief came to see me yesterday.'

The use or non-use of the overt Ds does not depend on speaker's personal knowledge. Whether the speaker lacks personal knowledge as in (303), or the speaker has personal knowledge as in (304), the overt D is used.

- (304) o = mu-tɛmi a-ka-cha ku-n-dɔr-a icho
 o = mu-tɛmi a-kaa-tʃá ku-ne-rɔr-a itʃɔ
 D = C1-chief SA1-PST-come INFT-1O.sg-see-FV yesterday
 ‘A chief came to see me yesterday (I saw him).’

We see that the St’át’imcets assertion-of-existence Ds require speaker’s personal knowledge (i.e., the speaker to be a witness) in order to be used; however, we see that the Nata D can be both used in similar contexts and beyond, which indicates that assertion of existence entails belief of existence. In Nata speakers commit to the belief of existence when they have a reason to do so; but obviously speaker’s personal knowledge is not a requirement for a belief of existence system.

4.6.2 Surmising contexts

Matthewson (1998) illustrates that in surmising contexts in St’át’imcets—contexts in which the speaker supposes that entities exist without having evidence to confirm their existence—the assertion of existence Ds cannot be used. If the speaker did not witness the event, extra morphological marking by special particles/clitics is required to indicate that the speaker lacks personal knowledge of the event. In (305), for instance, the particle *k’a* ‘surmise’ (also analyzed and glossed as an inferential evidential in Matthewson et al. 2007) is a non-factual operator which licenses the non-assertion-of-existence D:

- (305) No speaker knowledge [St’át’imcets; Matthewson 1998: 160/2]
 a. šáma? k’a [k^wu šqwal’-ən-táli]
 sáma7 k’a [ku sqwal’-en-táli]
 white.person surmise [NON.EXIS.DET tell-TR-ERG.EXTR]
 ‘It must have been a white man who told her.’

- b. qám't-š-aš k'a [k^wu ?úx^walmix^w]...
 qam't-s-as k'a [ku ucwalmicw]...
 hit-CAUS-3ERG **surmise** [NON.EXIS.DET person]...
 'A person might have been hit...'

If no particle or non-factual operator is used, the default interpretation is that the speaker has personal knowledge of the event, and therefore of the individual involved in the event, hence the assertion-of-existence D must be used:

(306) Speaker knowledge [St'át'imcets, Matthewson 1998: 160-1]

- a. túp-un-aš š-John [ti plíšmən-a]
 tup-un'-as s-John [ti plismen-a]
 punch-TR-3ERG NOM-John [DET policeman-EXIS]
 'John hit a policeman.'
 (Speaker witnessed the event [so knows the individual]).
- b. *túp-un-aš š-John [k^wu plíšmən]
 *túp-un'-as s-John [ku plismen]
 punch-TR-3ERG NOM-John [NON.EXIS.DET policeman]
 'John hit a policeman.'
 (= I saw John hit a policeman whom I have never seen).

Furthermore, in cases where the speaker believes in the existence of an entity due to cultural assumptions, but has not directly witnessed the entity, the non-assertion-of-existence D is used⁵. Note that the future tense here licenses the polarity D:

(307) [**Context:** Suppose that there is a belief in this community that if you see a trail of ants, you'll eat meat tonight. You see a trail of

5. Thanks to Henry Davis for eliciting these data for me and thanks to Lisa Matthewson for helping to gloss them.

ants]:

#ts'aqw-an'-ém kelh ta ts'í7-a lhkúnsa
eat-TR-1PL.ERG FUT DET meat-EXIS today
ku-sgap
NON.EXIS.DET-evening

'We will eat meat tonight.'

Consultant: corrected *ta...a* to *ku* [St'át'imcets]

In this example, the speaker asks the elicitor to switch the assertion of existence D *ta...a* to the non-assertion of existence D *ku*, indicating that the speaker does not agree to assert the existence of meat. This shows further that in St'át'imcets, when an assertion-of-existence D is used, existence is not merely believed, but rather asserted based on the speaker's personal evidence of the referent.

Nata patterns differently in two ways. The first is that Nata does not mark speaker evidence morphologically; the second is that there is no requirement for assertion of existence, i.e., the speaker is not required to have knowledge of the referent to use the overt D. Since assertion of existence entails belief of existence, we predict that the Nata belief-of-existence D will be used both in contexts where existence of a referent is asserted as well as in surmising contexts, and this is correct. In (308), the speaker has personal evidence about the existence of the individual, and belief of existence follows from assertion of existence:

(308) a. Yohana a-gha-təm-a o = moo-sirikare
Yohana a-ya-təm-a o = moo-sirikaré
John SA1-PST-hit-FV D = C1-policeman
'John hit a policeman.'
(Speaker witnessed the individual).

b. *Yohana a-gha-təm-a moo-sirikare
*Yohana a-ya-təm-a moo-sirikaré
John SA1-PST-hit-FV C1-policeman
Intended: 'John hit a policeman.'

Belief-of-existence Ds can also be used in contexts where the speaker did not witness the referent but is only surmising that an entity exists. That is, the speaker believes in the existence of an entity due to cultural assumptions, as shown in (309)-(311).

(309) [There is a sun-shower outside. B says...]

a. a = n-gwe ye-ku-bha e-rii-bhor-a
 áa = ŋ-gwe je-ku-βá e-rii-βór-a
 D = C9-leopard SA9-PROG-be C9-SMLT-give-birth-FV
 ‘A leopard will be giving birth.’

b. * n-gwe ye-ku-bha e-rii-bhor-a
 * ŋ-gwe je-ku-βá e-rii-βór-a
 C9-leopard SA9-PROG-be C9-SMLT-give-birth-FV
 Intended: ‘A leopard will be giving birth.’

(310) [Context: Z is chewing and she bites her lip. She says:]

a. o = mo-to n-aa-ku-n-gaamb-a bhwaḥeṇe
 o = móo-to n-a-ku-ŋ-gaamb-a βwahéne
 D = C1-person SAM-SA1-PROG-1SG-talk well/good
 ‘Some person is speaking well of me.’

b. * mo-to n-aa-ku-n-gaamb-a bhwaḥeṇe
 * móo-to n-a-ku-ŋ-gaamb-a βwahéne
 C1-person SAM-SA1-PROG-1SG-talk well/good
 Intended: ‘Some person is speaking well of me.’

(311) [Context: It’s 3p.m. B sees a trail of ants carrying their food. B says:]

a. mu-ghorɔɔbha n-to-ko-reer-a a = n.yama
 mu-ɣorɔɔβa n-to-ko-réer-a a = ɲ.áma
 C3-evening SAM-2sg-FUT-eat-FV D = C9-beef
 ‘We will have **beef** (for dinner) tonight.’

b. *mu-ghorɔɔbha n-to-ko-reer-a n.yama
 *mu-ɣorɔɔβa n-to-ko-reer-a ɲ.ama
 C3-evening SAM-2sg-FUT-eat-FV C9-beef
 Intended: ‘We will have **beef** (for dinner) tonight.’

These data show clearly that Nata speakers are not asserting the existence of these referents; rather, they are only surmising, anchoring their beliefs of existence to cultural knowledge. In (311), for instance, the speaker may have no idea where beef will come from, but still the belief-of-existence D must be used to convey the belief in the existence of beef. Note further that while future tense can license the polarity D in St’át’imcets, as we saw in example (308) above and as we shall see also below, strikingly in Nata, even though there is a licenser, the speaker can only use the overt D because they believe there will be beef.

Non-belief-of-existence Ds can be used in the opposite contexts based on cultural assumptions. Suppose speaker B sees a trail of ants carrying no food or the speaker gets home and finds out that there is no beef for dinner. In such contexts, B has to switch the D and use the non-belief-of-existence D with the non-factual operator, which is indicative of failure of belief of existence:

(312) a. mu-ghorɔɔbha tu-**taa**-ko-reer-a n.yama
 mu-ɣɔɔβa tu-**ta**-ko-reer-a ɲ.ama
 C3-evening 2sg-**NEG**-FUT-eat-FV C9-beef
 ‘Tonight, we will **not** have **any beef** (for dinner).’

- b. #mu-ghorɔɔbha tu-taa-ko-reer-a a=n.yama
 #mu-γɔɔβa tu-ta-ko-reer-a a=ɲ.ama
 C3-evening 2sg-NEG-FUT-eat-FV a=C9-beef

Intended: ‘Tonight, we will **not** have **any beef** (for dinner).’

Note that if the speaker has reasons to commit to the existence of beef, e.g., s/he saw mom bringing some beef home, (312b) would be good in a context where the speaker saw that there is beef, but asserts that they will not eat it. The use of the belief-of-existence D for cultural assumptions in Nata provides further support for augments as belief-of-existence Ds. That is, the speaker only surmises, based on their belief system/cultural knowledge, that a referent exists in some possible world, and yet the belief-of-existence D is used.

4.6.3 Non-materialized referents

Matthewson gives clear evidence that St’át’imcets speakers fail to assert existence in utterances containing referents that do not exist yet. Matthewson shows that the non-assertion-of-existence D *ku* must be used in these contexts:

(313) Non-assertion-of-existence interpretation

[St’át’imcets, Matthewson 1998: 57]

x ^w úʔ-lhkan	məlyí-š	[k ^w u	x ^w uʔ
cuz’-lhkan	melyí-s	[ku	cuz’
going.to-1SG.SUB	marry-CAUS	[NON.EXIS.DET	going.to
k ^w úk ^w piʔ łak ^w uʔ Fountain.]			
kúkwpiʔ lákuʔ Fountain]			
chief DEIC Fountain]			

‘I will marry the next chief of Fountain.’ (whoever it is)

In contrast, the belief-of-existence Ds in Nata are freely used in future possibilities where referents have not manifested yet, (314):

(314) [Context: The chief is old; we don't know who will be the next chief]

a. N = ne-gho-kwir-u na o = mu-temi u-nɔ a-kuu-ch-a
 N = ne-ɣo-kwir-u na o = mu-temi u-nɔ a-kuu-tʃ-a
 SAM-1SG-FUT-marry-PASS with D = C1-chief
 'I will marry the next chief.'

b. *N = ne-gho-kwir-u na mu-temi u-nɔ a-kuu-ch-a
 *N = ne-ɣo-kwir-u na mu-temi u-nɔ a-kuu-tʃ-a
 SAM-1SG-FUT-marry-PASS with C1-chief
 'I will marry the next chief.'

(315) Question: What will you donate for the new school?

a. N = ne-ghu-kɔr-a e = ghe-tuumbe
 N = ne-ɣu-kɔr-a e = ye-túumbe
 SAM-1SG-FUT-make-FV D = C7-three.legged.chair
 'I will make a three-legged chair.'

b. *N = ne-ɣu-kɔr-a ye-tuumbe
 *N = ne-ɣu-kɔr-a ye-túumbe
 SAM-1sg-FUT-make-FV C7-three.legged.chair
 'I will make a three-legged chair.'

In (314a) the coming chief is a future possibility and speakers believe that when that time comes they will marry the chief. Similarly, in (315a) the envisioned chair is a future possibility and they believe that it will manifest at a future time t. Obviously, in these cases the speaker is not making an assertion of existence. Since the speaker has not witnessed the next chief/chair, it makes sense that St'át'imcets assertion-of-existence Ds cannot be used here; this supports the argument that the assertion-of-existence denotation entails the belief-of-existence denotation.

4.6.4 Possible worlds: attitude verbs

Heim (1992), following Hintikka (1969), proposes that attitude verbs quantify over worlds w' that are doxastically accessible to a belief holder:

(316) **Accessibility assignment**

World w' is doxastically accessible for person x to world w iff w' is compatible with the beliefs that x holds in w [Heim 1992: 187].

In the same vein, Giannakidou and Mari (2018) also demonstrate that attitude verbs can be analyzed based on the speaker's epistemic state in relation to a set of worlds compatible with the speaker's beliefs. A definition of epistemic state is in order. In (317), M is an evaluation model describing the belief states of individual anchors (i.e., attitude bearers).

(317) **Epistemic state of an individual anchor i**

An epistemic state $M(i)$ is a set of worlds associated with an individual i representing worlds compatible with what i knows or believes [Giannakidou and Mari, 2018: 7].

Clauses embedded under attitude verbs can introduce referents that exist in other possible worlds. In Nata, belief-of-existence D s may appear under attitude verbs where they convey the speaker's commitment to a belief of existence of a referent. While attitude verbs do not inherently license the polarity D in Nata, Matthewson (1998) illustrates that attitude verbs translated as 'want' or 'look for' are non-factual operators which license the polarity D ku in St'át'imcets⁶. Below the attitude verb $xát'min'$ 'want' licenses ku .

(318) Intensional verbs license ku

[St'át'imcets; Matthewson 1998: 193/5]

6. Matthewson (1998) discusses a subject-object asymmetry showing that subjects of transitive attitude verbs cannot be licensed with ku in St'át'imcets, unless they are in a subordinate clause where the licenser can take the entire clause in its c-command. In Nata attitude verbs do not license the polarity D , hence there is no difference between transitive subjects and objects. See Chapter 3 for additional data.

- a. $\underline{xá}\lambda'$ -rniñ-łkan [k^wu ćúq^waž]
- $xát'$ -mín'-łhkan [ku ts'úqwaz']
- hard-APPL-1SG.SUB [NON.EXIS.DET fish]
- 'I want some fish.' [transitive object]
- b. $\underline{xá}\lambda'$ -rniñ-łkan k^w-š ?áz'-ən-aš
- $xát'$ -mín'-łhkan kw-s áz'-en-as
- hard-APPL-1SG.SUB DET-NMLZR byu-TR-3ERG
- [k^wu šmúłáč] [k^wu qmut]
- [ku smúłhats] [ku qmut]
- NON.EXIS.DET woman NON.EXIS.DET hat
- 'I want a woman to buy a hat.' [transitive subject]

Note that if the speaker has a fish or a woman in mind (i.e., has personal evidence about the existence of such things), assertion-of-existence Ds may be used with *xát'min'* 'want'.

Unlike St'át'imcets, which allows attitude verbs to license the polarity D *ku* in contexts where the speaker does not wish to assert existence, in Nata DPs inside clauses embedded under attitude verbs must contain the overt D; it conveys the existence of a referent denoted by the noun phrase.

(319) Intensional verbs do not license D_∅ [Nata]

- a. Ni-kwend-a a = ∅-swe [transitive object]
- Ni-kwend-a a = ∅-swé
- 1SG-want-FV D = C9-fish
- 'I want some fish.'
- b. *Ni-kwend-a ∅-swe
- *Ni-kwend-a ∅-swé
- 1SG-want-FV C9-fish
- Intended: 'I want some fish.'

- (320) a. Ni-kwend-a o=mu-kari a-ghɔr-ɛ a=n-goohiira
 Ni-kwend-a o=mu-kari a-ghɔr-ɛ a=n-goohiirá
 1SG-want-FV o=C1-woman SA1-buy-SUBV a=C9-hat
 ‘I want a woman to buy a hat.’
- b. *Ni-kwend-a mu-kari a-ghɔr-ɛ n-goohiira
 *Ni-kwend-a mu-kari a-ghɔr-ɛ n-goohiirá
 1SG-want-FV C1-woman SA1-buy-SUBV C9-hat
 ‘I want a woman to buy a hat.’

As with the other Nata speakers I worked with, my intuition is that referents used with attitude verbs, e.g., *a=swe* ‘a fish’ (319) or *o=mukari* ‘a woman’ in (320), are believed to exist in the world of discourse. This is independently supported by comments made by the Nata consultants saying that one can only say ‘I want X’ or ‘I am looking for X’ if one believes that such things exist. If speakers do not wish to commit to the belief of existence of an entity they would use other syntactic devices such as placing the covert D under an evidential verb or a conditional.⁷

7. Hotze Rullmann (p.c) and Florian Schwarz (p.c) on different occasions have asked if it is possible to use the overt augment when referring to mythical referents as in *Maria is looking for an ogre*. The point is that here the speaker does not believe in the existence of an ogre. This question has two sides. First, it is a concern whether ogres exist in the actual world, and if not, then why would the speaker use the overt D? Speaker-oriented-existence Ds can be used independently of the truth or falsity of the sentence (Givón 2018; Moltmann 2013 and others). The speaker may choose to use the belief-of-existence D conveying existence of ogres in the speaker’s world, e.g., in referring to ogres in Nata tales, which are crucial characters in Nata discourse. This relies on both discourse structures and cultural assumptions. The second part of the question, is whether the speaker may actually use the verb “look for” with such entities. My intuition is that if I use the first person I cannot utter such a sentence. I can only use these intensional verbs with entities that I believe exist in the universe of discourse, e.g., fish, mangoes etc. Nata speakers consistently avoid uttering such sentences in the first person. They can however, use some licensers e.g., evidential verbs to embed such propositions where the polarity D can be used to render the non-belief of existence of an ogre:

- (i) Nyoghw-a M. n-a-ku-mɔh-i i-nani
 ɲ-oyw-a M. n-a-ku-mɔh-i i-nani
 1sg-hear-FV M. SAM-1sg-IMPV-look.for-FV C9-ogre
 ‘I hear (that) M. is looking for an ogre.’

I argue that the use of belief-of-existence Ds under attitude verbs in Nata is consistent with the semantics of the Nata Ds. I claim that the differences between the St'át'imcets system and the Nata system cannot be located in the semantics of intensional verbs, but rather the semantics of Ds themselves. In possible worlds, entities are believed to exist in Nata but are not asserted as in an assertion-of-existence system. This seems to be the case given that St'át'imcets can in fact use the assertion-of-existence Ds in similar contexts if the speaker has personal evidence, e.g., s/he wants to eat some fish s/he bought yesterday (see Matthewson 1998). Conversely, if similar verbs are negated in Nata, the D_{\emptyset} is licensed without any problem.

4.6.5 Deictic features in D

Except for Okanagan (Lyon 2011, 2013), Ds in Salish are known for encoding deictic features in the sense of spatial-temporal restrictions (Demirdache 1996; Demirdache and Matthewson 1995; Matthewson 1998; Gillon 2009, 2006; and others). Matthewson (1998: 352) states explicitly that “determiners in Salish are always deictic (i.e. always locate the discourse referent(s) in time and space).” One implication of deictic features in the St'át'imcets D system is that the features clash with true generic readings. Matthewson (1998, 1999; 2001) notes for instance that generic readings for the statements in (321) are missing in the language. Thus, when St'át'imcets speakers utter a translation of (321a) for instance, they always assert the existence of some bears they know.

(321) Generic readings

- a. Bears like honey.
- b. Owls hunt mice.

Matthewson argues further that because of the deictic features of Ds, true generic readings are lacking with universal quantifiers. Matthewson (1998: 352), for instance, remarks that “there is no way of quantifying over a group which is not contextually specified”. She concludes that St'át'imcets

lacks ‘real’ generics; as a result of this fact, quantified DPs such as *all the women*, (322) always involve the universal quantification reading over a contextually specified set⁸:

(322) **Quantification over a specific set**

[St’át’imcets, Matthewson 1998: 46]

q ^w əláw-əm	[tákəm	ʔi	šyáqčʔ-a]
q’weláw’-em	[tákem	i	syáqts7-a]
pick.berries-INTR	[all	PL.DET	woman-EXIS]

‘All the women picked berries.’

In this case, the quantifier has to range over a contextually defined set of women which is consistent with the deictic features of *i...a*. Along with other Salishanists (see Davis 2010; Gillon 2006; Jelinek 1995; Demirdache 1996), Matthewson (1998: 352) submits that “the absence of generic universal quantifiers in Salish can only be predicted if it is independently derived that determiners in Salish are always deictic (i.e. always locate the discourse referent(s) in time and space).”

Nata differs from St’át’imcets in completely lacking spatial-temporal distinctions in its D system. As I argued in Chapter 2, deictic features in Nata are always fixed by the demonstratives, not Ds. One prediction based on the lack of deictic Ds which locate referents in space and time in Nata is that ‘real’ generics may be found. This prediction is correct. As (323) shows, such readings are fine in Nata:

(323) **Generics in Nata**

[Nata]

8. Matthewson (1998) argues that the absence of the quantifiers ‘every’ and ‘most’ in St’át’imcets is due to: (i) a syntactic requirement in the language that every quantifier must take a full DP containing a D, rather than joining with an NP; (ii) the deictic features of the Ds. Nata allows all quantifiers to take a DP as their range, and since there is no deictic restriction in the language, both the generic readings of plural DPs and of quantifiers like *-ose* ‘every’ are available. I am not sure at this moment though if Nata has quantifiers like ‘most’ and ‘some’, and if not what could have prevented them. This is an area for future research.

- a. u = mw = aana w-ḡḡḡ n-aa-segh-ire ku-bharaan-a
u = mw = aaná w-ḡḡḡ n-áá-seey-ire ku-ḡá-raan-a
D = C1-child C1-every FOC-SA1-like-PFV INF-play-FV
‘Every child likes to play.’
- b. i = rj-oobha n-di-segh-ire [a = bhaa-to bhḡ-ḡḡḡ]
i = rj-ooḡá n-rí-sey-ire [a = ḡáa-to ḡa-ḡḡḡ]
D = C5-sun SAM-SA1-love-PFV [D = C2-people C2-all]
‘God loves **all people**.’
- c. [e = bhe-bhuse] m = bi-haa-r-i e = bhi-tḡḡḡ
[e = ḡe-ḡúse] m = bi-haa-r-í e = ḡí-tḡḡḡ
[D = C8-monkey] SAM = HAB-eat-FV D = C8-banana
‘**Monkeys** eat bananas.’

Consistent with the entailment relation between St’át’imcets and Nata Ds, we see that, in Nata, quantification may yield a pure generic reading as in (323) or may yield a contextually specified set as in (324)⁹. Note that the universal quantifier parallel to *all* is marked with the plural morphology *PL-ḡḡḡ* in Nata, while the universal quantifier parallel to *every* is marked with the singular morphology *SG-ḡḡḡ*.

- (324) a. [u = mw-aana w-ḡḡḡ] a-gha-sḡh-a mo = o = nyumba
[u = mw-aaná w-ḡḡḡ] a-ḡa-sḡh-a mo = o = ḡumbá
[D = C1-child C1-all] SA1-PST-enter-FV LOC18 = D = house
‘Every child entered the house.’
- b. [e = bhi-nyonyi bhj-ḡḡḡ] m = bi-ike-ere mo = o = mote
[e = ḡi-ḡḡḡi ḡj-ḡḡḡ] m = bi-ka-ire mo = o = moté
[D = C8-bird C8-all] SAM = SA8-sit-FV LOC18 = D = tree
‘All the birds are sitting in a tree.’

9. Pure generic readings are found mainly with subjects, with the habitual marker, or with some special meanings with objects, e.g., *God loves all people*.

The lack of deictic features in D also predicts that Nata belief-of-existence Ds can be used in free choice contexts. Osa-Gómez (2016) demonstrates that the Nata item *-o(se)-ose* ‘any’, which she analyzes as a domain widener, corresponds to the English ‘any’ when used in positive sentences.

(325) FC environment

- a. u = mw-aana wɔ(sɛ)-wɔsɛ n-a-gho-tiin-a
 u = mw-aaná uɔ(sɛ)-u-ɔsɛ n-a-ɣo-tiin-a
 D = C1-child RED-C1-all SAM-SA1-FUT-be.afraid-FV
 ‘Any child will be afraid.’
- b. * mw-aana wɔ(sɛ)-wɔsɛ n-a-gho-tiin-a
 * mw-aana uɔ(sɛ)-u-ɔsɛ n-a-gho-tiin-a
 C1-child RED-C1-all SAM-SA1-FUT-be.afraid-FV
 Intended: ‘Any child will be afraid.’

(326) FC environment

[Osa-Gómez 2016: 02]

- a. Ghégh-a o = mu-tɛrɛbhi wɔ(sɛ)-wɔsɛ
 ɣéɣa o = mu-tɛrɛβi wɔ(sɛ)-wɔsɛ
 take-FV D = C3-ladle RED-all
 ‘Take any ladle.’
- b. *Ghégh-a mu-tɛrɛbhi wɔ(sɛ)-wɔsɛ
 *ɣéɣa mu-tɛrɛβi wɔ(sɛ)-wɔsɛ
 take-FV C3-ladle RED-all
 Intended: ‘Take any ladle.’

Obviously, the DPs in these examples do not correspond to a non-belief-of-existence interpretation, given that the FCI denotes freedom of choice between existing entities, i.e., any entity picked will be fine with the speaker¹⁰, (see Kadmon and Landman 1993; Giannakidou 2001; Kratzer

10. Matthewson (p.c) asked about what happens if a Nata speaker wants to say something like ‘Greet any 100-year-old person who comes by’ - where you don’t know if any exists.

and Shimoyama 2002; Chierchia 2006, 2013; Menéndez-Benito 2010; Osa-Gómez 2016). It is also clear that such DPs do not refer to any specific entity. These examples accord with the notion of belief of existence; i.e., the use of the overt D in the DPs *u = mwana* and *o = mu-terɛbhi* above conveys that the speaker believes that such referents exist.

While I have demonstrated here that Nata and St’át’imcets Ds differ on deixis, i.e., Nata lacks spatial-temporal distinctions in its D system, I do not take the lack of deixis as a (direct) diagnostic for a belief-of-existence D system. One case that supports this line of thinking is a system like Okanagan (see Lyon 2011; 2013). In Okanagan, like in Nata, Ds do not encode deixis (i.e., locate the referent in space and time) hence true generic interpretations are possible, (327). However, Okanagan Ds do not encode the notion of existence (see Lyon 2011; 2013 for discussion)¹¹.

- (327) Generic readings [Okanagan, Lyon 2013: 151]
 iʔ kəkʷáp táʔliʔ ʃmínk-s iʔ snax^wt
 DET dog very like-[CAUS].3SG.ERG DET run(ANIMAL)
 ‘Dogs really like to run.’

In summary, I have illustrated that in both Nata and St’át’imcets, Ds encode a speaker-oriented distinction based on existence of a referent. In St’át’imcets, the assertion-of-existence Ds *X...a* are used when the speaker

Truly, in Nata such a clause will be embedded under a non-factual operator which will license the interpretation of a non-existent referent. Here the conditional operator *aribha* ‘if’ may be used where it will license the polarity D in this context:

- (i) Aribha mo-kungu wɔ(se)-w-ɔse ghekongo a-raa-ch-ɛ,
 aribha mo-kúngu wɔ(se)-w-ɔse ʏékongo a-ráa-tʃ-ɛ,
 if C1-old.lady RED-C1-all toothless SA1-PROG-come-SUBJV
 mu-kɛɛr-i
 mú-kɛɛr-i
 OM1-greet-CAUS

Lit: If any toothless old lady (very old woman) comes, make her greeted’.

Here the speaker does not commit to the belief that such a lady may come. If the speaker believes that such an individual exists then they will switch and use the overt D.

11. Is it possible then to have a language that encodes the notion of assertion-of-existence but does not encode deixis in its D system? In Chapter 5, I show that Bemba is a case in point, hence deixis may be motivated on language-internal grounds.

has strong grounds to assert that a referent exists. In Nata, overt Ds are used when the speaker has some reason to believe that a referent exists. In what follows I relate the Nata data to Matthewson's (1999) choice function analysis in order to show how belief-of-existence Nata Ds would fare in an assertion-of-existence analysis.

4.7 Choice function analysis

We saw already that belief-of-existence Ds and assertion-of-existence Ds have many parallels, but also have some obvious differences. The goal of this section is to employ Matthewson's (1999) choice function analysis in order to show how the belief-of-existence Nata Ds compare with other speaker-oriented existence Ds theoretically. This well-known analysis for assertion-of-existence Ds will provide a theoretical space not only for showing how the two D systems are related but also for asking empirical questions about the nature of variation between the two systems. Crucially, I will show that Matthewson's (1999) choice function approach for St'át'imcets Ds accounts for Nata cases where existence is asserted. However, the analysis created for St'át'imcets will be too restrictive if applied directly to Nata. For instance, it will predict that overt/non-polarity Ds are allowed only when the speaker is willing to assert that there is a referent, which is not always the case. I will present the cases that are accounted for straightforwardly by Matthewson's (1999) analysis and offer some options for accounting for some cases involving speaker's belief of existence Ds, along the lines of Gambarage and Matthewson (2019). A complete formal account for the belief-of-existence Nata Ds is a goal for future research.

4.7.1 Defining choice functions

In the spirit of previous works on speaker-oriented existence Ds in Salish (Matthewson 1999), I claim that Nata Ds require an analysis involving choice functions. A definition of the choice function is in order:

(328) **Choice function definition:**

A function f is a choice function (CH(f)) if it applies to any non-empty set and yields a member of that set.

[Reinhart 1997: 372].

The evidence for needing choice functions comes from the ability of the choice function variable to take obligatory widest scope over everything else. Thus, the DPs in question scope outside places where they should not be able to, under a standard analysis of quantifiers and Quantifier Raising (cf. Reinhart 1997; May 1985 and others). Under a choice function analysis, DPs can appear inside islands but semantically they can scope outside them (see Matthewson 1999; Ebert 2019 for review).

While there are many different approaches to choice functions in the literature (see Ebert (2019) for a helpful summary), I utilize Matthewson's widest-scope existential closure over a choice function variable in order to derive the wide-scope effect of DPs used in contexts where existence is asserted. Matthewson (1999) argues that the choice function variable must be existentially closed at the highest level to account for the wide-scope effect of St'át'imcets indefinites. I discuss the Nata cases that are accounted for by this approach, but also discuss the cases with DPs used in contexts where existence is conveyed rather weakly (i.e., by mere beliefs), which seem to require extra explanation (Gambarage and Matthewson 2019).

In this thesis I do not examine quantificational strategies, however, where necessary, I do show that Nata quantifier phrases are amenable to a similar semantic treatment to those in St'át'imcets, hence are accounted for by the current choice function approach. The one exception I discuss is the quantifier *SG-əşə* 'every', which allows both wide-scope and narrow scope readings. Following Matthewson (1999, 2001), my null hypotheses for the treatment of Nata Ds with respect to the current analysis are that:

- (329) a. All overt/belief-of-existence Ds are obligatorily interpreted as choice function variables, existentially closed with widest scope.

- b. All polarity/non-belief-of-existence Ds are *not* interpreted as choice function variables.

The discussion will centre around the issue of whether all overt Ds in Nata are interpreted via choice functions which take obligatory widest scope over everything else. I will start with contexts which allow assertion of existence, which confirm (329a), then turn to problematic cases in which existence is merely believed rather than asserted. I show that (329b) consistently allows DPs with the covert D to be interpreted as existential quantifiers which take narrow scope under a non-factual operator, the treatment Matthewson (1999) assumes for *ku* DPs in St’át’imcets.

4.7.2 Interpretation of Ds in assertion-of-existence contexts

Given that assertion of existence entails belief of existence, the analysis developed for St’át’imcets Ds will be limited to Nata overt/non-polarity Ds appearing in contexts where a Nata speaker asserts that an entity exists, hence believes in the existence of a referent.

Under the assertion-of-existence account, Matthewson illustrates that the *X...a* DPs are interpreted via choice functions which take obligatory widest scope over everything else. The choice function analysis runs as follows:

(330) Existential Force [St’át’imcets, Matthewson (1999)]

- a. az’-ən-as [ti sts’úqwaz’-a] kw-s Sophie
 buy-TR-3ERG [DET fish-DET] DET-NMLZR Sophie
 ‘Sofie bought [a fish].’
 $\exists f$ [CH(f) & [Sophie bought f(fish)]]
 = “There exists a fish which Sophie bought.”

- b. cw7aos kw-s áz'-en-as [ti sts'-úqwaz'-a]
 NEG DET-NMLZR buy-TR-3ERG [DET fish-DET]
 kw-s Sophie
 DET-NMLZR Sophie
 'Sophie didn't buy [a fish].'
 $\exists f$ [CH(f) & \neg [Sophie bought (f (fish))]]
 = "There exists a fish which Sophie didn't buy."

In the affirmative declarative sentence in (330a) and in the cases involving a non-factual operator such as negation, (330b), the non-polarity D is used and it is existentially closed at the highest level. Specifically, the logical form in (330a) says that there is a choice function f and Sophie bought the fish which f picks out from the set of fish; and the logical form in (330b) says that there is a choice function f and Sophie didn't buy the fish chosen by f from the set of fish. Note that these truth conditions allow Sophie to have bought one or more fish, which Matthewson shows is consistent with the St'át'imcets facts.

The non-assertion-of-existence D *ku* is not interpreted as a choice function variable. Matthewson proposes that the *ku* in examples such as (331) receives a standard indefinite interpretation as an existential quantifier which scopes under the non-factual operator. Thus (331) is only true if Sophie bought no fish at all.

- (331) Existential Force [St'át'imcets, Matthewson (1999)]
- a. x^wʔaz k^w-š ʔáz'-ən-aš [k^w-u šc'úq^waz']
 cw7aoz kw-s áz'-en-as [ku sts'-úqwaz']
 NEG DET-NMLZR buy-TR-3ERG [DET fish]
 kw-š Sophie
 kw-s Sophie
 DET-NMLZR Sophie
 'Sofie didn't buy [a/any fish].'
 $\neg \exists x$ [fish (x) & Sophie bought x]
 = "There does not exist a fish which Sophie bought".

The non-factual operator has wide scope over the polarity D rendering the meaning that it is not the case that there is a fish which Sophie bought.

Given that assertion of existence entails belief of existence, Nata overt/non-polarity Ds may be used in all assertion of existence contexts. Thus, the analysis developed for St'át'imcets Ds is too restrictive for Nata; it works for the subset of contexts where a speaker asserts that an entity exists, hence believes in the existence of a referent. I start with declaratives.

4.7.2.1 Interpretation of overt Ds in declaratives

The overt D introduces a choice function variable that is bound by the existential quantifier to render the existential interpretation intended by the speaker. Consider (332a) and the corresponding semantic form, symbolically and in prose in (332b).

- (332) a. Makuru a-ka-ghoor-a e = ghi-tabho
 Makurú a-ka-γór-a e = γí-taβo
 Makuru SA1-PST-buy-FV D = C7-book
 'Makuru bought a book.'

- b. $\exists f$ [CH(f) & [Makuru bought f (book)]]
 There is a choice function f and Makuru bought the book which f picks out from the set of books.

In the current analysis, the speaker asserts that there is a choice function with that property, which is compatible with the speaker knowing a specific object, but it does not semantically ensure it to be specific.

4.7.2.2 Interpretation of overt Ds with/under negation

We saw that if the speaker intends an existential interpretation, the overt D must be used in negative contexts as in (333a). According to the current analysis, the choice function variable must be existentially closed at the highest level, i.e., must take wide scope over negation. Therefore, (333a) can only be represented as in (333b).

- (333) a. Makuru **ta-a-ghor-ire** e = ghi-tabho
 Makuru **ta-a-γor-iré** e = γí-taβo
 Makuru **NEG-PST-buy-PERF** D = C7-book
 ‘Makuru did not buy a/the book.’
- b. $\exists f$ [CH(f) & \neg [Makuru bought (f (book))]]
 There is a choice function f and it is not the case the Makuru bought the book that f picks out from the set of books.

When the speaker uses the polarity D as in (334a), the polarity D is not considered as a variable that ranges over a choice function. The polarity D is interpreted as an existential quantifier scoping under the non-factual operator. This means the speaker does not commit to the existence of a book.

- (334) a. Makuru **ta-a-ghor-ire** ghi-tabho
 Makuru **ta-a-γor-iré** γí-taβo
 Makuru **NEG-PST-buy-PERF** C7-book
 ‘Makuru did not buy any book.’
- b. $\neg \exists x$ [book (x) & Makuru bought x]
 “There does not exist a book which Makuru bought.”

(334a) will be true if there were two books and Makuru bought none of them; it will still be true if there were no books at all. In interrogatives, modals and conditionals the polarity D is uniformly treated as not being a variable that ranges over choice functions.

4.7.2.3 Interpretation of overt Ds in interrogatives

In both *wh*-questions and in polar questions, the choice function analysis can also derive obligatory wide-scope readings for overt Ds, which accords with the assertion/belief-of-existence interpretation:

(335) [Context: Speaker is inquiring about his friend's child]

- a. ango Maria a-ka-bhɔn-a u = mw-aana?
 ango María a-ka-βón-a u = mu-áana?
 Q Maria 3s-PST-find-FV D = C1-child
 'Did Maria find a/the child?'

- b. $\exists f$ [CH(f) & Q[Maria found (f (child))]]
 There is a choice function f and the speaker wants to know whether Maria found the child picked out by f .

In the next section I show that this analysis accounts fine for DPs that escape the scope of modals and conditionals, environments in which existence is asserted/believed.

4.7.2.4 Interpretation of overt Ds in modals

The choice function analysis can also derive obligatory wide-scope readings for overt Ds under modals, as shown in (336).

[Context: I saw a handicapped child at the playground. After a few minutes a researcher shows up asking if there is any child with a disability in the neighbourhood that she can interview. I tell her to go to the playground. The researcher leaves and promises to be back immediately if she doesn't find anyone there. I am wondering why she is not back yet:].

- (336) a. hamwe n = a-a-ku-ghamban-a nu = u = mw-ana
 hamwe n = á-á-ku-yámban-a na = u = mw-aná
 maybe FOC = SA1-IMPF-play-FV with = D = C1-child
 'Maybe she is speaking with a child'.

- b. $\exists f$ [CH(f) & MOD[she is speaking with the (f (child))]].
 There is a choice function f and the researcher may be speaking with that child who f picks out from a set of children.

Here, MOD is the possibility modal. This analysis extends also to conditionals, as I show below.

4.7.2.5 Interpretation of overt Ds in conditionals

In *if*-clauses we see that if the speaker intends an existential interpretation, the choice function variable is existentially closed at the highest level, as in (337b).

[**Context:** A mother has a sick child and only elderly people know the traditional cure for the disease. There is a specific elder who knows the medicine for the disease. A mother says she would be happy if that elder showed up] [Adapted from Matthewson, 1999: 90]

- (337) a. $o = \text{mu-gharuka}$ $a\text{-ngi-i-ch-ire}$ $u = \text{mw-aana}$
 $o = \text{mu-yáruka}$ $a\text{-nga-i-tj-íre}$ $u = \text{mw-aana}$
 $D = \text{C1-elder}$ $\text{SA3-COND-REFL-come-PFV}$ $D = \text{C1-child}$
 $n = \text{a-nga-hoqor-(ir)e}$
 $n = \text{aa-nga-hoqor-ε}$
 $\text{SAM} = \text{PST-COND-heal-PFV}$

‘If an elder came the child would be healed.’

- b. $\exists f [\text{CH}(f) \ \& \ \exists g \ \text{CH}(g) \ \& \ [\text{come} (f(\text{elder})) \ \rightarrow \ \text{be-healed} (g(\text{child}))]]$

There is a choice function f and a choice function g and f picks out an elder from a set of elders, and if that elder comes, the child picked by g from the set of children would be healed.

While I conclude that all DPs escaping the scope of non-factual operators can be accounted for by wide-scope existential closure over choice functions, I show that this approach is too restrictive and does not give us the intended results when it comes to DPs used in case of speakers’ beliefs.

4.7.3 Interpretation of overt Ds in belief-of-existence contexts: surmising, possible worlds...

If we apply the analysis created for St’át’imcets directly to Nata it will be too restrictive as it will predict that overt/non-polarity Ds are allowed only

when the speaker is willing to assert that there is a referent. However, belief-of-existence Ds need not be used in assertion-of-existence contexts. Consider, for instance, overt Ds used in surmising contexts, (338), or to refer to non-materialized referents, (339) that we saw in §4.6.2. With these data the speaker is saying that s/he believes an entity exists but does not assert the existence of a referent.

(338) [**Context:** It's 3 pm and B sees a trail of ants carrying their food.]

- a. mu-ghorɔɔbha n-to-ko-reer-a a = n.yama
 mu-yorɔɔβa n-to-ko-réer-a a = n.áma
 C3-evening SAM-2sg-FUT-eat-FV D = C9-beef
 'We will have **beef** (for dinner) tonight.'
- b. *mu-ghorɔɔbha n-to-ko-reer-a n.yama
 *mu-yorɔɔβa n-to-ko-réer-a n.áma
 C3-evening SAM-2sg-FUT-eat-FV C9-beef
 'We will have **beef** (for dinner) tonight.'

(339) [**Context:** I haven't seen one yet, but I believe I will buy one to-day...]

- a. Ni-kwend-a a = ∅-swe'
 Ni-kwend-a a = ∅-swé
 1SG-want-FV a = C9-fish
 'I want some fish.'
- b. *Ni-kwend-a ∅-swe'
 *Ni-kwend-a ∅-swé
 1SG-want-FV C9-fish
 'I want some fish.'

While Nata does not allow future tenses or attitude verbs to license the polarity D, St'át'imcets has the option of having the non-assertion-of-

existence *ku* interpreted under ‘will’ or ‘want’, which results in a different meaning from Nata Ds (refer to (340) below and to §4.6).

(340) Intensional verb licenses *ku*

[St’át’imcets, Matthewson 1998: 193]

<u>x</u> áʎ-miñ-ʎkan	[k ^w u	ćúq ^w až]
xát’-mín’-lhkan	[ku	ts’úqwaz’]
hard-APPL-1SG.SUB	[NON.EXIS.DET	fish]
‘I want some fish.’		

In St’át’imcets, the speaker is not committing themselves to the existence of a referent, hence the D is not a widest-scope choice function which picks out an entity which is a fish. In Nata the overt D is used in similar contexts, indicating that the speaker is committed to the belief that there is an object, but is not asserting the existence of such a referent. This is true for DPs used with attitude verbs and in non-materialized referent contexts.

While a unified formal account for belief-of-existence Ds lies in future research, some initial observations on how such an analysis can be developed have been put forth by Gambarage and Matthewson (2019).

The first alternative Gambarage and Matthewson give is to incorporate a full belief-semantics into sentences containing overt Ds. This would mean that any time there is an overt D, it literally adds to the meaning of the sentence an ‘I believe that’ scoping over everything else. It’s not a very plausible option, but it might work.

The second alternative would be to tie the differences to independent differences in evidential systems. We saw that at a propositional level, Nata lacks obligatory evidential marking. We also know that some languages encode evidential information directly on determiners (e.g., Nivaclé, Gutiérrez and Matthewson 2012). We could therefore pursue the idea that St’át’imcets *X...a* Ds convey direct evidential semantics (the speaker must have personally witnessed the referent), while Nata overt Ds do not.

The third possibility is to consider variation across languages in the felicity conditions for assertions on cultural assumptions. Specifically, we

could propose that Nata speakers are freer than St'át'imcets speakers in their willingness to assert. Thus, for a Nata speaker but not for a St'át'imcets speaker, a cultural belief is sufficient for assertion. This will preserve Matthewson's (1999) choice function analysis but incorporate speaker's personal knowledge and cultural assumptions as assertions with different strengths. In addition, the cases under future tense and intensional verbs like 'want' will have to have different 'assertion standards'.

4.7.4 Interpretation of overt Ds in quantifier phrases

In this section, I present some data involving universal quantifiers to show that the use of the overt D is consistent with the assertion/belief-of-existence interpretation. Matthewson (1999) argues that a subset of St'át'imcets Ds, including all Ds which combine with quantifiers, necessarily introduce variables over choice functions. While I agree with Matthewson (1999) that existential closure over the choice function is needed to derive the denotation of existence Ds for all DPs involving assertion of existence, I show that some Nata data involving the quantifier *SG-ɔsɛ* 'every' seem to allow both wide scope and narrow scope readings, which is a bit puzzling for a wide scope existential closure interpretation. The Nata data with *SG-ɔsɛ* 'every' seem to suggest that a subset of quantifier data may need a separate explanation as I show below.

4.7.4.1 Universal quantifiers

Typically quantifiers in St'át'imcets and Nata co-occur with the assertion/belief-of-existence Ds. Matthewson (1998, 1999) illustrates that narrow scope readings for assertion-of-existence DPs are unavailable with the quantifiers in St'át'imcets. For instance, one of the examples involves the quantifier *tákem* 'all' which ranges over a contextually salient set given by the DP it combines with:

(341) Object DP cannot scope under a quantifier

[Matthewson 1999: 96].

wa7 xwey-s-twítas [ta smúlhats-a] [tákem i
 PROG love-CAUS-3PL.ERG [DET woman-DET] [all DET.PL
 sqáyqeycw-a]
 man(PL)-DET]

‘All (the) men love a woman.’

Rejected in context: Each man loves a different woman.

[Consultant’s comment: “There’s just one lady. Can’t mean a different one each. It sounds like you’re talking about that one lady.”]

As Matthewson argues, the obligatory wide scope reading of the object DP is because the object DP contains an assertion-of-existence D, whose choice function is existentially closed with widest scope: there is a CH(*f*) such that all the men love the woman picked out by *f* from the set of women.

Nata appears to have exactly the same restriction with the universal quantifier *PL-øse* ‘all.’ As (342a) shows, the subject wide-scope reading is unavailable with *PL-øse* ‘all.’ Employing Matthewson’s (1999) existential closure at the highest level correctly derives the object wide-scope reading in such cases, (342b).

(342) a. [e = bhi-nyonyi bhj-øøse] m = bi-ike-ere mo = o = mote
 [e = βi-ɲoni βj-ɔsé] m = bi-ka-ire mo = o = moté
 [D = C8-bird C8-all] SAM = SA8-sit-FV LOC18 = D = tree

✓ ‘All the birds are sitting in a tree.’

✗ ‘All the birds are sitting in different trees.’

b. $\exists f$ [CH(*f*) & $\forall x$ [bird(*x*) → *x* is sitting in *f*(tree)]]

c. $\neq \forall x$ [bird(*x*) → $\exists f$ [CH(*f*) & *x* is sitting in *f*(tree)]]

There is no distributive reading of the universally quantified subject DP such that the choice of trees varies with birds. This is why (342c) is unacceptable. The only reading available is that the choice function *f*, which

is existentially closed off at the highest level, picks out a tree that a set of birds are sitting in.

Numeral quantifiers also cannot scope under the subject quantified phrase/*PL-øse* ‘all’ DPs, (343):

- (343) a. [a = bha-subhe bhø-øse] bha-ka-ras-a
 [a = βa-suβe βa-ɔɔsé] βa-ka = ras-a
 [D = C2-men C2-all] SA2-PST-shoot-FV
 [e = bhe-weere bhi = tato]
 [e = βe-weere βi = tato]
 [D = C8-wildebeest C8-three]
 ✓‘All (the) men shot three wildebeests.’

- b. $\exists f [CH(f) \ \& \ \forall x [men(x) \ \rightarrow \ x \ shot \ f(three-wildebeests)]]$

Here the choice function variable applies to the predicate *three wildebeests* denoting the set of plural entities with three singular wildebeests. The choice function D picks out the three wildebeests shot collectively by all the men¹². Note that there could be more than three wildebeests but here only 3 were shot.

So far I have shown that the above quantifier data support Matthewson’s wide-scope existential closure over choice function analysis. In addition, I showed above that all DPs escaping the scope of non-factual operators can be accounted for by wide-scope existential closure over choice functions. I turn to show that this approach is restrictive and does not give us the intended results when it comes to DPs used in cases of speakers’ beliefs. Below I will also discuss some problems of the current analysis for data with the Nata version of the quantifier ‘every.’

4.7.4.2 The problem with the *SG-øse* quantifier

Unlike the St’át’imcets D system (Matthewson 1998; 1999; 2001; Davis 2010), Nata does not rule out narrow scope existentially quantified choice

12. It is possible to have another reading that each man shot one wildebeest, and collectively they shot three in total (see Davis 2010 for similar readings in St’át’imcets).

function variables. Recall that in St'át'imcets there is no universal quantifier equivalent to 'every', unlike in English and Nata¹³.

The Nata universal quantifier *SG-ɔʂɛ* 'every' is a distributive quantifier which differs from *PL-ɔʂɛ* 'all' in (343), which cannot scope over a DP. In (1), we see that *SG-ɔʂɛ* 'every' has two readings, both of which yield a non-empty set interpretation consistent with the current analysis of belief-of-existence Ds. The wide-scope existential analysis demonstrated here correctly derives a wide-scope reading of the choice function variable, (344b), but not the subject distributive reading, (344c):

- (344) a. $\bar{u} = \text{mw-aana } w\text{-}\mathcal{O}\mathcal{S}\mathcal{E} \quad a\text{-ka-ri} \quad \bar{a} = \text{swe}$
 $\bar{u} = \text{mw-aaná } w\text{-}\mathcal{O}\mathcal{S}\mathcal{E} \quad a\text{-ka-rí} \quad \bar{a} = \text{swe}$
 $\bar{D} = \text{C1-child } \text{C1-every } \text{SA1-PST-eat } \bar{D} = \text{C9.fish}$
 'Every child ate a fish.'

- b. $\exists f [\text{CH}(f) \ \& \ \forall x [\text{child}(x) \rightarrow x \text{ ate } f(\text{fish})]]$

There is a choice function *f* that picks out a fish such that every child ate that fish (wide-scope for the object).

- c. $\forall x [\text{CHILD}(x) \rightarrow \exists f [\text{CH}(f) \ \& \ x \text{ ate } f(\text{fish})]]$

For every child *x*, there is a potentially different choice function *f* such that *x* ate the fish *f* picks out from the set of fish (narrow-scope for the object).

The overt *D* in *a = swe* 'a fish' introduces a choice function variable that is existentially bound at the highest level when the speaker means that all

13. Matthewson (p.c) believes that Nata does not have a real 'every' quantifier. Her observation may be right given that the 'every' quantifier is phasing out in Nata as in most cases speakers replace it with the Swahili quantifier *kila*, pronounced as *kira* in Nata, which replaces the augment (i.e., is a quantificational *D*).

- (i) $\bar{kira} \quad (*\bar{u} =) \text{mw-aana } a\text{-ka-ri} \quad \bar{a} = \text{swe}$
 $\bar{kira} \quad (*\bar{u} =) \text{mw-aaná } a\text{-ka-rí} \quad \bar{a} = \text{swe}$
 every $(\bar{D} =) \text{C1-child } \text{SA1-PST-eat } \bar{D} = \text{C9.fish}$
 'Every child ate a fish.'

When the Nata version is used the quantifier range must be a DP but when the Swahili version is used the quantifier range is an NP. The Swahili QP is used in all object positions while the Nata version is banned there. Refer to Chapter 2 for further discussion.

the children ate the fish picked by f . The same choice function D scopes low when every child ate a potentially different fish picked by f . We have seen consistently that nowhere else are narrow scope readings allowed. The question then is how do we rule out the narrow scope reading of belief-of-existence D s everywhere else but allow it here? The current tool does not provide an answer for this question.

One potential alternative—which however will not work—would be to try the type of free choice function variable analysis proposed in Matthewson (2000, 2001), which is utilized in domain restriction contexts such as quantification over a specific group; or Kratzer’s (1998) choice function which picks out specific referents. For both Kratzer and Matthewson’s later analysis, f is not existentially closed and its value is supplied by the context. For instance, in (345b) the speaker is referring to a specific book.

- (345) a. e = ghi-tabho ghi-ka-gw-a
 e = γί-taβo γi-ka-γw-á
 D = C7-book C7-PST-FV
 ‘A book fell.’

- b. fell (f (book))

The book that is chosen from a set of books by the contextually salient choice function f fell.

In (345b), f is a variable over choice functions/book choices, and it yields a contextually defined member of the NP set it applies to. Kratzer’s free variable over f mimics wide scope (‘pseudo-scope’), therefore a free variable analysis of choice functions will not be a solution because it does not allow narrow scope interpretations in the usual way (i.e., unless there are bound variables in the noun phrase). Note also that in Kratzer’s account all choice function variables are specific, which is not the case in Nata.

Another alternative would be to keep the existential closure over choice functions but adopt an analysis in which choice function variables can be existentially closed at other logical levels. Reinhart (1997) illustrates that,

in English, a sentence such as (346) can have both the wide scope reading and the quantificational/narrow scope reading involving a choice function:

(346) Every lady read some book.

a. $\exists f [CH(f) \ \& \ \forall z [lady(z) \rightarrow z \text{ read } f(\text{book})]]$

(Reinhart 1997: 372)

b. $\forall z [lady(z) \rightarrow \exists f [CH(f) \ \& \ z \text{ read } f(\text{book})]]$

(Matthewson 1999: 83, presenting Reinhart's analysis)

The respective prose translations for each are given below:

(347) a. There is some choice function f , such that every lady read the book which f picks out from the set of books.

b. For every lady z , there is a (potentially different) choice function f such that z read the book which f picks out.

In (346a), the indefinite D *some* introduces a choice function variable which is existentially closed off at the highest level (wide scope). With the wide-scope reading, f picks out one book that every lady read. In (346b), the choice function variable is existentially closed with narrow scope, in which case each lady reads a potentially different book. While this will work for the *SG-øse* 'every' cases, it will incorrectly rule in narrow scope in the cases above where we saw it isn't allowed. The exact analysis that would work for the Nata cases like (344) remains an area for future research.

4.7.4.3 Simple generics

DPs used in generic contexts take belief-of-existence Ds. It is not obvious how to implement the wide-scope existential closure over choice functions for these cases.

(348) Generics and free choice contexts

[Nata]

- a. e = bhe-bhuse m = bi-haa-r-í e = bhi-tòòkẹ
 e = βe-βúse m = bi-haa-r-i e = βi-tòòke
 D = C8-monkey SAM = HAB-climb-FV D = C8-banana
 ‘**Monkeys eat bananas.**’

To account for these cases one may need some operator, possibly GEN. However, I will leave this case and the quantifier case discussed above for future research.

4.8 Conclusion

In this chapter, I have presented empirical evidence to show that D choice in Nata is forced by the speaker’s belief of existence. I have claimed that languages can encode existence differently; nevertheless, the different types of existence Ds form a class cross-linguistically. The similarities between Nata and St’át’imcets – two languages coming from two unrelated families – suggest that speaker-oriented existence is robustly available as a determiner distinction.

I have claimed that the lack of definiteness in languages with existence Ds follows from these systems being speaker-oriented. A further consequence of these findings is that definiteness should not be regarded as a ‘norm’ (Matthewson 1998, 1999; Gillon 2006; Gambarage 2012; Lyon 2013; Van de Velde 2019 and many others).

In logical terms, I have compared Nata and St’át’imcets where I argued that Matthewson’s wide-scope choice function analysis can derive the Nata DPs used in contexts where existence is asserted. However, data with SG-òşẹ ‘every’, generics and belief-of-existence Ds in contexts such as surmising situations presented puzzles that can only be resolved in future research. While speaker-oriented existence Ds in Nata and St’át’imcets are treated here as forming a class typologically, the similarities and differences in the application of choice function between the two languages are listed below:

Semantic differences	St'át'imcets Ds	Nata Ds
CH(f) applies in specific contexts	✓	✓
CH(f) applies in non-specific contexts	✓	✓
CH(f) applies in familiar contexts	✓	✓
CH(f) applies in novel contexts	✓	✓
CH(f) existentially closed at the highest level	✓	(✓)
CH(f) optional under intensional verbs	✓	✗
CH(f) existentially closed with low scope	✗	(✓)
CH(f) applies with non-materialized referents	✗	?
CH(f) applies in surmising contexts	✗	?
CH(f) applies in generics	—	?

The different logical possibilities for choice functions have been presented here as introducing a parametric variation in these languages. I conclude that assertion of existence always entails belief of existence. In the next chapter I argue that a D distinction based on the notion of existence is pertinent to other Bantu languages as well.

Chapter 5

Existence in other Bantu languages

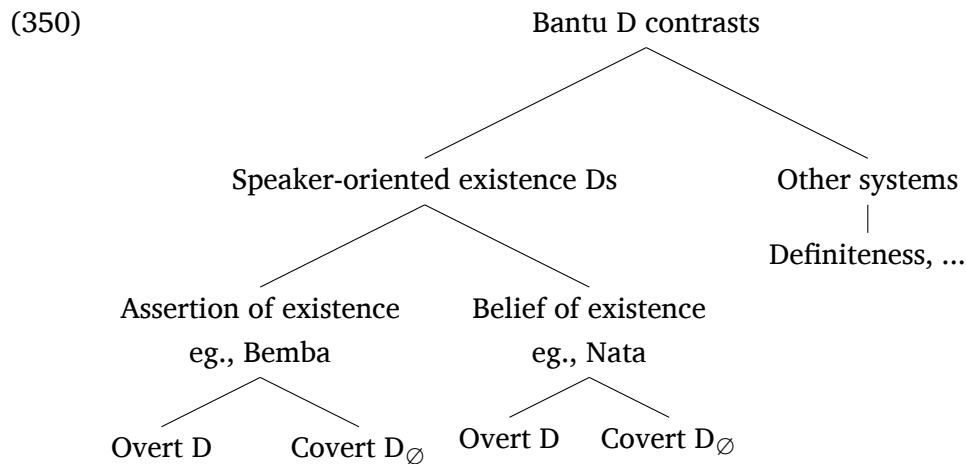
5.1 Introduction

In this chapter I extend the current proposal to other Bantu languages; I claim that a D contrast based on a core notion of ‘existence’ is pertinent to other Bantu languages with augments. I demonstrate that within Bantu, languages vary in the exact notion of existence they encode. My analysis makes several predictions that can be summarized in terms of micro-parametric variation in existence D systems:

(349) **Variation in Bantu augments.**

- a. D systems which encode speaker personal knowledge behave like St’át’imcets assertion-of-existence (AOE) Ds.
- b. D systems in which existence is only believed pattern like Nata belief-of-existence (BOE) Ds.
- c. It is possible to have augment languages that do not encode existence at all.

I examine augments in the following languages: Runyankore-Rukiga (henceforth, R/R or R/Rukiga) (JE13/JE14), Haya (Hya) (E22), Luganda (Gan) (JE15), Kinande (Nan) (JE42), Xhosa (Xho) (S41), Zulu (Zul) (S42), Bemba (Bem) (M42), and Dzamba (Dza) (C322). The choice of languages depends on availability of data. The data I present reveal that, except Dzamba, all these languages encode existence: R/Rukiga, Haya, Luganda, Kinande, Xhosa and Zulu behave as belief-of-existence D systems. The Bemba D system seems to behave like an assertion-of-existence D system, i.e., like St'át'imcets. Dzamba, a language spoken in the Northeastern Democratic Republic of Congo, appears to be the only exception in that its D distinction is based on novelty–familiarity (definiteness), which confirms the hypothesis in (349c) (cf. Bokamba 1971; Givón 1978, 2018). The different Bantu augment/D contrasts I discuss here can be presented visually as in (350):



My findings challenge the previous claims made for Zulu and Haya that augments/Ds in some of these languages have no semantic function (contra Halpert 2012, 2015, Riedel 2011, respectively). While I show that the notion of existence is relevant to most of these languages, I do not claim that augments across Bantu encode existence or have a semantic function. The languages I report on here fit the category of languages whose augments have meaning. De Blois (1970) and Carter (1963) indicate that in

some languages augments may not have a semantic function, eg., in Tonga (M64). Since most previous studies only looked at the semantic features of definiteness and specificity, it remains a question for future research whether there are D systems which have been misanalysed, but it is really speaker-oriented existence.

I discuss the different D distinctions using the semantic diagnostics presented in Chapters 2 and 4¹. While it is possible to apply a choice function analysis to the speaker-oriented existence Ds in these languages, I set aside the formal treatment in this chapter and hence talk informally about scope. Overall, the following summary chart will guide our discussion. Belief of existence is marked as BOE and Assertion of existence is marked as AOE.

Table 5.1: Different D distinctions among augment languages

D encodes/Languages	R/R	Hya	Gan	Nan	Xho	Zul	Bem	Dza
Definiteness	✗	✗	✗	✗	✗	✗	✗	✓
Specificity	✗	✗	✗	✗	✗	✗	✗	✗
AOE	✗	✗	✗	✗	✗	✗	✓	✗
BOE	✓	✓	✓	✓	✓	✓	✗	✗

I claim with Matthewson (1998, 2001) that D systems that encode existence have a negative setting of the common ground parameter; as a result they do not encode definiteness. This means that Dzamba has a positive setting of the Common Ground Parameter, as it encodes a novel-familiar/(in)definiteness distinction. I show that overt Ds in the speaker-oriented D systems can be used both in specific and non-specific contexts, as a result none of the Ds in these languages encode specificity. The D system in Dzamba also does not encode specificity: the covert D is used in both specific and non-specific contexts; the overt D which encodes def-

1. There may be more than one diagnostic to test a particular semantic notion. For instance, on definiteness, I could also show whether or not augments in these languages encode uniqueness under either Schwarz (2009; 2012)'s strong definite or weak definite analysis (where, very roughly speaking, strong definites are anaphoric and weak definites are unique). However, in this chapter, I will use the novelty-familiarity test as the criterion for definiteness and assume that augments/Ds in these languages also do not encode uniqueness. For more diagnostics and findings see Chapter 2 on Nata augments.

initeness is also specific hence there is no specificity contrast. I relate the current proposal to previous proposals, arguing that, except Dzamba, speaker-oriented existence Ds in the remaining languages do not encode (in)definiteness (contra Dewees 1971; Mould 1974) or (non)specificity (contra Visser 2008; Allen 2014).

Before we explore these systems, let me recapitulate the properties of the two speaker-oriented existence D systems we looked at the previous chapter. One of the two ways in which existence is encoded is by assertion of existence, where the speaker has personal knowledge of the individual. The second way is by belief of existence, where the speaker conveys a belief of existence in an entity corresponding to the NP description without necessarily having personal knowledge. Thus, the signature of existence Ds is that the D contrast is solely based on the notion of existence, whether it is by assertion or belief. Speaker-oriented existence Ds do not access the hearer's knowledge or common ground knowledge (cf. Matthewson 1998, 1999; Gambarage 2012; see also Givón 1978).

The availability of data which show that overt Ds can be used in surmising, possible world contexts, or with non-materialized referents will help us to decipher which direction of existence the languages under discussion are leaning towards. In this thesis I have modelled assertion of existence as entailing belief of existence, i.e., in every context where existence is asserted, belief of existence also holds but not vice versa. I focus on the semantic difference between arguments with the overt D, as in (351a), and those with the polarity sensitive D_{\emptyset} , (351b):

- (351) a. Argument DP: D
b. Argument DP: D_{\emptyset}

A wide range of data considered from these languages provides support for the claim that augments/Ds have a semantic function and can be analyzed in a principled manner. The remainder of the chapter is organized as follows. In the rest of §5.1 we look back at the semantic features encoded in Nata, then highlight the properties of speaker-oriented existence Ds. In §5.2 I extend my proposal to other Bantu languages, where I discuss belief-of-existence D systems. In §5.3 I discuss the assertion-of-existence D systems. In §5.4 I turn to Dzamba, where I show that, like the English D system, the Dzamba D system encodes a novelty-familiarity contrast, but not a speaker-oriented existence D contrast. §5.5 is for summary, final remarks and conclusion.

5.2 Belief of existence D systems

In this section, I show that Runyankore-Rukiga, Haya, Luganda, Kinande, Xhosa and Zulu Ds pattern like Nata Ds which encode the speaker’s belief of existence.

5.2.1 Existence Ds in Runyankore-Rukiga

The augment/D system of Runyankore-Rukiga (R/Rukiga)—a Bantu language spoken in Uganda—has all the properties of a belief-of-existence D system. The only available work on augments in this language is by Allen 2014, a Runyankore-Rukiga speaker-linguist. Thus, the data presented here are from her work and from the elicitation I conducted with her². I discuss the different R/Rukiga D properties (summarized in the table below) relative to other existence D systems.

Table 5.2: R/Rukiga Ds and their correlation with other D systems

Diagnostics	AOE	BOE	R/Rukiga
D encodes definiteness	✗	✗	✗
D encodes specificity	✗	✗	✗
Speaker’s personal knowledge required	✓	✗	✗
Used in cultural assumptions	✗	✓	✓
Used in possible worlds contexts	✗	✓	✓
Used with non-materialized referents	✗	✓	✓

Before I consider existence D data I first show that definiteness and specificity are not encoded in the R/Rukiga D system.

5.2.1.1 R/Rukiga Ds do not encode definiteness

Data in R/Rukiga reveal that the overt D does not care about definiteness. The same D is used in novel contexts, as in (352), as well as in familiar contexts, (353).

2. I thank Asimwe Allen for her time spent in sharing her language with me and for her useful comments during the discussion of augment properties in R/Rukiga.

- (352) [Novel/indefinite context: A girl telling her friends about what happened to her today:] [R/Rukiga, A.A.]
- | | | | |
|------------------|------|---------------|---------------|
| Noomanya | ngu | o = mu-shaija | e = ri-zooba |
| Ni-o-many-a | ngu | o = mu-shaija | e = rii-zooba |
| PRES-2SG-know-FV | that | D = C1-man | D = C5-today |
- yaanyemereza?
y-aa-ny-emer-ez-a
1-PASTim-1SG-stop-APPL-FV
- ‘Do you know that *a man* stopped me today?’

- (353) [Familiar/definite context: A day after, one of her friends follows up.] [R/Rukiga, A.A.]
- | | | | |
|---------------|-----------------------|-------------|-----------------|
| o = mu-shaija | o-kw-emere-ize | nyomwebazyo | o-mu-reeb-ire? |
| o = mu-shaija | o-kw-emere-ize | nyomwebazyo | o-mu-reeb-ire |
| o = C1-man | SM1.REL-2sg-stop-PAST | yesterday | 2sg-OM-see-PAST |
- ‘Did you see *the man* who stopped you yesterday?’

These data are accounted for nicely under the current proposal that the overt D here encodes the notion of existence and not definiteness. We will see that in all situations where the speaker believes in the existence of an object that corresponds to the NP description, the overt D must be used.

5.2.1.2 R/Rukiga Ds do not encode specificity

Overt Ds in R/Rukiga are neutral with respect to specificity. The overt D can be used in specific contexts, as in (354), and the same D can also be used in non-specific contexts, as in (355).

- (354) [Specific context: B: I wish I had a spoon to eat with. My hands are dirty. You:] [R/Rukiga, A.A.]
- | | | | | |
|---------|---------|------------------|----------------|---------------|
| o = mu | nshaho | o-mw-o | harimu | e = ki-giiko. |
| o = mu | n-shaho | o-mu-o | ha-ri-mu | e = ki-giiko |
| D = C18 | C9-bag | DEMrt-C18-MEDIAL | C16-COP-18.ENC | D = C7-spoon |
- Lit: ‘In that bag there is a spoon.’

(355) [Non-specific context: There are several spoons in the cupboard. B asks a child...] [R/Rukiga, A.A].

a. Ndengyeza e = ki-giiko
 N-rengy-ez-a e = ki-giiko
 1sg-pass-APPL-FV D = C7-spoon
 ‘Pass me a spoon.’

b. *Ndengyeza ki-giiko
 *N-rengy-ez-a ki-giiko
 1sg-pass-APPL-FV C7-spoon
 Intended: ‘Pass me a spoon.’

Since overt Ds are used both in specific and non-specific contexts, specificity is neutralized. This challenges Allen’s (2014) proposal that augments behave as markers of specificity in R/Rukiga. These data support the current proposal that the overt D in (non)specific contexts indicates that the speaker is committing to the belief that the noun phrase’s referent exists. In the next section I show that D choice in R/Rukiga is forced by the notion of existence.

5.2.1.3 D distinction in R/Rukiga

In R/Rukiga, the overt D encodes the speaker’s belief of existence, and the polarity D_{\emptyset} encodes the speaker’s non-belief of existence of a referent. In (356a) the speaker wishes to commit to the existence of a/the book; hence, the overt D is used. This is also the case with the negative sentence in (356b), in which the DP takes wide scope with respect to the non-factual operator/NEG.

(356) D Choice in R/Rukiga [Adapted from Allen 2014: 139-140].

a. o = mw-ishiki na-a-shom-a e = ki-tabo
 o = mu-ishiki ni-a-shom-a e = ki-tabo
 D = C1-girl PROG-3SG-read-FV D = C7-book
 ‘A/the girl is reading a/the book.’

b. o = mw-ishiki ti-a-ri-ku-shom-a e = kitabo [DP > ¬]
 o = mu-ishiki ti-a-ri-ku-shom-a e = ki-tabo
 D = C1-girl NEG-3SG-PROG-INF-read-FV D = C7-book
 ‘A/the girl is not reading a/the book.’

If the speaker does not wish to commit to the belief of existence of an entity, the D_{\emptyset} must be used, as in (357a). The D_{\emptyset} must be interpreted under the c-command domain of the non-factual operator, which is the syntactic environment that allows the non-existential interpretation. The polarity D_{\emptyset} will be ungrammatical when used in syntactic environments that induce existential interpretation, e.g., in a declarative sentence as in (357b), or where the OM is used, (357c):

(357) D Choice in R/Rukiga [Adapted from Allen 2014: 139-140].

- a. $o = mw$ -ishiki ta-a-ri-ku-shom-a \emptyset kitabo [\neg > DP]
 $o = mu$ -ishiki ti-a-ri-ku-shom-a \emptyset ki-tabo
 D = C1-girl NEG-3SG-PROG-INF-read-FV \emptyset C7-book
 ‘The girl is not reading any book.’
- b. $*o = mw$ -ishiki na-a-shom-a \emptyset ki-tabo
 $*o = mu$ -ishiki ni-a-shom-a \emptyset ki-tabo
 D = C1-girl PROG-3SG-read-FV \emptyset C7-book
 Intended: ‘A/the girl is reading a/the book.’
- c. $*o = mw$ -ishiki na-a-ki-shom-a \emptyset kitabo
 $*o = mu$ -ishiki ni-a-ki-shom-a \emptyset ki-tabo
 D = C1-girl PROG-3SG-OM7-read-FV \emptyset C7-book
 Intended: ‘The girl is not reading (it) the book.’

The D contrast based on the notion of existence also obtains with subject DPs³. In (358a), the speaker has an entity in mind, and hence uses the belief-of-existence D. When the speaker does not wish to commit to a belief of existence, s/he must switch the D and use the polarity sensitive D_{\emptyset} , (358b).

(358) D choice with subject DPs [R/Rukiga, A.A].

- a. $\emptyset = mu$ -shaija o-ri-kukund-a Maria
 $o = mu$ -shaija o-ri-kukund-a Maria
 D = C1-man SM1-IMPf-love-FV Maria
 ‘A man likes Maria.’

3. Allen (2014) does not investigate subject DPs with polarity Ds. In my elicitation, I noted that R/Rukiga has a syntactic constraint that only the highest argument c-commanded by the Op is licensed. For instance, a null D on *a book* in *John didn't read any child a book* wouldn't be licensed. See Chapter 6 for independent constraints on licensing, locality and c-command.

- b. ti-haine mu-shaija o-ri-kukund-a Maria
 ti-haine mu-shaija o-ri-kukund-a Maria
 NEG-there.is C1-man SM1-IMPf-love-FV Maria
 ‘There is no man (who) likes Maria.’

Following Visser (2008), Allen claims that R/Rukiga Ds are specific. She also proposes that there are morphosyntactic elements in the sentence that can reinforce specificity/definiteness, e.g., object markers, demonstratives, etc⁴. The data I collected and presented above challenge the view that Ds in these languages are specific. The view that overt Ds can co-occur with morphosyntactic elements introducing definiteness/specificity is consistent with the fact that Ds in these languages are neutral with respect to definiteness/specificity, which follows from my analysis of them as speaker-oriented existence Ds.

5.2.1.4 Overt Ds as belief of existence Ds

All the diagnostics for belief-of-existence Ds are met in R/Rukiga. First, Allen shows that generics in R/Rukiga do not refer to any particular/specific referent; they can be referring to a kind/genus or describing a state of affairs or a habit, but DPs must appear with the overt D.

(359) Generics [Runyankore-Rukiga, Allen 2014: 167]

- a. a=ba-ana Ø-ba-kund-a ku-zaan-a
 a=ba-ana Ø-ba-kund-a ku-zaan-a
 D=C2-child HAB-SM2-like-FV INF-play-FV
 ‘Children like to play.’
- b. *ba-ana Ø-ba-kund-a ku-zaan-a
 *ba-ana Ø-ba-kund-a ku-zaan-a
 C2-child HAB-SM2-like-FV INF-play-FV
 ‘Children like to play.’

4. Allen shows that there is a definite proclitic element which cannot co-occur with the augment, e.g., *wa (*o=)mwaana* ‘the other child.’ This may indicate that the element sits in D position. The element seems to be the partitive article used in partitive structures. This is different from Nata, in which partitive structures are introduced by D-doubling (refer to Chapter 3).

In R/Rukiga the overt D is used in in surmising contexts, as in (360a), or with DPs referring to non-materialized future referents, (361a).

(360) **Surmising context:** There is a sun-shower. B says: [R/Rukiga, A.A.]

a. e=m-pitsi ni-e-hingir-a
 e=n-hitsi ni-e-hingir-a
 D=C9-leopard PRES-9-send.off-FV
 ‘A leopard is sending off (its daughter).’

b. * m-pitsi ni-e-hingir-a
 * n-hitsi ni-e-hingir-a
 C9-leopard PRES-9-send.off-FV
 Intended: ‘A leopard is sending off (its daughter).’

(361) **[Future referent context:** B is considering donating a chair to a new school. He believes he can find one to buy.] [R/Rukiga, A.A.]

a. Ni-nz-a ku-reet-a e=n-tebe
 Ni-nz-a ku-reet-a e=n-tebe
 1SG-come-FV INF-bring-FV D=C7-chair
 Lit: ‘I will come to bring a chair.’

b. *Ni-nz-a ku-reet-a n-tebe
 *Ni-nz-a ku-reet-a n-tebe
 1SG-come-FV INF-bring-FV C7-chair
 Intended: ‘I will come to bring a chair.’

Overt Ds are freely used when referring to entities in a possible world. Consider the use of the attitude predicate *ronda* ‘look for’ (362a):

(362) BOE in attitude verbs [R/Rukiga, A.A.]

a. Maria na-a-rond-a e=mi-yembe
 Maria ni-a-rond-a e=mi-yembe
 Maria PRES-3SG.SUBJ-look.for-FV D=C4-mangoes
 ‘Maria is looking for mangoes.’

The D requirements for argument nominals support the cross-linguistic generalization about argument-predicate partition (see Chapter 3).

In the remainder of this section, I discuss the denotation of Ds; I argue that Haya D choice is based on the speaker’s belief of existence. The different Haya D properties suggest that Haya Ds are fit to be analyzed as belief-of-existence Ds as summarized in Table 5.4.

Table 5.3: Haya Ds and their correlation with other D systems

Diagnostcs	AOE	BOE	Haya
D encodes definiteness	✗	✗	✗
D encodes specificity	✗	✗	✗
Speaker’s personal knowledge required	✓	✗	✗
Used in cultural assumptions	✗	✓	✓
Used in possible worlds contexts	✗	✓	✓
Used with non-materialized referents	✗	✓	✓

5.2.2.1 Haya Ds do not contrast for definiteness

Haya data support Riedel’s (2011) observation that Haya augments do not contrast for definiteness. The overt D is used in novel contexts, (364) and the same D may also be used in familiar contexts, (365).

- (364) [**Novel/indefinite context:** B is telling her friends about what happened on her way home:] [Haya, A.K.]
 M-ba-gamb-ile? o = mu-shaija yanyemeleze o = mu-kianda
 FOC-1sg-tell-SUBJV D = C1-man SM1.PST.1SG-stop D = C18-way
 ‘Should I tell you? A man stopped me on the way.’

(365) [**Familiar/definite context:** A day after, B brings up the same story to the same people.] [Haya, A.K.]

o = mu-shaija owa ya-ny-emelez-e o = mu-kianda
 D = C1-man SM1-REL SM1-1SG-stop-TAM D = C18-way
 n-ka-mu-bona
 1sg-PST-OM-see

‘I saw the man who stopped me on the way.’

In both contexts the speaker has an entity in mind that corresponds to the NP description, which is consistent with the current proposal that overt Ds encode existence. Turning to specificity, I show that Haya Ds do not distinguish Ds based on this notion either.

5.2.2.2 Haya Ds do not encode specificity

The strongest argument against the specificity account comes from the lack of D choice based on (non)specificity. The overt D can be used in specific contexts such as (366), and the same D can also be used in non-specific contexts, (367).

(366) [**Specific context:** B: I wish I had a cup. I would drink from this stream. You:] [Haya, A.K.]

Ky-ali-yo e = ki-kompe o = mu-li e = n-shalaganya
 SM7-be-LOC D = C7-cup REL = C18-be D = C9-plastic.bag

‘There is a cup in that plastic bag.’ (Lit. ...which is in that plastic bag)

(367) [**Non-specific context:** There are several cups in the cupboard. B asks a child...] [Haya, A.K.]

a. N-det-ele e = ki-kompe
 1sg-bring-SUBJV D = C7-cup
 ‘Bring me a cup.’

b. *N-det-ele ki-kompe
 1sg-bring-SUBJV C7-cup
 Intended: ‘Bring me a cup.’

In the current account, both the specific and the non-specific interpretations derive from a single generalization: speakers believe that the NP referent exists. That is, there exists at least one cup that satisfies the NP description. In what follows I discuss how D choice in Haya is forced by the notion of existence, and discuss a variety of contexts in which belief-of-existence Ds are used.

5.2.2.3 D distinction in Haya

The familiar signature of existence Ds is found with Haya Ds as well. The crucial distinction Haya Ds make is that an overt D always encodes a speaker's belief of existence while the polarity D_{\emptyset} indicates that the speaker fails to convey a belief of existence. In (368a) the DP appears with the overt D, in which case it denotes that $o = \textit{mutambi}$ 'a/the doctor' exists. In (368b) the DP with the overt D has wide scope over negation, in which case it preserves the existential interpretation. Note the use of OM in (368b) which always forces the definite reading:

(368) D choice in Haya [Adapted from Chagas 1977: 41]

- a. n-a-bona o = mu-tambi
 1sg-PST-see D = C7-doctor
 'I saw a/the doctor.'
- b. ti-n-a-mu-bona o = mu-tambi
 NEG-1sg-PST-OM-see D = C7-doctor
 'I didn't see him, the doctor.'

On the other hand, if the speaker does not wish to commit to the existence of a doctor, the non-belief-of-existence D is used, as in (369a). We see consistently that the polarity D_{\emptyset} must be used under the scope of some non-factual operator for the non-belief-of-existence reading to hold, hence (369b) is ungrammatical.

(369) D choice in Haya [Adapted from Chagas 1977: 41]

- a. ti-n-a-bona mu-tambi (wena-w-ena)
 NEG-1sg-PST-see C7-doctor (RED-C1-any)
 'I didn't see a/any doctor.'
- b. *n-a-bona mu-tambi
 1sg-PST-see C7-doctor
 Intended: 'I saw a/the doctor.'

This distinction obtains with subject DPs also, (370a). In fact, it is possible for NEG to scope over the subject and object DPs, as (370b) shows.

- (370) a. o=mu-kazi a-sindik-ile o=mw-aana
 D=C1-woman SM1.PST-push-PFV o=mw-aana
 ‘A/the woman pushed a/the child.’
- b. ta-li-yo mu-kazi a-sindik-ile mw-aana
 NEG-be-LOC C1-woman SM1.PST-push-PFV C1-child
 ‘No woman pushed a/any child.’

In (370a) the speaker believes in the existence of the referents; hence, the overt D is used. Data such as (370b) show that in Haya the speaker can use the covert D only if they do not have a belief of existence of an entity of the NP.

Riedel (2011) illustrates that with the augment, the NPI/‘any’ reading (in negative sentences) is impossible, as shown in (371a); however, the use of a Free Choice Item (FCI) (in positive sentences) requires an augment, as in (372a).

(371) Polarity contexts: no overt D [Haya, adapt. Riedel 2011: 8]

- a. *ti-n-a-bona e=ki-ntu kyona-ky-ona
 NEG-1sg-PST-see D=C7-thing RED-C7-any
 Intended: ‘I didn’t see anything.’
- b. ti-n-a-bona ki-ntu kyona-ky-ona
 NEG-1sg-PST-see C7-thing RED-C7-any
 ‘I didn’t see anything.’

(372) FCI context: Overt D is required [Haya, Adapt. Riedel 2011: 9]

- a. tu-la-gi-shemerwa e=mi-chango yona-y-ona
 2sg-FUT-OM4-be.pleased.by D=C4-contribution RED-C4-any
 ‘We will be happy about any contributions.’
- b. *tu-la-gi-shemerwa mi-chango yona-y-ona
 2sg-FUT-OM4-be.pleased.by C4-contribution RED-C4-any
 ‘We will be happy about any contributions.’

These data provide further support for the D choice based on the notion of existence. The NPI/FCI element *kyona-kyona* induces maximal domain widening (see Kadmon and Landman 1993; Kratzer and Shimoyama 2002; Chierchia 2006, 2013, Osa-Gómez 2016; and others)⁶. Thus, the polarity D_{\emptyset} in (371b) is consistent with the speaker's non-belief of existence in that the NP domain does not contain any entity. For (372a), the opposite is true.

In what follows I present general contexts that show that like Nata, Haya overt Ds are used in all belief-of-existence contexts, which sets them apart from an assertion-of-existence system like St'át'imcets.

5.2.2.4 Overt Ds as belief-of-existence Ds

Haya overt Ds pass the diagnostics for belief-of-existence Ds used in this thesis. The overt D can be used in surmising contexts, such as (373), and can also be used to refer to referents that have not materialized yet, as in (374):

(373) [Surmising context: There is a sun-shower. B says:] [Haya, A.K.]

- a. e=n-tale e-i-zal-a
 D=C9-lioness SM9.T-give.birth-FV
 'A lioness is giving birth'.
- b. *n-tale e-i-zal-a
 C9-lioness SM9.T-give.birth-FV
 Intended: 'A lioness is giving birth'

(374) [Future referent context: B is considering donating a chair to a new school. He believes he can find one to buy.]

- a. N-da-ba-tw-el-a e=ki-tebe [Haya, A.K.]
 1sg-FUT-2pl-bring-APPL-FV D=C7-chair
 'I will bring you a chair'.
- b. *N-da-ba-tw-el-a ki-tebe
 1sg-FUT-2pl-bring-APPL-FV C7-chair
 'I will bring you a chair'.

6. The NPI in many Bantu languages is made up out of a reduplication process having a reduplicant and a base (a class prefix and an NPI radical).

Finally, overt Ds can be used in possible world contexts with the attitude verbs with the meanings *want* or *look for*. For instance, (375) shows that the overt D is used with *iga* ‘look for.’

(375) Belief of existence in possible worlds [Haya, A.K.]

- a. Na-ig-a a = ma-nyembe
 3sg.TA-look.for-FV D=C6-mangoes
 ‘She is looking for mangoes.’
- b. *Na-ig-a ma-nyembe
 3sg.TA-look.for-FV C6-mangoes
 Intended: ‘She is looking for mangoes.’

The data clearly show that Haya overt Ds can be freely used in contexts where existence is only conveyed presumptively. In the final section on Haya, I discuss some data that have been claimed to present a problem for the previous analyses. I will show that the account developed here may offer a promising solution.

5.2.2.5 Accounting for residual cases in Haya

The first data set I consider is the case listed in Riedel (2011), in which an augment-less nominal *baana* ‘children’ appears in a small clause structure: i.e., sentences found in embedded contexts but without overt tense marking (see Déchaine 1993; and others), as in (376):

- (376) Predicates in small clauses [Haya, Riedel 2011: 5]
 N-ka-bona **ba-ana** boona
 SM1sg-PST-see/consider **C2-child** C2.all
 ‘I consider them all children.’
 *I saw/considered all (the) children.’

This case is not problematic if we analyze *baana* as a nominal predicate, in which case it is predicted to lack a DP shell, consistent with my argument–predicate generalization discussed in Chapter 3. The predicate here denotes a property (i.e., having the quality of children), not individuals. Analyzing this element inside a small clause as a predicate is the standard analysis of small clauses (see Déchaine 1993; Longobardi 1994 for discussion).

The second and last case concerns some DPs with a polarity D_{\emptyset} rendered with an apparent definite reading in examples such as (377) and (378). Both Chagas (1977) and Riedel (2011) present translations which make it appear that the polarity D_{\emptyset} can also be interpreted with a specific/definite construal. This cannot be correct, as I argue below.

(377) The translation of D_{\emptyset} [Haya, adapt. Riedel 2011: 8]
 ti-n-a-bona ■ ba-na ba-to
 NEG-1sg-PST-see ■ C1-child C2-small
 ‘I didn’t see the small children.’

(378) The translation of D_{\emptyset} [Haya, adapt. Chagas 1977: 42]
 ti-ŋ-kumanya ■ mw-ana y-a-ku-ha-il-e ■ kitabo
 NEG-1s-know ■ C1-child 3sg-PST-2sg-give-PFV ■ book
 ‘I don’t know the child who gave you a book.’

If the DPs containing the polarity D_{\emptyset} involved a definite or existential interpretation, the theory developed in this thesis would be meaningless, i.e., it would obscure the contrast between the overt D and the polarity sensitive D_{\emptyset} . However, based on my Haya consultant’s data and the general property of Ds in Haya, I argue that the polarity D_{\emptyset} in Haya does not receive a definite interpretation. I argue instead that the above readings arise from conversational implicatures and cannot be the literal meaning of the sentences.

In Grice’s (1975) Cooperative Principle of conversation, implicatures are inferences arising from pragmatics and are not tied to any structural configurations or lexical items (Grice 1975; Levinson 1983; Gillon 2006). The implicatures may arise either by (i) the speaker flouting/violating a conversational maxim or (ii) the speaker being cooperative with/obedient to the conversation maxims. The notion of implicature applies to the puzzling Haya data in (377)–(378) above in the following way. I illustrate first using Nata data.

Let us consider a similar situation from Nata. In (379a), the speaker obeys Grice’s maxim of Quantity by giving exactly as much information as is required: s/he will not carry the definite child in the context. In (379b), on the other hand, also a possible answer in this context, the speaker is violating the maxim of Quantity by being nonspecific. The speaker is providing more information than is required, by literally saying that s/he will not carry *any* child:

(379) [Context: A parent wants a babysitter to take care of his child, but she has no time.] [Adapted from Osa-Gómez (2016: 12, ex 41)]

- a. Ne-te-ku-ghegh-a u = mw-aana [by obeying Quantity]
 N-te-kuyey-a u = mu-aná
 1sg-NEG-carry-FV D = C1-child
 'I won't carry *the* child.'
- b. N-te-ku-ghegh-a mw-aana [by violating Quantity]
 Ne-te-kuyey-a mu-aná
 1sg-NEG-carry-FV C1-child
 'I won't carry *a/any* child' (literal meaning).
 'The speaker won't carry *the* child' (implied meaning).

Obviously, the speaker is committed to the literal meaning which violates the maxim of Quantity: 'Do not make your contribution more informative than is required' (Grice 1975; Levinson 1983). But why would speakers choose to violate the maxim in this context? Deviating from using the overt D/choosing not to pick out the referent under discussion (i.e., by using the more general denial) is a distinct communicative style in many languages (see Brown and Levinson 1987; Bousfield 2008; and others on politeness). Nata speakers particularly use this style when they do not want to sound 'mean', 'rude' or 'unfriendly'. In this context where all speech participants know there is a familiar child, the literal meaning 'I won't carry any child' it implies that 'I won't carry the particular child in context.'

If we analyze the Haya cases with the literal meaning we see that there is no argument about a lack of semantic predictability of Haya Ds, as Chagas or Riedel thinks. There is also no need to appeal to a different analysis such as the one Chagas proposes. Chagas 1977, for instance, tries to unify the analysis of Haya kinship terms, proper names (which lack a D) and data with polarity Ds appearing in the context of domain restriction by representing the polarity D_∅ with the implied meaning. He writes:

Using the hypothesis that deletion of the PP [augment] indicates old information on the part of both speaker and hearer, the explanation for the absence of the PP in [...] is obvious [Chagas 1977: 40].

I do not agree with this view. I propose instead that the examples with the polarity Ds such as (380), presented by Chagas, should be re-glossed with the literal meaning, in which case the speaker intends an empty reference for the NP domain under consideration.

- (380) NPI contexts: D_{\emptyset} required [Haya, Adapt. Chagas 1977: 42; A.K.]
 ti-ŋ-kumanya mw-ana y-a-ku-ha-il-e kitabo
 NEG-1s-know C1-child 3sg-PST-2sg-give-PFV book
 ‘I don’t know any child who gave you a book.’ (literal)
 ‘I don’t know the child who gave you a book.’ (implied)

Likewise, based on my Haya consultant’s intuitions, I have added the literal meaning of the sentences from Riedel in order to be consistent with the general behaviour of the Haya polarity sensitive D_{\emptyset} .

- (381) NPI contexts: D_{\emptyset} required [Haya, A.K; adapt. Riedel 2011: 8]
- a. ti-n-a-bona ba-na ba-to
 NEG-1sg-PST-see C1-child C2-small
 ‘I didn’t see any small children’ (literal meaning).’
 ‘I didn’t see the small children’ (implied meaning).’
- b. ti-n-a-bona ba-na ba-nge
 NEG-1sg-PST-see C1-child C2-my
 ‘I didn’t see any of my children’ (literal meaning).’
 ‘I didn’t see my children’ (implied meaning).’
- c. ti-n-a-bona ba-na ba Kato
 NEG-1sg-PST-see C1-child 2ASSOC 1Kato
 ‘I didn’t see any of Kato’s children’ (literal meaning).’
 ‘I didn’t see Kato’s children’ (implied meaning).’

I conclude that the apparent definite reading arises as an entailment of a literal meaning. The use of a polarity D_{\emptyset} in these contexts is evidenced by the fact that non-speaker-oriented existence Ds do not deny existence of an entity; rather, they indicate that the speaker fails to convey a belief of existence of the entities denoted in the relevant NP domain, i.e., entities that correspond to the NP description and the main predicate. Thus, *I didn’t see any small children*, (381a), literally asserts that the speaker does not believe in the existence of small children that s/he saw,

and implies therefore that the speaker did not see the particular small children in the discourse context either. Assuming that the non-belief-of-existence reading holds for all polarity Ds, I treat the polarity Ds in Haya as denoting non-belief of existence as their literal meaning, consistent with the analysis developed here.

5.2.3 Existence Ds in Luganda

Scholars of Luganda state that the function of augments (a.k.a initial vowels) cannot be stated in a single semantic generalization (Ashton 1954; Dewees 1971; Mould 1974; Hyman and Katamba 1993). Ashton et al. (1954: 402) say that augments have to be studied under arbitrary conditions or as indicating “some special implications... frequently emphasis.” Dewees (1971) is of the opinion that

...its omission and use sometimes correspond to the poles of general and particular, indefinite and definite, or unemphatic and emphatic. However, there are situations where these observations are contradicted. The article characteristics are overridden by morphologically and syntactically conditioned rules. (Dewees 1971: 13-14)

Mould (1974) reports that augments in Luganda correspond to definiteness/presupposition of existence and specificity/referentiality, particularly when used in topicalized structures. His conclusion is that “Luganda has developed a definiteness contrast with this syntactic device [topicalization]” (p.225). Mould claims that except for generic sentences, indefinites correspond to the non-use of augments. I will claim instead that Luganda is a speaker-oriented D system, and that features such as definiteness or specificity do not come from the semantics of augments, rather they come from elsewhere.

Hyman and Katamba (1993) have argued against previous proposals that the function of augments can be reduced to semantic/pragmatic primes. The data I discuss below support the idea that a successful D account cannot be one postulating D features like (in)definiteness or (non)referentiality/(non)specificity. However, in spite of this I will show that there is a possible unified semantic account for Luganda Ds.

I use Luganda data to motivate my semantic proposal and show that it does seem to be the case that the choice between different Ds in Luganda is forced by the notion of existence in the sense discussed in this thesis. While it is true that other factors such as focus marking interact with the augment/D in a way not observed in Nata (see Chapter 6 for details), such parameters can be dealt with independently of the current semantic proposal. The correlation between

semantic properties of Luganda Ds and other existence Ds I discuss is given in the chart below:

Table 5.4: Luganda Ds and their correlation with other existence Ds

Diagnostics	AOE	BOE	Luganda
D encodes definiteness	✗	✗	✗
D encodes specificity	✗	✗	✗
Speaker’s personal knowledge required	✓	✗	✗
Used in cultural assumptions	✗	✓	✓
Used in possible worlds contexts	✗	✓	✓
Used with non-materialized referents	✗	✓	✓

I show that, even taking into account the focus facts to be discussed in Chapter 6, Luganda augments/Ds behave like belief-of-existence Ds. I start by addressing the usual concerns—whether or not Luganda augments/Ds encode definiteness or specificity.

5.2.3.1 Luganda Ds do not encode definiteness

Definiteness is not a condition for Luganda Ds. The augment is used both in novel, (382a), as well as in familiar contexts, (383)⁷. This rules out an analysis claiming that the D is linked to definiteness:

(382) [**Novel/indefinite context:** A boy is telling his girlfriend about what happened to him today:] [Luganda, R.M.]

a. O-manyi? o = mu-kazi yanyimiriza leero
 2SG-know D = C1-woman SM1.PST.1SG.stop today
 ‘You know (what)? A woman stopped me today.’

b. *O-manyi? mu-kazi yanyimiriza leero
 2SG-know C1-woman SM1.PST.1SG.stop today
 Intended: ‘You know (what)? A woman stopped me today.’

7. Thanks to Eddie Amaitum and Richard Musoke for providing me with extra Luganda data when I needed to fill some gaps.

- (383) [**Familiar/definite context:** A day after, the boy asks his girlfriend.]
 [Luganda, R.M]
 o = mu-kazi eyanyimiriza eggulo
 D = C1-woman REL.SM1.TM.1sg.stop.CAUS.FV yesterday
 wamulabye?
 2SG.PST.OM1.see
 Lit: ‘The woman who stopped me yesterday, did you see her?’
 ‘Did you see the woman who stopped me yesterday?’

Under the current account, the use of the overt D in *o = mukazi* ‘a/the woman’ is indicative of the fact that the speaker believes in the existence of a woman who stopped him yesterday. I show next that Luganda Ds do not encode specificity either.

5.2.3.2 Luganda Ds do not encode specificity

The data below rule out the possibility that Luganda Ds encode specificity. As shown, the overt D may be used in specific contexts such as (384); the same D is also used in non-specific contexts as in (385), as well as in generics, (386)⁸.

- (384) [**Specific context:** B: I wish I had a cup. I would drink from this stream.
 You:] [Luganda, E.A.]
- a. Mu-nsawo mulimu e = ki-kopo
 LOC18-bag C18.there.is D = C7-cup
 ‘In the bag there is a cup.’
- b. *Mu-nsawo mulimu ki-kopo
 LOC18-bag C18.there.is C7-cup
 Intended: ‘In the bag there is a cup.’

8. Note that objectives of locative prepositions in Luganda do not take a augment, hence *Mu-nsawo* in the bag, has no augment. See Chapter 6 for further discussion

(385) [Non-specific context: There are several cups on a table; you can grab any one.] [Luganda, E.A.]

a. Mpereza e=ki-kopo
1sg.pass D=C7-cup
'Pass me a cup.'

b. *Mpereza ki-kopo
1sg.pass C7-cup
Intended: 'Pass me a cup.'

(386) Generic statements: overt D is OK [Luganda, E.A.]

a. e=biwugulu biyiga e=biwojolo
D=owls hunt D=butterflies
'Owls hunt butterflies.'

b. *biwugulu biyiga e=biwojolo
owls hunt D=butterflies
'Owls hunt butterflies.'

What both the specific and the non-specific interpretations have in common is that the speaker is conveying the belief of existence of a cup or cups. Next, I show that the Luganda D contrast is necessitated by the core notion of existence.

5.2.3.3 D distinctions in Luganda

I claim that D choice in Luganda is forced by the notion of existence, evidenced by examples such as (387). In (387a), when the speaker believes that an entity that satisfies the NP description exists, the overt D is used. On the other hand, if the speaker does not wish to commit to the belief of existence of a referent, the choice is to use the polarity D, as in (387b), in which case it must be interpreted under the scope of a non-factual operator. If there is no non-factual operator to license the D, the result is ungrammaticality, as in (387c).

(387) D distinction in Luganda [Luganda, adapt. Mould 1974:225]

- a. Nalaba o = mu-sawo
 1sg.PST.see D = mu-sawo
 'I saw a/the doctor.'
- b. saalaba mu-sawo [- > DP]
 NEG.1sg.PST.see mu-sawo
 'I didn't see a/any doctor.'
- c. *Nalaba mu-sawo
 1sg.PST.see mu-sawo
 Intended: 'I saw a/the doctor.'

Mould argues that the D in declarative sentences such as (387a) is ambiguous between a definite and an indefinite interpretation. As I propose above for other languages, the Luganda augment is neutral with regards to definiteness/specificity; therefore, the definiteness feature comes from elsewhere, e.g., from the anaphoric use of OM, as Mould correctly illustrates.

5.2.3.4 Overt Ds as belief-of-existence Ds in Luganda

The Luganda D system behaves like a belief-of-existence D system. Overt Ds are required in surmising contexts, (388a), in possible worlds, (390), and are also used to talk about non-materialized referents, as in (390a)⁹.

(388) [Surmising context: There is a sun-shower. B says:] [Luganda, E.A.]

9. Hyman and Katamba (1993) observe that in grammatical contexts inducing contrastive focus, the unaugmented form may be used. Mould (1974) also has the same observation. For instance, Mould gives the following example:

- (i) Focus marking in Luganda [Luganda, Mould 1974: 227]
 njagala **mugaati**
 I.want bread
 'I want some BREAD.'

In Chapter 6 I will discuss the focus parameter in Bantu and show that focus marking utilizes augmentless nominals, consistent with a predicate focus account (Zimmermann 2008, 2016, see also Zerbian 2006). I will focus on covert Ds here and argue that they are always licensed by a non-factual operator.

- a. e=n-go ezala
 D=C9-leopard SM9.TM-give.birth
 ‘A leopard is giving birth.’
- b. * n-go ezala
 C9-leopard SM9.TM-give.birth
 Intended: ‘A leopard is giving birth.’

(389) D choice with attitude verbs [Luganda, Mould 1974: 226]

- a. Nnonya o=musawo
 1sg.looking D=doctor
 ‘I am looking for a/the doctor.’
- b. *Nnonya musawo
 1sg.looking doctor
 Intended: ‘I am looking for a/any doctor.’

(390) [Future referent context: B is thinking of ordering books to donate to a new school. He doesn’t know which company he will buy from, but he pledged.] [Luganda, E.A.]

- a. N-ja-kutona e=bi-tabo
 1sg.FUT.donate/give D=C8-book
 ‘I will donate books.’
- b. *N-ja-kutona bi-tabo
 1sg.FUT.donate/give C8-book
 Intended: ‘I will donate books.’

These examples show that speakers are not asserting existence of a referent but are only conveying a belief of existence of a referent of the NP. The hypothesis that the D distinction is based on the core notion of existence is upheld in Luganda. The D properties discussed here reveal that Luganda Ds behave like the Nata belief-of-existence Ds. Having defined the Luganda D system, let us now consider an example presented in Hyman and Katamba (1993) as posing a challenge for the semantic predictability of augments/Ds.

5.2.3.5 Accounting for residual issues in Luganda

The use of the overt D in (391) is argued to present a problem for the theory that claims that augments/Ds encode specificity or definiteness. Hyman and Katamba (1993: 219) offer a solution that the acceptability of the overt augment here has to do with the type of clause it is in, and not specificity or definiteness.

- (391) Subjunctive/If-clauses [Luganda, H&K 1993: 218]
 ànáákóló = kí bwèànáálábà è = n-jóví
 he.will.do = what if.he.sees D = C9-elephant
 ‘What will he do if he sees an elephant?’
 Lit., ‘He will do what, if he sees an elephant?’

Hyman and Katamba are correct that the overt D in è = *njóví* ‘elephant’ cannot be explained using specificity/referentiality or definiteness, given that it has a non-specific reading. However, by treating the Luganda D system as having properties of a belief-of-existence system, we can account for the use of an existence D here. In (391) the speaker is not asserting that there is an elephant; rather, the speaker is presumptively indicating based on his experience/belief that there will see one. As we saw in Chapter 3, Nata would allow similar structures, as seen below:

- (392) [Context: In Nata elephants often storm villagers’ farms. B knows that Masato is scared of elephants. But B wants to take Masato to the park and there is a possibility of seeing one there. B decides to check with Masato’s mom first:] [Nata]
 Ne = bhwe a-ghu-kòr-a a-raa-ròr-ẹ a = n-choghu
 Ne = ßhwe a-yu-kór-a a-ráá-ròr-ε a = n-tj’óyu
 COP = WH 3g-FUT-do-FV 3sg-PROG-see-SUBJV D = C9-elephant
 ‘What will he do if he sees an elephant?’

Now consider a context in which the speaker does not believe that there will be any elephants. Note that the subjunctive mood here licenses the polarity D, as we saw in Chapter 3.

- (393) [Context: We are setting up to go for an adventure in Yoho National Park in British Columbia. Eli is scared of big animals. I believe there are no

elephants there, but I ask my wife anyway to see her reaction:] [Nata]
 Ni-nga-h-ẹ a-rọr-ẹ = họ n-choghu
 Ni-ṅga-h-ε a-rór-ε = hɔ n-tʃóyu
 COP-COND-WH-SUBJV 3sg-see-SUBJV = LOC C9-elephant
 ‘How about if he sees an elephant?’

Unfortunately the contrasting data with the polarity D was not elicited in Luganda. However, Hyman and Katamba’s point about clause type becomes relevant for (393). This question is an if-clause (with an inverted protasis); therefore, the relevant non-factual operator here must be the conditional Op. For the Luganda and Nata cases with overt Ds (where existence holds), belief of existence is entailed. This can be accounted for by the analysis suggested in Chapter 4.

5.2.4 Existence Ds in Kinande

I wish to show that Kinande augments/Ds behave like belief-of-existence Ds in Nata, R/Rukiga, Haya and Luganda. No previous semantic work exists on the augments in this language. A brief remark on the function of Kinande augments from Schneider–Zioga and Mutaka (2014) is as follows:

In Kinande, the presence of the augment is somewhat correlated with definiteness and specificity... Indefinite noun phrases may or may not have augments depending on the semantic and syntactic context...

[Schneider–Zioga and Mutaka 2014: 5-6]]

I argue here for a stronger generalization. Kinande overt Ds are compatible with definite, indefinite, specific and non-specific contexts, however, definiteness or specificity are not part of their semantics. I show that what forces D choice in Kinande is speaker’s belief of existence of an NP referent. The summary of results in Table 5.5 will guide our discussion, leading to the conclusion that Kinande Ds behave as belief-of-existence Ds.

Table 5.5: Kinande Ds and their correlation with other existence Ds

Core diagnostics	AOE	BOE	Kinande
D encodes definiteness	✗	✗	✗
D encodes specificity	✗	✗	✗
Speaker’s personal knowledge required	✓	✗	✗
Used in cultural assumptions	✗	✓	✓
Used in possible worlds contexts	✗	✓	✓
Used with non-materialized referents	✗	✓	✓

I discuss these properties below. I start by showing that D choice in Kinande is not forced by definiteness or specificity.

5.2.4.1 Kinande Ds do not encode definiteness

The overt D in Kinande can be used in both novel, (394), as well as familiar discourse contexts, (395). This rules out the possibility that the D distinction in Kinande relies on the notion of definiteness¹⁰:

(394) [**Novel/indefinite context:** A girl is telling her friends about what happened to her today:] (Kinande, P.M.)
u-n-asi kwe? o=mu-pulisi mo-a-ka-nyi-manaya munabwire
2sg-TM-know what D=C1-police mo-SM-PST-1SG-stop today
‘You know what? A police officer stopped me today.’

(395) [**Familiar context:** A day after, one of her friends asks the girl:] (Kinande, P.M.)
o=mu-pulisi o-yo a-lia-lu-ir-a hayi kwehi?
D=C1-polce C1-Dem SM-TM-come-APPL-FV where Q
‘Where did that police officer come from?’

10. Thanks to Philip Mutaka and Jack Mutaka for providing me with the Kinande data when I needed it. My primary Kinande consultant was Philip but some data were also elicited from Jack. It was a very happy coincidence that I happened to work with Philip, the same language consultant who Ljilyana Progovac worked with and whose data led to the famous paper on Kinande augments as NPIs (Progovac 1993).

In both interpretations the speakers agree to convey the existence of a referent that satisfies the nominal property. That is, in both cases the Ds convey the belief that there is such a police officer who stopped the girl. I turn next to specificity.

5.2.4.2 Kinande Ds do not encode specificity

The fact that an overt D may be used in specific contexts such as in (396), and the same D is also used in non-specific contexts such as (397), rules out the hypothesis that Kinande augments convey specificity:

- (396) [**Specific context:** I wish I had a cup. I would drink from this stream. B:]
 [Kinande, P.M.]

e = kopo yine o = mo n-gunza e-yo
 D = cup LK D = C18 C9-bag C9-that
 ‘A cup is in that bag.’

- (397) [**Non-specific context:** There are several cups on a table, equidistant from the speaker]
 [Kinande, P.M.]

m-berer-ay e = kopo
 1sg-pass.APPL-FV D = C7-cup
 ‘Pass me a cup.’

In the next section I show that the relevant notion that forces the different D choices in Kinande is existence.

5.2.4.3 D distinction in Kinande

Progovac (1993) has proposed that Kinande augmentless NPs (DPs with the polarity D) should be analyzed as negative polarity items (NPIs). Her evidence comes from the licensing environments: negation, interrogatives, and conditional sentences, in which the licensing environments are parallel to those for English ‘any.’ I relate my current proposal to Kinande D data, and show that the syntactic licensing environments discussed in Progovac (1993) also have a reflex in the semantics of Ds. Throughout this thesis, the following syntax-semantic generalization is upheld¹¹:

11. I have slightly departed from Progovac in not treating argument DPs containing the polarity sensitive D_{\emptyset} as ‘bare NPs’ or augmentless Ns, as they do have a covert D which has a semantic function (see Chapter 3 for discussion).

(398) **Syntax-semantic generalization for the polarity D**

The polarity D_{\emptyset} must fall under the c-command domain/scope of a non-factual operator (eg., negation, conditional, modal, Q-morpheme, etc.)

The crucial difference between the current account and Progovac's is that in the current account the non-factual operators are semantically defined but the licensing is syntactic; in Progovac's account, these operators are only defined syntactically, hence are not correlated to the D interpretive contrast. If we allow syntax to talk to the semantic component, we see that the interpretive contrast of Ds corresponds to a distinction between overt DPs, which always escape the scope of a non-factual operator, as in (399), and polarity-sensitive DPs which obligatorily appear inside the scope of a non-factual operator, as in (400).

(399) Overt D: BOE [Kinande, adapt. Progovac 1993: 260]

a. $\text{o}=\text{mu-kali}$ si anzire Yohani [DP > \neg]
D=C1-woman not likes John
'The woman does not like John.'

b. Yohani si anzire $\text{o}=\text{mu-kali}$ [DP > \neg]
John not like D=C1-woman
'John does not like the woman.'

(400) NEG licenses D_{\emptyset} : Non-BOE [Adapt. Progovac 1993: 260-262]

a. si hali mu-kali wanzire Yohani [\neg > D_{\emptyset} P]
not there-is C1-woman likes John'
'No woman likes John.'

b. Yohana si anzire mu-kali [\neg > D_{\emptyset} P]
John not like C1-woman
'John does not like any woman.'

if the speaker does not wish to commit to believing in existence, they use the polarity D. These D distinctions/semantic contrasts are not explained under Progovac's syntactic account. I claim here that if the speaker wishes to convey a belief of existence, s/he always uses the overt D, as in (399). If the speaker does not wish to commit to believing in existence, they use the polarity D, (400).

In the absence of these licensing operators, the result is a declarative sentence, which always induces an existential interpretation; hence, the overt D must be used, as in (401). The ungrammaticality of (402) arises because there is no non-factual operator in the sentence to license the polarity D_{\emptyset} , hence violating (398).

(401) Overt D: BOE [Kinande, adapt. Progovac 1993: 260]

- a. $o =$ mu-kali anzire Yohani
 $D =$ C1-woman likes John'
 'The woman likes John.'
- b. Yohani anzire $o =$ mu-kali
 John likes $D =$ C1-woman
 'John likes the woman.'

(402) No D_{\emptyset} in declaratives [Kinande, adapt. Progovac 1993: 260]

- a. * \square mu-kali anzire Yohana
 \square C1-woman likes John
 Intended: 'The woman likes John.'
- b. *Yohani anzire \square mu-kali
 John likes \square C1-woman
 Intended: 'John likes the woman.'

Unlike Nata in which licensing takes place before movement, Progovac illustrates that licensing in Kinande is a surface-oriented phenomenon, which means that the overt c-command matches the semantic scope. Progovac's non-negation data reveal also that the interpretive contrast obtains with yes/no questions and a conditional operator, which is predicted by my analysis (see Progovac 1993).

5.2.4.4 Overt Ds behave as belief-of-existence Ds

I focus on the core diagnostics for belief-of-existence Ds in which speakers do not assert existence, but commit to existence based on their belief that an entity exists. Unlike in an assertion-of-existence D system, Kinande overt Ds are used in surmising contexts, as in (403), in possible world contexts with attitude verbs like *want* or *look for*, as in (404), as well as in contexts where referents have not materialized yet, such as (405).

(403) **Surmising context:** There is a sun-shower. B: [Kinande, P.M.]

a. e=tembo ya-ama-but-a
D=C9-elephant SM-TM-give.birth-FV
'An elephant is giving birth.'

b. *tembo ya-ama-but-a
C9-elephant SM-TM-give.birth-FV
Intended: 'An elephant is giving birth.'

(404) Belief of existence in a possible world context [Kinande, P.M.]

a. a-ka-rond-a a=ma-sabu
SM-TM-look-FV D=C6-milk
'He is looking for (some) milk.'

b. *a-ka-rond-a ma-sabu
SM-TM-look-FV C6-milk
Intended: 'He is looking for (some) milk.'

(405) Non-materialized referents [Kinande, P.M.]

a. a-kandisya-lung-a na o=mu-ndu wa hali
SM-FUT-marry-FV with D=C1-person of far
'She will get married to someone from far away.'

b. *a-kandisya-lung-a na mu-ndu wa hali
SM-FUT-marry-FV with C1-person of far
Intended: 'She will get married to someone from far away.'

Note also that overt Ds in Kinande can be used in generics. In (406) the speaker is not asserting the existence of owls or butterflies, but rather is conveying a belief that in every possible world with owls, they hunt butterflies.

(406) Generic sentences: overt Ds are required [Kinande, P.M.]

a. e=bi-bukulu bi-ka-higa e=bi-nyurugunzu
D=C8-owls SM8-HAB-hunt o=C8-butterflies
'Owls (always) hunt butterflies.'

b. * bi-bukulu bi-ka-higa bi-nyurugunzu
C8-owls SM8-HAB-hunt C8-butterflies
Intended: 'Owls (always) hunt butterflies.'

The hypothesis that Kinande makes D distinctions based on the notion of existence is upheld. We now can extend the current account to cases that Progovac presents as problematic for her account, and show that such cases are not problematic at all.

5.2.4.5 Accounting for residual issues in Kinande

One of the cases that Progovac points out as problematic for understanding the licensing environments in Kinande is with nominals following affirmative copulas (see also Krifka and Zerbian 2008), as in (407a). Progovac says that the nominal *mulimi* does not appear with the augment while there is no licenser, i.e., the nominal follows an affirmative copula¹². I have added the case in (407b) and the data set in (408) to bring out the argument-predicate contrast.

(407) a. Yohana ni mulimi [Adapted from Progovac 1993: 267]
John is farmer
'John is a farmer.'

b. Yohana y.ô=mulimi [Elicited, P.M]
John is.D=farmer
'John is the farmer.'

12. Baker (2003) and Krifka and Zerbian (2008) point out that some copula constructions in Kinande involve Focus marking. See Chapter 6 for the discussion of Focus marking in Bantu.

- (408) a. amagenda nga mukule [Kinande, P.M.]
 3sg.PROG.walk as pregnant
 ‘She walks as if she is pregnant.’
- b. amagenda nga o = mu-kule
 3sg.PROG.walk as D = C1-pregnant
 ‘She walks like the pregnant one.’

The syntax-semantics mapping proposed in Chapter 3 comes to the rescue here. These cases are not problematic, as they involve a predicate-argument distinction consistent with Longobardi (1994). I analyse *mulimi* in (407a) and *mukule* ‘pregnant’ in (408a) as predicates that denote a property, not an individual; hence they lack the D layer. As Philip Mutaka (p.c) points out, the copula *yo* in (407b) is invariable and is a fusion of a copula and the augment; hence, it is best presented underlyingly as $y\acute{o}-\delta = mulimi$, which means the *yo*-phrase has a DP complement. Thus, the cases in (a) contrast with the individual-denoting argument nominals in the (b) cases, which appear with argument DPs (see also Schneider–Zioga and Mutaka 2014; Baker 2003b).

Progovac (1993) also lists the lack of the overt D in the *by*-phrases of passive constructions such as (409) as being problematic for her licensing account. Example (409b), in which the covert D is licensed, seems to involve a null modal with meanings *must/might*. Progovac reports this case with *must* only. In my elicitation, the Kinande speaker accepted the use of the null D with the *might* interpretation as well as indicated in (409b).

- (409) *By*-phrases in Kinande [Adapted from Progovac 1993: 267]
- a. e = ki-tabo kya heribaua na o = mu-kali
 D = C7-book AGR was.lost by D = C1-woman.
 ‘The book was lost by the woman.’
- b. e = ki-tabo kya heribaua na mu-kali
 D = C7-book AGR was.lost by C1-woman
 ‘The book must/[might] have been lost by a woman.’

Nata does not allow the formation of *by*-phrases of this nature. However, epistemic modals can license the polarity D_{\emptyset} in other syntactic structures. In (410a), the strong modal particle *n*, glossed as a strong assertion marker (SAM) rendering

the *must* interpretation, is used with the overt D; the overt epistemic modal verb *tora* ‘may’/‘might’, on the other hand, licenses the polarity D_{\emptyset} in (410b) (refer to Chapter 3 for modal licensing).

- (410) a. n-a-a-kubh-a a-bwin-e u = mw-aana [Nata]
 bfn-a-a-kuβ-a a-βwin-e o = mw-aaná
 SAM-SA7-PST-be-FV SA1-find-FV D = C1-child
 ‘S/he must have found a/the child.’
- b. a-a-gho-tor-a ku-bh-a a-bwin-e mw-aana
 a-a-γó-tor-a ku-β-a a-βwin-e mw-aaná
 SA7-PST-INF-might-FV INF-be-FV SA1-find-FV C1-child
 ‘S/he might have found a child.’

Both in Nata and in Kinande, the overt D is used when a speaker is indicating that s/he is conveying a commitment to the belief of existence of an entity, (409a)/(410a); when the polarity D_{\emptyset} is used, the speaker is unsure and therefore prefers not to commit to the belief of existence of an entity, as in (409b)/(410b).

While covert D licensing by modals in Kinande remains an area for future research, licensing of a polarity D by an epistemic modal seems to be a plausible assumption. If we argue that the polarity D in Kinande is licensed by a null epistemic modal, this may explain why the polarity D is used in (409b). It is not immediately clear to me whether in Kinande the *must* modal interpretation can license the polarity D_{\emptyset} . One language where the *must* modal interpretation can be used with the polarity D is St’át’imcets (see Matthewson 1998; 1999). In St’át’imcets, an assertion-of-existence D system, the meaning contrast expressed by Kinande *by*-phrases is expressed by special evidential clitics which mark speaker knowledge (see Chapter 4 for discussion). Thus, if the speaker does not have personal knowledge about the individual s/he cannot commit to the existence of a referent. In this case the speaker-knowledge clitic *k’a* ‘surmise’ is used to license the non-assertion-of-existence D *ku*, (411):

- (411) Speaker knowledge: surmise [St’át’imcets, Matthewson 1998: 204]
 k^wanən-š-túm k’a tu? [k^wu plíšmən]
 kwanen-s-túm k’a tu7 [ku plísmen]
 catch-TR-PASS surmise COMPL [NON.EXIS.DET policeman]
 ‘He must have got caught by a policeman.’

As Matthewson illustrates, if the speaker has personal knowledge of the referent, the surmise clitic will be dropped and an assertion-of-existence D *X...a* used. Kinande does not seem to track speaker knowledge; however, the modal contexts in which the polarity D is used are crucial in understanding what forces the different D choice in (409). This case leaves us with three critical questions for future research: why would *by*-phrases license a covert modal in Kinande? Why does the ‘must’ modal license a null D in Kinande (if it can), and not in Nata? What other modal contrasts exist in Kinande and what are their correlations with the (c)overt augments?

Finally, during my elicitation, Philip Mutaka, the Kinande scholar and speaker-linguist who was my Kinande consultant, asked about cases such as (412) (not in Progovac’s paper):

- (412) a. *(o = mú-kali! umbá kubyo [Kinande, P.M.]
 (D =)C1-woman! 2sg.1sg.give some
 ‘Woman! Give me some.’
- b. mú-kali! umbá kubyo
 C1-woman! 2sg.1sg.give some
 ‘Woman! Give me some.’

The (412b) example is not problematic if it is analyzed as a vocative structure. There is cross-linguistic evidence that vocatives tend to appear with no D (see De Blois 1970; De Dreu 2008; Ndayiragije et al. 2012; Espina 2009; and Chapter 6 for further discussion).

5.2.5 Existence Ds in Xhosa

Xhosa (IsiXhosa) data seem to support the current semantic proposal that the augment/D encodes the speaker’s belief of existence. I show that the reported D contrast in Xhosa is consistent with the current proposal. The summary chart below indicates that Xhosa patterns as a belief-of-existence D system.

Table 5.6: Xhosa Ds and their correlation with other existence Ds

Core diagnostics	AOE	BOE	Xhosa
D encodes definiteness	✗	✗	✗
D encodes specificity	✗	✗	✗
Speaker's personal knowledge required	✓	✗	✗
Used in cultural assumptions	✗	✓	✓
Used in possible worlds contexts	✗	✓	✓
Used with non-materialized referents	✗	✓	✓

As per this chapter's format, I start with some crucial data to show that the Xhosa D distinction is not forced by definiteness or specificity; those features come from elsewhere.

5.2.5.1 Xhosa Ds do not encode definiteness

In Xhosa, Ds do not contrast for definiteness. The overt D is used in novel contexts as in (413a), but the same D is also used in familiar contexts, (414)¹³.

(413) [**Novel/indefinite context:** A girl is telling her friends about what happened to her today:] [Xhosa, M.N]

- a. Yhazi yintoni? Ndi-mis-w-e i=ndoda namhlanje
 know what 1sg-stop-PASS-PST D=9man today
 'You know what? I got stopped by a man today.'
- b. *...Ndi-mis-w-e ndoda namhlanje
 ...1sg-stop-PASS-PST 9man today
 Intended: '...I got stopped by a man today.'

13. Elicited data come from Lutsha Bata and Mandisa Ndlovu. I thank these two for their time and passion to share their beautiful language with me.

- (414) [**Familiar/definite context:** A day after, one of her friends follows up.]
 [Xhosa, M.N.]

U-yi-khangel-e i=ndoda e-ku-mis-e izolo?
 2sg-OM1-see-PST i=9man SM1-2sg-stop-PST yesterday
 ‘Did you see *the man* who stopped you yesterday?’

These data support the argument that the augment/D is not the locus of definiteness in Xhosa. In the current proposal, the use of the overt D in both novel and familiar discourse contexts is predicted under the assumption that the speaker believes that there is a man who stopped her. Next, I show that Xhosa Ds do not contrast for specificity either.

5.2.5.2 Xhosa Ds do not encode specificity

The overt D is used where the speaker has a specific cup in mind, as in (415), and the same D is used in non-specific contexts, such as (416).

- (415) [**Specific context:** B: I wish I had a cup. I would drink from this stream.
 You:] [Xhosa, L.B.]

Kun’ i=nkomityi pha kweso si-khwama.
 Kuna i=nkomityi pha kweso si-khwama
 there.is D=9cup in that C7-bag
 ‘There is a cup in that bag.’

- (416) [**Non-specific context:** There are several cups on the table. B asks a child:] [Xhosa, L.B.]

- a. Ndi-nike i=nkomityi
 Ndi-nike i=nkomityi
 1sg-pass D=9cup
 ‘Pass me a cup.’
- b. *Ndi-nike nkomityi
 *Ndi-nike nkomityi
 1sg-pass 9cup
 Intended: ‘Pass me a cup.’

Data from generics provide further evidence that overt Ds may be used in non-specific contexts. In (417) the speaker may not be talking about a specific group of owls or butterflies:

(417) Overt D in generic contexts [Xhosa, L.B.]

- a. i=sikhova zi-zingel-a a=mabhabhathane.
 i=sikhova zi-zingel-a a=mabhabhathane
 D=8owls SM8-hunt-FV D=6butterflies
 'Owls hunt butterflies.'
- b. * sikhova zi-zingel-a mabhabhathane.
 * sikhova zi-zingel-a mabhabhathane
 8owls SM8-hunt-FV 6butterflies
 Intended: 'Owls hunt butterflies.'

These data can be accounted for by the single generalization that the use of an overt D indicates that the speaker is committing to the belief of existence of a referent/referents. The lack of a specificity contrast in Xhosa challenges Visser's (2008) position that overt Ds in Xhosa are [+spec]. What is important about Visser's account is the fact that specificity and definiteness can also be introduced in the grammar by other (morpho)syntactic devices, e.g., OMs, demonstratives, etc. I have concluded that augments do not contribute to specificity or definiteness at all. I now turn to show that the D distinction in Xhosa is based on the core notion of existence.

5.2.5.3 D distinction in Xhosa

Xhosa data support the current proposal that D choice is forced by the notion of belief of existence. In (418a)-(418b), the speaker is committed to the existence of entities contained in the proposition (i.e., *a = bantwana* '(the) children') and the belief-of-existence D is used. When the speaker does not want to commit to existence, the non-belief-of-existence D is used, (418c). (Note non-original glossing)¹⁴:

14. I abandon the Xhosa scholars' tradition of using the term 'augmentless (-A) nominals' for DPs containing a non-polarity D. Carstens and Mletshe (2015) argue that [-A] nominals have a negative concord feature *uNeg* which must Agree with a negative licenser *iNeg*; and in some contexts [-A] nominals are licensed by a [+focus] feature. Since I am not focusing on Agree relations under Minimalism, I remain neutral about their account. For all I know their account works fine, like other previous licensing accounts/binding accounts

(418) D Choice in Xhosa [Carstens & Mletshe 2015: 262, M.B.]

- a. Ndi-bon-é a = ba-ntwana
 1sSA-see-CONJ1.PST D = 2-child
 'I saw (the) children.'
- b. A-ndi-bon-anga a = ba-ntwana
 NEG-1sSA-see-NEG.PST D = 2-child
 'I didn't see the children.'
- c. A-ndi-bon-anga ba-ntwana
 NEG-SA1-see-NEG.PST 2-child
 'I didn't see any children.'
- d. *Ndi-bon-é ba-ntwana
 SA1-see-CONJ1.PST 2-child
 Intended: 'I saw children.'

As usual, in (418b) the overt DP takes wide scope over a non-factual operator, here negation, to preserve the existential interpretation. In all cases where the polarity D_{\emptyset} is used it must fall within the c-command domain/scope of a non-factual operator, (418c). I have claimed that DPs can only have a non-existential interpretation if they are interpreted under the scope of a non-factual operator. As is well known, polarity Ds cannot appear in declarative sentences which lack a licensing operator, (418d). The same D distinction obtains with subject DPs:

(419) D choice in Xhosa [Xhosa, M.N.]

- a. i = ndoda i-fund-e i = ncwadi
 D = 10man SM1-read-PST D = 9book
 'A/the man read a/the book.'
- b. a-kho mntu o-fund-e i = ncwadi
 NEG-be 10man SM1-read-PST D = 9book
 'Nobody read a/the book.'

do (see Progovac's 1993; Hyman and Katamba's 1993). My interest is the syntax-semantics correlation of Ds. However, see Chapter 6 for further discussion of restrictions with the Focus parameter.

- c. a-kho mntu o-fund-e ncwadi
 NEG-be 10man SM1-read-PST 9book
 ‘Nobody read a/any book.’

The object DP *i=ncwadi* ‘a/the book’ in (419b) is associated with a belief-of-existence interpretation, hence, it is interpreted with wide scope in Logical Form.

Beyond negation, as data from Carstens and Mletshe (2015) and also Visser (2008) show, the D distinction also obtains with other non-factual operators such as conditionals, Q-morphemes, and a modal, which is consistent with my analysis. In the interests of full disclosure, in the next chapter I will discuss independent syntactic constraints that ban DPs with a covert D from appearing in certain syntactic configurations in Xhosa¹⁵. I finish my discussion here by presenting data which show that Xhosa overt Ds indeed behave as belief-of-existence Ds.

5.2.5.4 Overt Ds as belief-of-existence Ds

Xhosa overt Ds, like Nata, R/Rukiga, Haya, Luganda and Kinande existence Ds, can be used in contexts in which a speaker does not assert existence. Xhosa overt Ds are used when a speaker is only surmising the existence of referents such as monkeys, as in (420a). Overt Ds can also be used to refer to referents that are future possibilities (non-materialized referents), as in (421a).

(420) [Surmising context: There is a sun-shower. B says:] [Xhosa, M.N.]

- a. ku-tshat-a i=inkawu
 ku-tshat-a i=inkawu.
 17S-get.married-FV D=10monkeys
 ‘Monkeys are getting married (mating).’
- b. *ku-tshat-a inkawu
 *ku-tshat-a inkawu.
 17S-get.married-FV 10monkeys
 Intended: ‘Monkeys are getting married (mating).’

15. These syntactic constraints are known in Zulu and Xhosa as the four taboo positions, which are: (i) pre-verbal subjects in SVO clauses, (ii) the position of applied objects and causees of transitive expletive constructions (TECs), (iii) direct object positions in mono-transitive TECs, and (iv) right-dislocated position.

(421) [Future referent context: B is considering donating a chair to a new school. He believes he can find one to buy.] [Xhosa, M.N.]

a. Ndi-za-ku-leth-a i = situlo
 Ndi-za-ku-leth-a i = situlo
 1SG-come-INF-bring-FV D = 7chair
 'I will come to bring a chair.'

b. *Ndi-za-ku-leth-a situlo
 *Ndi-za-ku-leth-a situlo
 1SG-come-INF-bring-FV 7chair
 Intended: 'I will come to bring a chair.'

Finally, overt Ds are used to refer to referents in possible worlds, as seen by the fact that attitude predicates such as *funa* 'want' in (422a) and *khangela* 'look(ing) for' in (423a) cannot license the polarity D_{\emptyset} . In the (a) cases, the speaker believes that there is a world compatible with his/her belief about the existence of fish or mangoes.

(422) BOE in attitude verbs [Xhosa, M.N.]

a. Ndifuna ukutya i = nhlanzi namuhla
 Ndi-fun-a ukutya i = nhlanzi namuhla
 1SG-want-FV INFT.eat D = C9-fish today
 'I want to eat fish today.'

b. *Ndifuna ukutya nhlanzi namuhla
 *Ndifuna ukutya nhlanzi namuhla
 1SG-want-FV INFT.eat C9-fish today
 Intended: 'I want to eat fish today.'

(423) BOE in attitude verbs [Xhosa, M.N.]

a. u = Mary u-khangel-a i = mango
 u-Mary u-khangel-a i = mango
 D = Mary SM1-PROG.look.for-FV D = 4mangoes
 'Mary is looking for mangoes.'

- b. *u = Mary u-khangel-a mango
 *u = Mary u-khangel-a mango
 D = Mary SM1-PROG.look.for-FV 4mangoes
 Intended: ‘Mary is looking for mangoes.’

These data show that Xhosa Ds do not track the speaker’s personal knowledge; for example, the speaker does not necessarily know that there are fish available for him/her to eat. It is only a belief that fish or mangoes exist. I conclude that D choice in Xhosa is necessitated by the speaker’s belief of existence.

5.2.6 Existence Ds in Zulu

There are a number of works on the subject of the Zulu augment (see Doke 1992; Mzolo 1968; von Staden 1993 and references therein; De Dreu 2008; Buell 2009; Cheng and Downing 2009; Adams 2010; Halpert 2012; Carstens and Mletshe 2015; to mention but a few). Among these, I follow the syntactic view that the Zulu augment is a realization of the functional category D (cf. De Dreu 2008; Adams 2010; Carstens and Mletshe 2015 and others). (For the view that the Zulu augment corresponds to Case, see Halpert (2012), but see Carstens and Mletshe (2015) for a counter proposal, and Chapter 2 for arguments against the Case proposal for Nata.) I focus on the syntax-semantic arguments about the D contrast, where I show that Zulu data support the current proposal that D choice in Zulu is based on the core notion of existence. A summary chart showing where Zulu Ds sit in relation to other existence Ds is given below.

Table 5.7: Zulu Ds and their correlation with other existence Ds

Core diagnostics	AOE	BOE	Zulu
D encodes definiteness	✗	✗	✗
D encodes specificity	✗	✗	✗
Speaker’s personal knowledge required	✓	✗	✗
Used in cultural assumptions	✗	✓	✓
Used in possible worlds contexts	✗	✓	✓
Used with non-materialized referents	✗	✓	✓

First, I show that definiteness and specificity are not realized on Zulu Ds.

5.2.6.1 Zulu Ds do not encode definiteness

Zulu does not switch Ds based on novelty-familiarity (see Adams 2010 for this claim). The overt D can be used in novel contexts, (424), and the same D is also available for use in familiar contexts, as in (425)¹⁶.

- (424) [Novel/indefinite context: A girl is telling her friends about what happened to her today:] [Zulu, M.B.]
qagela kwenzakaleni! i=phoyisa lingivimbile namhlanje
qagel-a kwenzakale-ni! i=phoyisa li-ngi-vimb-ile namhlanje
guess-FV happened-WH! D=5police 5s-1sg-stop-PST today
'Guess what happened! A police officer stopped me today.'

- (425) [Familiar/definite context: A day after, one of her friends follows up.] [Zulu, M.B.]
ulibonile i=phoyisa ekumisile izolo?
u-li-bon-ile i=phoyisa e-ku-mis-ile izolo?
2sg-OM5-see-PST D=9police REL-2s-stop-PST yesterday
'Did you see the police officer who stopped you yesterday?'

What both the novel and familiar reading have in common is that the speaker is willing to commit to the belief of existence of a police officer. Next, I show that Zulu Ds do not force D choice based on the notion of specificity.

5.2.6.2 Zulu Ds do not encode specificity

Zulu also does not seem to distinguish Ds based on the notion of specificity (see Adams 2010 for this claim). Zulu data show that overt Ds may be used both in specific contexts, (426), as well as in non-specific contexts, (427). This rules out the possibility that Ds have a specificity contrast.

16. Thanks to my Zulu consultant Mthuli Buthelezi for sharing his language with me when I needed to fill in some data gaps, and for glossing them.

(426) [**Specific context:** B: I wish I had a cup. I would drink from this stream.
 You:] [Zulu, M.B.]
 Kukhona i=nkomishi ku-leso sikhwama.
 Kukhona i=nkomishi ku-leso sikhwama
 there.is D=9cup in-that 7bag
 ‘There is a cup in that bag.’

(427) [**Non-specific context:** There are several cups in the cupboard. I ask...] [Zulu, M.B.]
 Ngi-phe i=nkomishi
 Ngi-phe i=nkomishi
 1sg-give/pass D=9cup
 ‘Give me a cup.’
 [Consultant comment: I will bring you one of the cups]

Overt Ds can also be used in generics, which obtain a non-specific interpretation:

(428) Overt D in generic contexts [Zulu, M.B.]
 a. i=zikhova zi-zingel-a i=zimvemvane.
 i=sikhova zi-zingel-a i=zimvemvane
 D=8owls SM8-hunt-FV D=8butterflies
 ‘Owls hunt butterflies.’
 b. * zikhova zi-zingel-a zimvemvane.
 * sikhova zi-zingel-a zimvemvane
 8owls SM8-hunt-FV 6butterflies
 Intended: ‘Owls hunt butterflies.’

These data support the notion that the overt D does not encode specificity. Next, I show that the Zulu D distinction is forced by the notion of belief of existence.

5.2.6.3 D distinction in Zulu

Von Staden’s (1973) view that overt Ds do not encode definiteness, and that they are used if a speaker has a ‘particular’ object in mind, is akin to the notion of specificity. Von Staden writes:

Nouns with initial vowels denote particular, individual objects... depending on the nature of the objects referred to. The term ‘object’ is to be understood to denote anything that can be referred to by a noun.

[von Staden, 1973: 165]

Von Staden states further that the distinction displayed by Zulu augments involves a particularization feature contrast, [+IND]/[-IND], which cannot be rendered by any English grammatical devices. Von Staden writes that the overt D is loosely represented using the English articles *a(n)* or *the* coupled with the rendition *particular*, as in (429a); its counterpart can be rendered with *no*, *any*, *nothing* (*not anything*) *like*, (429b).

- (429) a. A-ku-fik-anga a = bahambi [Zulu, von Staden 1973: 166]
 NEG-17s-arrive-NEG.PST D = 2travellers
 ‘No (particular, individual) travellers arrived’
 Lit: ‘There did not arrive (particular, individual) travellers (e.g., travellers whom the speaker knows would have come, or travellers referred to previously).’
- b. A-ku-fik-anga bahambi
 NEG-17s-arrive-NEG.PST 2travellers
 ‘No (nothing like) travellers arrived.’

Data with object DPs from De Dreu (2008) show a similar D contrast:

- (430) a. a-ka-limaz-a a = bantwana [Zulu, de Dreu 2008: 18]
 NEG-SA1-hurt-FV D = 2children
 ‘He doesn’t hurt (some particular) children.’
- b. a-ka-limaz-a bantwana
 NEG-SA1-hurt-FV 2children
 ‘He doesn’t hurt any children.’

I re-analyze the particularization/individualization contrast, [+IND]/[-IND], that Von Staden posits for Zulu augments as a D distinction based on the core notion of existence. More precisely, Ds in Zulu encode the speaker’s belief of existence. The D contrast based on the notion of existence is supported by the data given above. In the (a) cases, the speaker agrees to commit to the existence of an

entity; therefore, the DPs containing an overt D escape the scope of the non-factual operator to render the existential interpretation. Where the speaker does not wish to commit to the existence of travellers/children, as in the (b) cases, the polarity D is used, in which case it is interpreted under the scope of the non-factual operator. The licensing condition of the polarity D is consistent with Halpert’s (2012) argument that ‘augmentless nominals’ (here, DPs containing polarity Ds) must be vP internal where they are licensed by a L(icenser). I have claimed in Chapter 2 that the non-factual operators are the overt realization of Halpert’s abstract head L (cf. De Dreu 2008; Buell 2009; Adams 2010; Carstens and Mletshe 2015).

Declarative sentences containing no non-factual operators induce existential interpretations and they are compatible with belief of existence Ds, as in (431a). In such sentences there is no licenser to license the polarity Ds; hence, (431b) is ungrammatical¹⁷.

(431) Overt D is required in declaratives [Zulu, M.B.]

- a. a = bahambi ba-a-fik-a
 D = 2travellers SA2-PST-arrive-FV
 ‘(The) travellers arrived.’
- b. * bahambi ba-a-fik-a
 2travellers SA2-PST-arrive-FV
 Intended: ‘(The) travellers arrived.’

Halpert (2012; 2015) and Carstens and Mletshe (2016) report a number of syntactic constraints that ban the licensing of arguments in certain syntactic positions. I postpone the discussion of some of these constraints until Chapter 6.

No data are available showing licensing with conditionals or modals in Zulu¹⁸. Nonetheless, in interrogatives, the question operator may also license the polarity D. A representative case comes from yes/no questions, (432b):

17. Von Staden (1973: 165) claims further that nouns lacking augments (polarity Ds) “refer to objects in indefinite or generic contexts.” I do not adopt the use of the term ‘generic’ for polarity Ds for two reasons: (i) it is inconsistent with a standard definition of genericity (Carlson and Pelletier 1995; Krifka 2003; Hawkins, 1978; Déchaine et al., 2014); (ii) Overt Ds in Zulu are used in generic contexts (see ex. 428) which contradicts von Staden’s D distinctions.

18. Carstens and Mletshe (2015) argue that Zulu [–A] nominals (i.e., containing polarity sensitive DPs, in my account), behave as antimorphic forms (e.g., (super) strong NPIs or *n*-words), like the ‘broad’ English NPI ‘any’ forms. Based on this, they say that Giannakidou’s (1998, 2011) non-veridical licensing environment would be too broad for Zulu.

(432) Zulu, D choice in polar questions [Von Staden 1973: 1967]

- a. N-azi u=muntu nga-zwi l-a-khe?
2sg-know u=1person INSTR-5.voice 5-POSS-1pron
'Do you know a/the (particular, individual) person by his voice?'
- b. N-azi muntu nga-zwi l-a-khe?
2sg-know 1person INSTR-5.voice 5-POSS-1pron
'Do you know anyone by his voice?'

I now turn to showing that Zulu Ds are comparable with belief-of-existence Ds and do not behave as assertion-of-existence Ds.

5.2.6.4 Overt Ds as belief-of-existence Ds

Zulu overt Ds may be used in contexts where an assertion of existence does not hold. Zulu overt Ds are used in surmising contexts in which the speaker is only conveying a belief, given cultural assumptions, that there is such a thing as monkeys mating out there in the rain, (433). Overt Ds are also used when talking about non-materialized referents, e.g., to convey a belief that a chair donation is a possibility in the future, (434):

(433) [Surmising context: There is a sun-shower. B says:] [Zulu, M.B.]

- a. ku-shad-a i=zimfene namhlanje
ku-shad-a i=zimfene namhlanje.
17S-marry-FV D=10monkeys today
'Monkeys are getting married (mating) today.'
- b. *ku-shad-a zimfene namhlanje
*ku-shad-a zimfene namhlanje.
17S-marry-FV 10monkeys today
'Monkeys are getting married (mating) today.'

(434) [Future referent context: B is considering donating a chair to a new school. He believes he can find one to buy.] [Zulu, M.B.]

- a. Ngi-zo-leth-a i = sihlalo
 Ngi-zo-leth-a i = 7sihlalo
 1SG-FUT-bring-FV D = 7chair
 'I will bring a chair.'
- b. *Ngi-zo-leth-a sihlalo
 *Ngi-zo-leth-a 7sihlalo
 1SG-FUT-bring-FV 7chair
 'I will bring a chair.'

Finally, belief-of-existence Ds can be used with attitude verbs such as *funa* 'look for'/'want', (435a) to refer to referents in possible worlds.

(435) Overt D is required with attitude verbs [Zulu, M.B.]

- a. u-fun-a u = mango
 u-fun-a u = mango
 3sg-want/look.for-FV D = mangoes
 'S/he is looking for mangoes.'
- b. *u-fun-a mango
 *u-fun-a mango
 3sg-want/look.for-FV mangoes
 Intended: 'S/he is looking for mangoes.'

In (435), replacing the overt D with the polarity D will result in ungrammaticality, which indicates that attitude predicates do not license the polarity D in Zulu. I wish now to discuss certain data presented in the previous literature on Zulu as posing a challenge for the semantic analysis of Zulu Ds.

5.2.6.5 Accounting for residual cases in Zulu

Potential obstacles for the current proposal are cases presented in the previous literature as posing a problem for a semantic analysis. I discuss these cases below.

Von Staden (1973) and Buell (2009) present the case in (436) with the D contrast involving the verb *bika* 'report' and the numeral *one*; the problem is that there seems to be no licenser for the polarity D:

(436) D choice in reportatives [Zulu, Von Staden 1973: 169-170]

- a. Zi-bik-e i=zwi linye
 10sm-report-PERF D=5message 5one
 ‘They have reported one message.’
- b. Zi-bik-e zwi linye
 10sm-report-PERF 5message 5one
 ‘They have reported one message.’

The contrast expressed by (436) involves the lexical evidential verb *bika* ‘report’, which is a non-factual operator that can license the polarity D_{\emptyset} similar to the verb *-bugha* ‘report(edly)’ in Nata (see Chapter 3). The meaning of the proposition in (436) may vary depending on the reliability of the information source (see Aikhenvald 2004; Waldie 2012; Matthewson 2007; Déchaine et al. 2016; and others). My analysis predicts that, in (436a), the speaker has trust in the information source and will agree to commit to the belief of existence of a message. Furthermore, if the speaker does not trust the source/non-first-hand information, hence does not wish to commit to the existence of a message, s/he will use the polarity D, as in (436b)¹⁹. While more research may help to arrive at a solid conclusion about the interpretive difference between (436a) and (436b), it seems that what forces D choice is whether the speaker believes in the message or not.

Another potentially problematic case is (437) which involves the universal quantifier *zonke* ‘all’, presented in Halpert (2012) (originally from Buell 2008). The problem Halpert points out is that the right-dislocated quantifier *zonke* ‘all’ in (437) takes low scope with respect to negation, an environment that usually licenses NPIs. However, the DP set ranged over by universal quantifiers cannot be an empty set; hence, the use of the DP with an overt D follows straightforwardly. Based on Jocken Zeller (p.c) and the Zulu speakers I have worked with, quantification over a specific set is another possible reading for (437); hence, I have included this possibility by adding ‘(the)’ in the gloss²⁰.

19. Buell (2009) and Carstens and Mletshe (2015) propose a Focus-based analysis in which all stressed augmentless nominals are focussed and their unstressed counterparts are not. I do not rule out this possibility; however, I am more interested in what forces different D choices and not only the syntactic distribution of nominals. Here, I will keep the Focus discussion in the background, but see Chapter 6 for further discussion of Focus.

20. Thanks to Jocken Zeller and Leston Buell for pointing this out. The set ranged over by the quantifier is contextually defined, as the speaker is not referring to children in the

- (437) Scope and c-command [Zulu, Adapt. Halpert 2012: 96]
 i = zi-ngane a-zi-thand-i a = ma-swidi]_{VP} zonke
 D = C10-children NEG-SM10-love-NEG D = C6-sweets all
 ‘Not all children like sweets.’ $\neg > \forall, * \forall > \neg$
 ✓‘Not all (the) children like sweets.’

The use of the overt D is consistent with the current account in that (universal) quantifiers always presuppose the existence of their range (the DP cannot denote an empty set) (cf. von Stechow 1994; Matthewson 1998, 2001; Heim 1982; and others); hence, the DP contains the belief-of-existence D. Thus, the sentence is true if there is at least one child who does not like candy. The speaker uses the overt D as s/he believes in the existence of a set of children but it is not the case that all (the) children in this set like sweets. I conclude that the use of the overt D/belief of existence D on the DP quantified over, is consistent with the claim that Zulu overt Ds always encode speaker’s belief of existence.

The last potentially problematic case concerns the NPI reading of object-marked DPs used in negative environments²¹. Object markers (OMs) usually have a familiarity reading; thus under the current account, we would predict an object DP co-occurring with an OM to have an existential interpretation²². However, in the famous Zulu elephant example, (438a), Zeller (2008)) argues that speakers accept both the NPI and the familiar interpretations, while Halpert (2012) presents the DP with the NPI reading only *I didn’t see any elephants*. To argue for my case I have added the context of use in which I re-elicited the sentences below. The new data reveal a problem for the claim that overt Ds used in familiar contexts or with OMs in Zulu can yield an NPI interpretation. Note that] marks dislocated objects.

In (438a) the first meaning is the literal meaning of the utterance which entails the second/implied meaning. Zeller indicates that in (438b) the OM and the polarity D_{\emptyset} are incompatible; the NPI interpretation clashes with the anaphoric interpretation of the OM, as my analysis predicts. (438c) shows that the DP with the D_{\emptyset} must be interpreted under the scope of negation to obtain a non-existential interpretation.

entire universe (cf. Geurts 1998; von Stechow 2004; Matthewson 1998, 2001; Gillon 2006; and others).

21. A case that could also be presented here as a residual problem is sentence fragment answers with augmentless nominals/DPs with a polarity D_{\emptyset} such as *mntu* ‘Nobody!’, *lutho* ‘Nothing!’, which appear to have no overt licenser. I postpone the discussion of this case until Chapter 6 which deals with parametric variation.

22. But see Chapter 6, for a discussion of languages that impose certain constraints on the familiarity reading of object marked DPs, i.e., animacy, humanness, *wh*-questions etc.

[**Context:** It's about the familiar story of two elephants that were taken to the zoo in Boston. You visit the zoo in Boston and find out the elephants actually died. Now you are back in South Africa. B asks: Did you see the elephants?].

(438) Implied or literal?

[Zulu, adapt. Zeller 2008: 11; Halpert 2012: 97; M.B]

- a. A-**ngi-zi**-bon-anga] i = zindlovu
 NEG-1S-**OM10**-see-NEG] D = 10elephant
 'I didn't see (them), the elephants.' [Literal]
 'I didn't see any (of the) elephants.' [Implied]
- b. *A-**ngi-zi**-bon-anga] zindlovu
 NEG-1S-**OM10**-see-NEG] 10elephant
 Intended: 'I didn't see (them), the elephants.'
- c. A-**ngi**-bon-anga] zindlovu
 NEG-1S-see-NEG] 10elephant
 'I didn't see any elephants.' [Literal]
 'I didn't see even the two elephants.' [Implied]

The Zulu speaker I worked with associated the use of the overt D in (438a) with being 'straight to the point', and answering using the polarity D_{\emptyset} , as in (438c), as being 'rude' or answering the question in 'a roundabout' way. Halpert (2012) documents this judgemental effect in reporting on NPI readings with OM constructions:

I will note here that though the existing literature on Zulu describes the omission of an augment vowel [the use of a polarity sensitive D_{\emptyset} (J.G)] as a general NPI strategy in the language... These speakers [Durban Zulu speakers] describe augmentless NPIs as being informal to the point of rudeness [Halpert 2012: 90].

We may solve the frequently recorded NPI reading in definite contexts such as (438a) by considering, in line with the intuitions of my Zulu consultant, that such meanings are implied, not literal (i.e., do not come from the semantics of the overt D). Cross-linguistically, in familiar/presuppositional contexts, speakers may use the polarity element by 'flouting' the maxim of Quantity, or may choose to obey the cooperative principles of conversation by using the relevant D (here

the overt D) (see Grice 1975; Levinson 1983 for the discussion of implicatures). Zulu appears to be doing the opposite from Nata regarding the implied vs. literal meaning in (438a), which uses the overt D to be direct to the point. We saw that in Nata, speakers used the polarity D_{\emptyset} to avoid being specific/rude, as their strategy of expressing politeness, whereas for Zulu speakers (438c) is a rude and infelicitous way of responding the question *Did you see the elephants?* (see Brown and Levinson 1987; Bousfield 2008 on politeness; also refer to §5.2.2.5 for the discussion with examples from both Nata and Haya).

Halpert's context of use which led her to record *A-ngi-zi-bon-anga] i = zindlovu* 'I didn't see any elephants', here the implied meaning under (438a), is the question *How many elephants did you see in Boston?* Using the same contexts, my Zulu consultant responded as in (438a) on the condition that one must be inquiring about the specific (kinds of) elephants (i.e., the elephants sent from Krugar National Park to Boston which, say, died there). (438b) was consistently rejected; the reason is clear: the DPs used with OM must convey an existential interpretation (see Adams 2010). In addition, the Zulu speaker agreed that they would only answer using (438c) in contexts where Boston is a land with no elephants. I conclude that the use of overt Ds in these cases is consistent with the underlying semantic principle that derives overt Ds in Zulu: overt Ds encode the speaker's belief of existence. This goes against the hypothesis that Zulu Ds are semantically vacuous (contra Halpert 2012). While this seems to be a valid conclusion, a more detailed empirical study on these issues may be something to pursue in future to fully support this position.

Having discussed the belief-of-existence D systems, I turn my attention to the assertion-of-existence D systems.

5.3 Assertion-of-existence D systems

Here I discuss Bemba, a language that appears to have elements of an assertion-of-existence D system like St'át'imcets.

5.3.1 Existence Ds in Bemba

Bemba augments/Ds seem to behave like assertion-of-existence Ds in St'át'imcets with one exception, that Bemba speakers have/believe in cultural assumptions which are not easily found in St'át'imcets. We can summarize the different properties of Bemba Ds across different semantic diagnostics as shown below:

Table 5.8: Bemba Ds and their correlation with other existence Ds

Core diagnostics	AOE	Bemba	BOE
D encodes definiteness	✗	✗	✗
D encodes specificity	✗	✗	✗
Speaker’s personal knowledge required	✓	✓	✗
Used in cultural assumptions	✗	✓	✓
Used in possible worlds contexts	✗	✗	✓
Used with non-materialized referents	✗	✗	✓

I first show that Bemba Ds do not encode definiteness and specificity before I discuss their existence-encoding properties.

5.3.1.1 Bemba Ds do not encode definiteness

Givón (1970) states explicitly that Bemba Ds do not contrast for (in)definiteness:

...the [VCV/CV] distinction may in English translation converge with the contrast between def./indef. articles, but this convergence is at best partial and many times misleading. [Givón 1970: 37]

Consistent with Givón, Bemba data show that Ds are not switched based on novel-familiar semantic spaces (cf. Hawkins 1978; Heim 1982; 2011 Schwarz 2009; 2012; and others). The overt D in *u = mwaume* ‘a/the man’ appears in novel contexts such as (439a), and the same D appears in familiar contexts, as in (440)²³:

(439) [Novel/indefinite context: A girl is telling her friends about what happened to her today:] (Bemba, M.C.)

- a. Nawishiba? **u** = mwaume acinjiminika lelo
 2sg.know **D** = mwaume SM1.PST.1sg.stop today
 ‘Do you know? A/#the man stopped me today.’

23. Thanks to Mr. Musonda Chilengwe, my Bemba language consultant, for sharing his language with me, and for providing me with extra data to fill in the Bemba data gaps when needed.

- b. *Nawishiba? mwaume acinjiminika lelo
 2sg.know C1.man SM1.PST.1sg.stop today
 Intended: ‘Do you know? A man stopped me today.’

(440) [**Familiar/definite context:** A day after, one of her friends asks the girl:]
 (Bemba, M.C.)

- a. Bushe walimumona u = mwaume wakwiminike?
 Q SM1.PST.OM.see D = C1-man SM1.REL.2sg.stop.PST
 ‘Did you see (him) #a/the man who stopped you?’
- b. *Bushe walimumona mwaume wakwiminike?
 Q SM1.PST.OM.see C1-man SM1.REL.2sg.stop.PST
 Intended: ‘Did you see (him) #a/the man who stopped you?’

The use of the overt D in both novel and familiar contexts rules out any analysis claiming that the Bemba D system encodes definiteness. Under the current account, the above DPs are consistent with the fact that the speaker is conveying the existence of a referent corresponding to the NP; hence, the overt D in *u = mwaume* ‘a/the man’ is used.

5.3.1.2 Bemba Ds do not encode specificity

Bemba data reveal that overt Ds may be used in specific or non-specific contexts and as such they do not contrast for specificity. In the examples below, the overt D is used in specific contexts such as (441a), but the same D can also feature in non-specific contexts, (442a):

(441) [**Specific context:** A: I wish I had a cup. I would drink from this stream:]
 [Bemba, M.C.]

- a. Muli i = nkomaki muli cilya i = cola
 There.is D = C9.cup in that D = C5.bag
 ‘There is a cup in that bag.’
- b. *Muli nkomaki muli cilya cola
 There.is C9.cup in that C5.bag
 Intended: ‘There is a cup in that bag.’

(442) [Non-specific context: There are several cups on a table, equidistant from speaker] [Bemba, M.C.]

- a. Mpelako i = nkomaki
Pass me D = C9.cup
'Pass me a cup.'
[Consultant reaction: I will pass you any]
- b. *Mpelako nkomaki
Pass me C9.cup
Intended: 'Pass me a cup.'

Analyzing Bemba augments/Ds as existence Ds explains why the overt D is used in a variety of contexts. I consider more data that support this contention.

5.3.1.3 D distinction in Bemba

Givón (1978) proposes the notion 'referentiality', which I analyze as being an existence distinction, to capture the overt D/polarity D_{\emptyset} contrast in Bemba:

...the lexicon makes no provision for the definite-indefinite distinction but only for that of referential vs. non-referential. The VCV form [the overt D (J.G)] marks referential nouns, while the corresponding CV form of the prefix [the polarity D_{\emptyset} (J.G)] marks non-referential ones.

[Givón 1978: 300]

The core notion of existence accounts for the empirical facts concerning the D distinction in Bemba. For instance, the data in (443a) show that when a speaker wants to convey the existence of a referent, the overt D must be used. Note that if a non-factual operator is used, the DP containing the overt D always escapes the scope of the non-factual operator in order to render the existential interpretation, as in (443b)²⁴.

(443) Overt D encodes existence [Bemba, adapted from Givón 1978: 301]

- a. u = mu-ana a-a-somene i = ci-tabo
D = C1-child SM1-PST-read D = C7-book
'A/the child read a/the book.'

24. Givón argues that, except for generics, subjects in Bemba behave as definite DPs, particularly when used in negative contexts. Nonetheless, in my elicitations, both definite and indefinite readings are possible with subjects.)

- b. u = mu-ana t-a-a-somene i = ci-tabo [DP > ¬]
 D = C1-child NEG-SM-PST-read D = C7-book
 'A/the child did not read a/the book.'

If the speaker does not wish to convey existence of a referent, the overt D must be replaced by the polarity D_{\emptyset} , (444a). The polarity D always must fall under the c-command/scope of a non-factual operator. (444b) is ungrammatical because it is being used in a declarative context which cannot license the D_{\emptyset} :

(444) Licensing of Polarity D_{\emptyset} [Bemba, adapted from Givón 1978: 301]

- a. u = mu-ana t-a-a-somene ci-tabo [¬ > D_{\emptyset}]
 D = C1-child NEG-SM-PST-read C7-book
 'A/the child did not read any book.'
- b. *u = mu-ana a-a-somene ci-tabo
 D = C1-child SM1-PST-read C7-book
 *'The child read any book.'

The contrast in terms of existence also obtains with adversative predicates/lexical negation which involves a non-factual operator. When the speaker means an existential interpretation, the overt D is used, and the DP has wide scope with respect to the lexical negation, as in (445a); however, if s/he does not believe in the existence of a child that J. saw, the overt D must be replaced by the polarity D_{\emptyset} , as in (445b).

(445) Existence Ds [Bemba, adapted from Givón 1970: 43; 2018: 16]

- a. ndeetwiishika nga J. aamweene u = mw-aana [Overt D > L.Neg]
 1sg.doubt that J SM1.PST.see D = C1-child
 'I doubt that J. saw the child.'
- b. ndeetwiishika nga J. aamweene mw-aana [L.Neg > D_{\emptyset}]
 1sg.doubt that J SM1.PST.see C1-child
 'I doubt that J. saw any child.'

These data are consistent with the diagnostics for a speaker-oriented existence D system: (i) the D contrast is based on the notion of existence, and (ii) the D system is speaker-oriented as opposed to a speaker-hearer system. Next, I show that

the Bemba D system behaves like the assertion-of-existence D system in St'át'imcets except for cultural assumptions which may receive a separate explanation.

5.3.1.4 Overt Ds as assertion-of-existence Ds

Bemba Ds seem to me to be an assertion-of-existence D system with a possible absence of evidentials and slightly different cultural beliefs about what counts as strong enough evidence to assert existence. The claim that the Bemba augment system behaves like assertion-of-existence D is consistent with Matthewson's (1998) observation:

Givón makes the cross-linguistic claim that nominals falling under the scope of a possible modality or negative modality may receive either a referential (i.e. assertion of existence) or non-referential interpretation; otherwise all nominals are interpreted referentially (1978: 294). This is the case in Bemba as well as in Salish. [...]Givón's definition is based on Bemba (Bantu), whose determiner system shows similarity with Salish systems. [Matthewson 1998: 55, 69]

Givón (1970; 1978) analyzes the Bemba Ds as encoding 'known' vs 'unknown' distinctions. Using generic data, Givón (1970) illustrates that when the speaker uses an overt D as in (446) s/he may not be talking about individually known referents but rather about a known/specific genus.

(446) Specific references in generics [Bemba, adapted from Givón 1970: 47]

- a. i=m-bwa ni nama
D=C9/10-dog COP C9.animal
(i) 'Dogs are animals.'
(ii) 'The/these dogs are animals.'
- b. i=m-bwa shilalya i=nama
D=C10-dogs SM10.HAB.eat D=C10.meat
(i) 'Dogs eat meat.'
(ii) All the dogs in the universe eat meat.'

Givón argues that (446a) is "ambiguous with respect to known/unknown, but both interpretations are specific" (Givón 1970: 47). The conclusion he reaches is this: "Bemba indeed judges all subject nouns to be obligatorily specific", (Givón 1970: 48). We already saw that Bemba overt Ds are not specific, eg., referents

such as *i=nikomaki* ‘a cup’ in (442a) above are not necessarily specific. According to Givón, the subject noun phrases in (446) lack a pure generic interpretation and may not be considered as ‘real generics.’ This is similar to St’át’imcets. Matthewson argues that when translating characterizing statements like *Bears eat honey*, St’át’imcets speakers do not talk about generic bears, rather they refer to some bears they know. The parallels in generic sentences between Bemba and St’át’imcets may suggest that a lack of real generics is a diagnostic for assertion of existence. However, it is not important that generics be absent for a language to be an assertion-of-existence system. As Lisa Matthewson (p.c), suggests, as long as a language does not have obligatory deictic Ds, generics should be fine (refer to Chapter 4 for the discussion concerning some implications of deictic features).

The crucial property of assertion of existence Ds is that the Ds encode speaker’s personal knowledge, as we saw in St’át’imcets. While the data contrasting for reported vs speaker’s personal knowledge is unavailable, there is evidence which strongly suggests that Bemba is leaning towards an assertion-of-existence D system. This consists of data involving Ds with non-materialized referents and in possible worlds.

In Bemba, if the speaker intends to convey the existence of a referent, the overt D will be used with future tense/irrealis modality, as shown in (447a). However, if the speaker does not wish to commit to the existence of a referent, the future tense/irrealis modality will license the D_{\emptyset} , as in (447b).

- (447) Licensing of Polarity D_{\emptyset} [Bemba, Givón 1970: 43; 2018: 16]
- a. n-ka-mona u=mu-ana [Overt D > FUT]
 1s-FUT-want u=C1-child
 ‘I will see a/the child.’
- b. n-ka-mona mu-ana [FUT > D_{\emptyset}]
 1s-FUT-want C1-child
 ‘I will see a child.’

Bemba is comparable to the St’át’imcets assertion-of-existence system in this respect, since in the Nata belief-of-existence D system, future tense never licenses the polarity D with non-materialized referents (see Chapter 4).

As Givón illustrates, non-factual operators such as attitude verbs translated as *look for* or *want* can also license the D_{\emptyset} , as in (448b). However, if the speaker is

willing to commit to the existence of the relevant DP contained in the proposition, an overt D is always used, (448a).

(448) Attitude verbs [Bemba, adapted from Givón 1978: 301]

- a. u = mu-ana a-a-fwaya i = ci-tabo [Overt D > Op]
 D = C1-child SM-PST-want D = C7-book
 ‘A/the child wanted a/the book.’
- b. u = mu-ana a-a-fwaya ci-tabo [Op > D_∅]
 D = C1-child SM-PST-want C7-book
 ‘A/the child wanted a book (be it any).’

The one exception we find in Bemba to what is expected for an assertion-of-existence system is that it does not allow covert Ds to be used in surmising contexts, as is the case with the St’át’imcets non-assertion-of-existence D *ku* (see Chapter 4). The fact is that in Bemba, overt Ds are obligatorily used in surmising contexts, as (449)-(450) show:

(449) [Surmising context: I suddenly have an itchy palm. I say:]

[Bemba, C.M.]

- a. Nilapokelel-a i = fi-suma
 1SG.FUT.receive-FV D = C8-thing
 ‘I will receive something (good).’
- b. *Nilapokelel-a fi-suma
 1SG.FUT.receive-FV C8-thing
 ‘I will receive something (good).’

(450) [Surmising context: Suddenly someone has an itchy foot. S/he says:]

[Bemba, C.M.]

- a. a = beni ba-li mu-nshila
 D = C2-visitors C2-are LOC18-way
 ‘Visitors are on the way.’

- b. * beni ba-li mu-nshila
 C2-visitors C2-are LOC18-way
 ‘Visitors are on the way.’

(449a) and (450a) are felicitous in a situation where the speaker only hopes/believes that s/he will receive something good/visitors. This slightly differs from St’át’imcets in which a speaker cannot use an assertion-of-existence D in contexts where existence is only believed.

It is an open question why Bemba Ds appear to track the speaker’s personal knowledge but at the same time allow overt Ds to be used in surmising contexts in which existence is not asserted but believed (the speaker doesn’t know for sure). We may only speculate about the reasons. One speculation may be that Bemba and St’át’imcets just differ in the way speakers process cultural assumptions. Are beliefs considered as more realities in some cultures than in others? Framing the question differently, do Bemba or Bantu speakers more generally consider cultural assumptions as sufficient for assertion? (see Gambarage and Matthewson 2019). I will not try to answer this anthropological question here. Another speculation may be that perhaps the Bemba language, unlike Salish languages, does not have an evidential or deixis system that interacts with D, hence allows overt Ds to be also used in beliefs. I leave this issue open for further research. The last case I turn to is Dzamba which encodes definiteness in its D system.

5.4 Ds that do not encode existence

I now present Dzamba data to show that it is the only exception among the languages I discuss here in not encoding existence. The D distinction in Dzamba is based on novelty–familiarity (definiteness), consistent with Bokamba (1971) and Givón (1978, 2018).

5.4.1 Lack of Existence Ds in Dzamba

Dzamba is a true example of an augment language whose D distinction is not based on belief/assertion of existence; rather, it is based on the novelty-familiarity/definiteness contrast (cf. Bokamba 1971; Givón 1978, 2018). The chart below summarizes the results for the Dzamba system in relation to the belief-of-existence and assertion-of-existence systems:

Table 5.9: Dzamba Ds and their correlation with existence Ds

Core diagnostics	AOE	BOE	Dzamba
D encodes definiteness	✗	✗	✓
D encodes specificity	✗	✗	✗
Speaker's personal knowledge required	✓	✗	✗
Used in cultural assumptions	✗	✓	✗
D encodes existence	✓	✓	✗

I show that the major differences between Dzamba and the existence D systems lie in the fact that existence Ds do not access the hearer's knowledge. This means the Dzamba system has a positive setting for the Common Ground Parameter (cf. Matthewson 1998 on this parameter), and other contrasts such as specificity or existence are completely obscured. I present Dzamba data to show that Dzamba is the only exception among the languages I discuss herein that does not encode existence.

5.4.2 Dzamba Ds contrast for novelty-familiarity

The choice between different Ds in Dzamba is based on the novel-familiar distinction. In (451b), *moto* 'man' is novel; therefore, the null D is used. If the same noun is used in familiar contexts, the null D must be switched to the overt D as in (452a)²⁵:

- (451) [**Novel/indefinite context:** You meet a man on the way and he stops you to ask something. Back home you tell your friend what happened:]
[Dzamba, E.G.B.]

- a. #W-eelebi? o=mo-to a-n-tem-y-aki loɔme
2sg-know D=C1-person SM1-1sg-stop-CAUS-IMPF today
#'You know (what)? The man stopped me today.'

25. Thanks to Eyamba Georges Bokamba (E.G.B) who agreed to share his language with me and for providing me with extra data and assisting with the morphological glossing.

- b. W-eelebi? mo-to a-n-tem-y-aki loome
 2sg-know C1-person SM1-1sg-stop-CAUS-IMPF today
 ‘You know (what)? A man stopped me today.’

(452) [**Familiar/definite context**: A day later, one of your friends inquires about the same man:] [Dzamba, E.G.B.]

- a. W-eena-ki o= mo-to o-wa-ko-tem-y-aka yana
 2sg-see-Q D= C1-person REL-SM1-2sg-stop-CAUS-PST yesterday
 ‘Did you see the man who stopped you yesterday?’
- b. #W-eena-ki mo-to o-wa-ko-tem-y-aka yana
 2sg-see-Q C1-person REL-SM1-2sg-stop-CAUS-PST yesterday
 #‘Did you see a man who stopped you yesterday?’

Overt Ds are ruled out in surmising contexts and in generics. Only referents that are familiar to the speaker and hearer can take an overt D:

(453) [**Surmising context**: B is eating and s/he bites his/her tongue. S/he says:]

- a. # a= ba-to ba-ando lo-o-ni-tongo [Dzamba, E.G.B.]
 D= C2-people SM2-some COP-SM2-2sg-talk
 Intended: ‘Some people are talking about me.’
- b. ba-to ba-ando lo-o-ni-tongo
 C2-people C2-some COP-SM2-2sg-talk
 ‘Some people are talking about me.’

(454) Generic contexts: null D required [Dzamba, E.G.B.]

- a. # a= ba-zi ba-**ne**-tena n.konyi
 D= C2-women SM2-**HAB**-chop C10.wood
 Intended: ‘Women (customarily) chop wood.’
- b. ba-zi ba-**ne**-tena n.konyi
 C2-women SM2-**HAB**-chop C10.wood
 ‘Women (customarily) chop wood.’

Note that if the referent is in the common ground of the discourse, the speaker must choose to use the overt D. Compare (454a) with (455a):

(455) [Contexts: The host is inquiring about the two women visitors. Child B:]

a. a=ba-zi ba-ki-tena n.konyi
 D=C2-people SM2-PROG-chop C10.wood
 ‘The women are chopping wood.’

b. # ba-zi ba-ki-tena n.konyi
 C2-people SM2-PROG-chop C10.wood
 Intended: ‘The women are chopping wood.’
 [Consultant comment: ”You can say this if you mean some women.”]

These examples fit Bokamba’s (1971) analysis of Dzamba Ds as encoding definiteness. However, I slightly depart from Bokamba’s additional claim that Dzamba Ds (Noun Pre-prefixes (NPPs), his term) are also specific.

Givón has shown, for Bemba, that the CV/VCV contrast is not a matter of [-DEF]/[+DEF], but rather of [+SPEC]/[-SPEC]. In Dzamba, however, ...it is not only definitiveness but also specificity (referentiality) that is here marked by the NPP. [Bokamba 1971: 230/235]

I argue that Dzamba Ds are compatible with specific contexts but the D system does not encode (non)specificity.

5.4.3 Dzamba Ds do not contrast for specificity

Bokamba (1971) analyses augments in Dzamba as Ds which encode definiteness or presupposition of existence, in which case he assumes that they also encode specificity (referentiality). Bokamba argues that the D distinction in Dzamba makes the following contrasts: [+DEF]/[-DEF]/[+SPEC]/[-SPEC], where there is no possibility of [+DEF, -SPEC]. He exemplifies these contrasts with the following examples:

(456) Definiteness contrasts in Dzamba [Dzamba, Bokamba 1971: 220]

a. a=mo-ibi (*mɔɔ) anyɔɔklɔlɔ ondaku [+DEF, +SPEC]
 D=C1-thief (*one) entered in.the.house
 ‘The thief (*one) entered the house.’

- b. mo-ibi (mɔɔ) anyɔɔɔkl ondaku [-DEF, +SPEC]
 C1-thief (one) entered in.the.house
 ‘A thief (one) entered the house.’
- c. mo-ibi (mɔɔ) akoki na-nyɔɔɔkl ondaku [-DEF, -SPEC]
 C1-thief (one) can and-enter in.the.house
 ‘A thief (one) can enter the house.’

According to Bokamba (1971), the difference between the [+SPEC] and [-SPEC] features of *moibi* ‘a thief’ in (456b) and (456c), respectively, is that the verb *nanyɔɔkl* in (456b) is “in the past tense, asserting that the event described has already taken place, hence the the subject is referential/specific” (p.220). This is opposed to (456c) which makes no such assertion; hence, the existence of a thief is ‘not presupposed.’ As the same covert D marks both specificity and non-specificity in (456b) and (456c), respectively, this rules out the possibility that Dzamba Ds contrast for specificity.

Data involving non-factual operators such as negation, adversative predicates, conditionals, and question morphemes show that the novel-familiar contrast holds. I discuss data with negation as representative of licensing cases. (457a) shows that the overt D is consistently interpreted as definite. The Dzamba covert D is used in indefinite contexts and in polarity contexts as shown in (457b,c), respectively²⁶.

(457) Augment contrast in Dzamba [Dzamba, Bokamba 1971: 220]

- a. o=mo-ibi (*mɔɔ) ta-nyɔɔɔkl ondaku emba
 D=C1-thief (*one) not-entered in.the.house not
 ‘The thief (*one) did not enter the house.’ [+DEF, +SPEC]
- b. mo-ibi (mɔɔ) ta-nyɔɔɔkl ondaku emba
 C1-thief (one) not-enter in.the.house not
 ‘A thief (one) did not enter the house.’ [-DEF, +SPEC]
- c. ta-nyɔɔɔkl nà mo-ibi (mɔɔ) ondaku emba
 not-enter and C1-thief (one) in.the.house not
 ‘No (single) thief entered the house.’ [-DEF, -SPEC]

26. Note that there are two negation morphemes *ta-* and *emba* in Dzamba which constitute a single negative entity, similar to the French *ne...pas*, except that in Dzamba the second element is always sentence final.

Bokamba correctly points out that in (457a,b), the DPs have wide scope over negation, while in (457c), the D which is [-DEF, -SPEC] takes low scope. I argue that this distinction correlates with definiteness.

I agree with Bokamba's empirical claim that the overt Ds cannot be non-specific. Bokamba's assumption is that overt Ds are definite/specific while covert Ds can be specific or non-specific. However, if the covert D can be specific or non-specific, then this obscures the specificity contrast between the overt D and the covert D, which is also the case in English with *a*.

My argument against specificity marking comes from the fact that the overt D is ruled out in specific indefinite contexts, (458a); and the null D is neutral for specificity as it can be used in specific contexts, as in (458b), and in non-specific contexts, as in (459b).

(458) [**Specific context:** A: I wish I had a cup. I would drink from this stream.
B says:] [Dzamba, E.G.B.]

- a. #e=kɔbɔ (yɔ) e-ndo-o-bo-kumbe
D=C7.cup (one) COP-LOC-D=C14-plastic.bag
Intended: 'A/one cup is in the plastic bag.'
- b. kɔbɔ (yɔ) e-ndo-o-bo-kumbe
C7.cup (one) COP-LOC-D=C14-plastic.bag
'A/one cup is in the plastic bag.'

[**Context:** There are several cups on a table, equidistant from speaker]

(459) Non-specific referents: null D is required [Dzamba, E.G.B.]

- a. #o-n-kominy-el-e e=kɔ-bɔ (yɔ)
2sg-1sg-pass-APPL-SUBJV e=C7-cup (one)
Intended: 'Pass me a/one cup'
- b. o-n-kominy-el-e kɔ-bɔ (yɔ)
2sg-1sg-pass-APPL-SUBJV C7-cup (one)
'Pass me a/one cup'

The specific contexts in which the Dzamba overt D in (458a) is infelicitous, would allow a belief/assertion-of-existence D to be used. Given that the Bemba overt D is ruled out in the same contexts, I conclude that Bemba Ds do not contrast

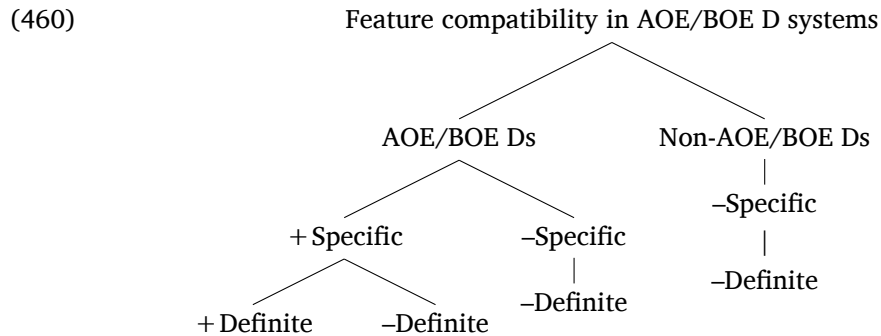
for existence, but rather for novelty-familiarity. Thus Bokamba's arguments about definiteness, but not specificity, carry forward.

5.5 Summary, remarks and conclusion

In this chapter I have presented empirical evidence to show that the core semantics that forces D choice in various Bantu languages is encoding existence. We saw that existence is not encoded uniformly across languages: a language like Bemba encodes existence by asserting it (i.e., involving speaker's personal knowledge of a referent, more similar to St'át'imcets), while other languages (Nata, R/Rukiga, Haya, Luganda, Kinande, Xhosa and Zulu) encode existence rather weakly, in terms of a belief (not evidence) that entities exist in the world of discourse.

In encoding speaker-oriented existence, a distinction is made between DPs which obligatorily fall under the scope of a non-factual operator, and those which are scopally inert, i.e., they always escape the scope of non-factual operators.

Extending Matthewson's (1998) feature compatibility in the assertion of existence D system, we can modal feature compatibility of the speaker-oriented existence D systems discussed here as:



This means speaker-oriented existence Ds are compatible with a wide range of semantic features. The striking difference between the overt Ds compatible with [-def, -spec] contexts and the covert augment occurring in [-def, -spec] contexts is that the latter must scope under a non-factual operator, in which case it must be interpreted under the restriction of the operator.

Of the languages I discussed, Dzamba is the only Bantu language that encodes the novel-familiar D distinction, similar to English. I concluded that the existence Ds in other Bantu languages do not encode the familiar-novel distinction as is the case with English and Dzamba, as speaker-oriented existence Ds are used in

various contexts. The results of the cross-Bantu discussion are summarized in the tables in Tables 461-463. The shaded regions indicate that it is impossible to use the D with the non-existential interpretation in familiar contexts.

(461) D distinctions in definite systems

English	novel	familiar
existential interpretation	<i>a</i>	<i>the</i>
non-existential interpretation	<i>a</i>	

Dzamba	novel	familiar
existential interpretation	<i>covert D</i>	<i>overt D</i>
non-existential interpretation	<i>covert D</i>	

(462) D distinctions in AOE systems adapted from Matthewson (1998: 56)

St'át'imcets	novel	familiar
assertion of existence	<i>X...a</i>	<i>X...a</i>
non-assertion of existence	<i>ku</i>	

Bemba	novel	familiar
belief of existence	<i>overt D</i>	<i>overt D</i>
non-belief of existence	<i>covert D_∅</i>	

(463) D distinctions in BOE systems

eg., Nata	novel	familiar
belief of existence	<i>overt D</i>	<i>overt D</i>
non-belief of existence	<i>covert D_∅</i>	

We see that English, by utilizing *a/the* vs *any*, can optionally display the existence D contrast. This is the case with Dzamba overt/covert Ds also. However, English and Dzamba Ds do not encode speaker-oriented existence. In English, both *any* and *a* can be used in positive statements such as in FCI and in specific contexts. The Dzamba covert D can be used both in existential and non-existential contexts, hence the existence contrast in these languages is disguised. The reason for the disguise may be that the definite systems utilize both definiteness and existence, but only encode definiteness in their system (see Matthewson 1998).

Using the Common Ground Parameter (Matthewson 1998; 1999) we can divide these languages into a subset-superset relation. For instance, the speaker-oriented systems (existence D systems) cannot access hearer knowledge hence they are a subset of English/Dzamba which can access such a distinction.

While the notion of existence seems to be pertinent to the D systems of these languages, a number of constraints appear to disguise this contrast, hence may cause one not to see the semantic predictability we discussed here. In the final chapter, I discuss certain augment-related constraints and argue that they can be explained by language independent constraints.

Chapter 6

Locus of Variation in Bantu

6.1 Introduction

Bantu augment languages display a number of (morpho)syntactic and semantic constraints which may be thought to obscure the semantic analysis of D. The goals of this chapter are three-fold: (i) to explore the locus of parametric variation with respect to constraints on the realization of augments, (ii) to present data held by some Bantuists to be a problem for a semantic analysis and show how far the proposed analysis can extend to such cases, (iii) to identify cases that pose a puzzle for the analysis developed here. I will argue that certain cases held by some Bantuists to be a problem to a semantic analysis are non-problems. I will also address cases that pose a challenge to the analysis developed here. Such constraints must be handled independently of the interpretive component. For instance, in some Zone J languages like Luganda, stressed DPs mark Focus and appear as augment-less (Hyman and Katamba 1993; Carstens and Mletche 2015; Cheng and Downing 2009; and others). This may indicate that the non-use of an overt D has acquired some grammatical functions other than lack of commitment to existence as we saw in Chapter 5. Such DPs are reducible to independent syntactic variation.

The chapter is organized as follows: In §6.2 I address parametric variation of D at the DP level. The discussion centres around how the augment as a D can compete for the same structural position with other Ds. In §6.3 I discuss various DP level constraints and show how they interact with the realization of the augment as D. In §6.4 I consider the various constraints beyond the DP-level (i.e., DP-external) such as locality, surface c-command, clause restrictions and the

Focus constraint which prohibits the use of overt D in some Zone J languages. §6.5 addresses the syntactic-semantic level constraints, specifically, object markers and anaphoricity. The last section, §6.6, suggests areas for future research and presents my conclusion.

6.2 DP-internal constraints

Here I discuss the parametric variation of the D position with respect to the position of demonstratives (DEMs), the universal quantifier translated as ‘every’, partitive elements in weak quantifiers or other modifiers, and locatives. This discussion will inform us about the Bantu DP structure and show that the use of an overt D is consistent with my proposal.

6.2.1 D and demonstratives

The lack of arguments in certain structures where they are expected has been taken as evidence for the lack of a semantic contrast/predictability of arguments (cf. Hyman and Katamba 1993). The problem is that in some languages, the argument may be absent when the pre-nominal DEM is used, which makes it appear that the argument is not necessary for an existential interpretation. My analysis predicts that all argument nominals occurring with a DEM will yield an existential interpretation, given that DPs appearing with demonstratives are definite descriptions (see Visser 2008; Allen 2014). Some relevant examples are in order.

Examples from Zulu (464), Nata (465), and R/Rukiga (466) show the common syntactic positions for Bantu DEMs: pre- and post-nominal (see Wald 1973; de Dreu 2008; Du Plessis and Visser 1992; Allen 2014). While Zulu and Nata have only two DEM positions (pre-nominal and post-nominal), R/Rukiga has three DEM positions¹:

- (464) Demonstrative positions in Zulu [Zulu, de Dreu 2008: 27]
- | | | | | | |
|----|------------|--------|----|--------------|---------|
| a. | le | n-doda | b. | u = m-fazi | lo |
| | C9.this | C9-man | | D = C1-woman | C1.this |
| | ‘this man’ | | | ‘this woman’ | |

1. Allen (2014) argues that the DEM in on R/Rukiga is composed of the initial vowel/DEM root (DEMrt) and the class marker *ki*. I will not discuss deictic features (proximal, medial or distal) associated with DEMs in these languages. See Allen (2015), Wald (1973); Visser and Du Plessis (1992), and Chapter 2 for the discussion of Nata.

(465) Demonstrative positions in Nata

- | | | | | |
|----|------------------|----|--------------|-------|
| a. | u-nɔ̄ = mu-kari | b. | o = mu-kari | u-nɔ̄ |
| | u-nɔ̄ = mú-kari | | o = mu-kári | ú-nɔ̄ |
| | 1-DEM = 1-woman | | D = 1-woman | 1-DEM |
| | ‘the/this woman’ | | ‘this woman’ | |

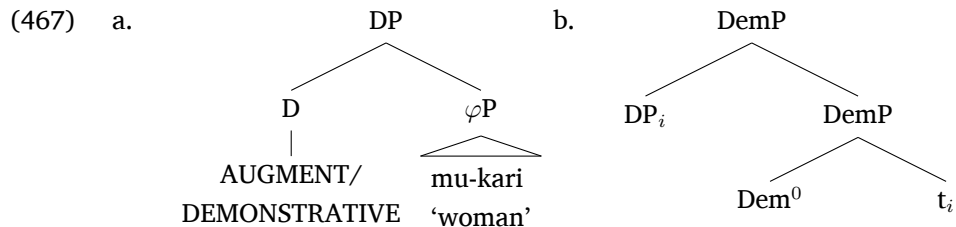
(466) Demonstrative positions in R/Rukiga [R/Rukiga, Allen 2014: 181]

- | | | | |
|----|--------------|--------------|----------------|
| a. | eki | kitabo | [Post-nominal] |
| | a-ki-∅ | ki-tabo | |
| | DEMrt-7-PROX | 7-book | |
| | ‘this book.’ | | |
| b. | e = kitabo | eki | [Pre-nominal] |
| | e = ki-tabo | a-ki-∅ | |
| | D = 7-book | DEMrt-7-PROX | |
| | ‘this book.’ | | |
| c. | eki | e = kitabo | [Pre-nominal] |
| | a-ki-∅ | e = ki-tabo | |
| | DEMrt-7-PROX | D = 7-book | |
| | ‘this book.’ | | |

I argue that there is no augment for the pre-nominal cases in (a) in (464)-(466) and that the D position is filled with other D material (DEM). I extend the view that the pre-nominal DEM occupies the same position as the augment/D; this corresponds to the structure in (467a) (see de Dreu 2008; Carstens and Mletshe 2016; Van de Velde 2005; and others)². For the post-nominal DEM cases that follow DPs with an overt D in the (b) cases in (464–466), DEMs seem to be heading their own phrasal projections (DemPs) (see Giusti 1994, Alexidou et al. 2007; de Dreu 2008; Guardiano (2012); Cinque 2005; Windsow 2015; and others). Thus, in the overt syntax, leftward movement of the DP has taken place. In the spirit of the Universal Base Order Hypothesis (UBOH) (Greenberg 1963; Hawkins 1983; Cinque 1995, 2005; Aboh 1999), modifiers are merged in the same hierarchical position

2. Since the DEM has an internal structure where it agrees in number with the head noun, I leave open the question how the whole structure can possibly occupy a D slot (see Déchaine and Wiltschko (2002) for insights.

universally: Dem > Num > A > N, and variation in word order is a result of simple and constrained leftward movement of N, in our case NP/DP³ (see Greenberg 1963; Hawkins 1983; Cinque 1995, 2005; Aboh 1999; Valois 1991; Carstens 2008; Longobardi 2001; Carstens 2000; Kayne 1994; Ajiboye 2005; Takano 2003; Windsow 2015; Lewis 2016; and many others). Based on this, I propose that in the (b) cases, the DP started out lower and moved to specifier of DemP as in the structure in (467b) (see Windsow 2015; Lewis 2016).



The rare R/Rukiga structure in (466c), in which the pre-nominal DEM precedes the DP containing the overt D, can be derived by assuming that the DemP-DP word order corresponds to the Merge order consistent with the Universal Base Order Hypothesis, which reinforces the notion that syntax is anti-symmetric, therefore no symmetric order of modifiers in the Merge order (Dem > Num > A > N) is possible (see Greenberg 1963; Hawkins 1983; Cinque 2005; Kayne 1994):

- (468) **Greenberg’s Universal 20 (U20)** (Greenberg 1963: 87)
 When any or all of the items (demonstrative, numeral, and descriptive adjective) precede the noun, they are always found in that order. If they follow the noun the order is either the same or its exact opposite.

Thus, while some languages allow the co-occurrence of DEM and D, other languages like Nata do not. This variation is explained by language independent syntactic constraints. In all the cases where we get the overt D, the belief-of-existence interpretation also obtains as we saw in Chapters 4 and 5 for these languages.

6.2.2 D and modifiers

In many Bantu languages, some modifiers such as weak quantifiers (*few, many, two, etc.*), adjectives, and modifiers translated as ‘other’ or ‘certain’ seem to appear in

3. The fact that what moves here is a phrase and not a head N challenges an assumption about head/N movement (see Greenberg 1963; Hawkins 1983).

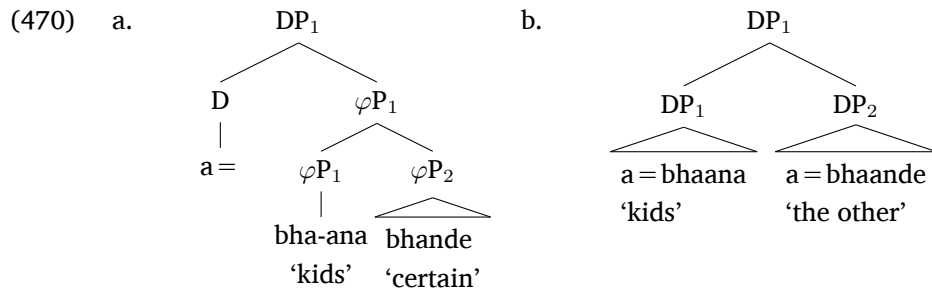
different syntactic positions within the DP consistent with Cinque (1995, 2005; and later works). In some languages modifiers may appear post-nominally, while in other languages, we get the mirror image: a modifier appears pre-nominally but after an augment. In the early Bantu literature (see De Blois 1970, for instance), such nominals present a problem for the syntactic analysis of the augment. I talk about such structures to argue that such nominals are actually DPs. I propose that these variations should be explained within the Universal Base Order Hypothesis stated above. I discuss the variation in syntactic positions of modifiers using *-nde/ndi* ‘other’, as an example, where I show that nominal arguments obligatorily require a D as my analysis predicts.

In Nata, modifiers such as *-nde/ndi* ‘other’ appear with D, where they create D–doubling structures. In Chapter 3, we saw that D–doubling structures are associated with a partitive reading (i.e., they pick out a subset from a familiar/previously mentioned set). Thus, the non-D-doubling structure in (469a) contrasts with the D-doubling structure in (469b). Notice the order of the DP with respect to *(a=)bha-nde* is the same in both cases.

(469) Partitive by D–doubling [Nata]

- a. a = bha-ana bha-nde bha-ka-het-a ha-nɔ
 a = βa-aná βáa-nde βa-ka-het-a ha-nɔ
 D = C2-child C2-other/certain SA2-PST-pass-FV C16-here
 ‘Some/certain kids passed here.’
- b. a = bha-ana a = bha-nde bha-ka-het-a ha-nɔ
 u = βa-aná a = βaa-ndé βáa-nde βa-ka-het-a
 D = C2-child D = C2-other C2-other/certain SA2-PST-pass-FV
 ‘(The) other kids passed here.’

I propose that (469a) corresponds to the DP structure in (470a), which involves DP internal modification, and (469b) corresponds to the DP structure in (470b), which is the appositive structure, with DP₂ adjoined to DP₁.



While Nata DPs containing *-nde/ndi* ‘other’ modifiers exhibit an invariable word order, in other languages, the partitive vs. non-partitive interpretations are rendered by different word orders. For example, in Kirundi, a modifier appears sandwiched between the augment/D and the head noun, (471a), obtaining the Determiner–Modifier–NP word order. But the modifier can also follow the noun as in (471b). (471) is the famous example from Kirundi which appeared first in Meeussen (1959) and in Hyman and Katamba (1993: 216). Similar examples in (472) come from Kinande.

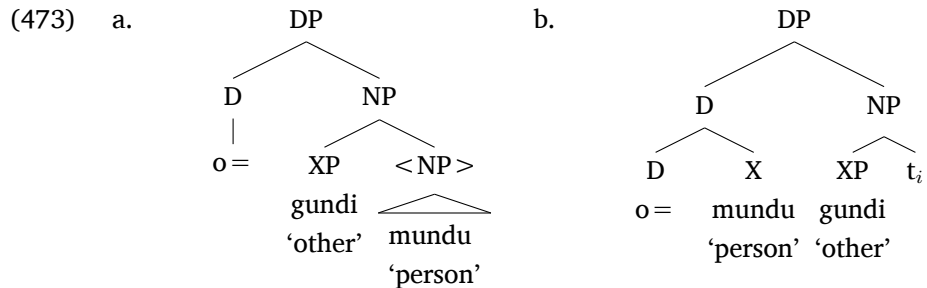
(471) D position with *-ndi* ‘other’ [Kirundi, adapted from H&K 1993: 216]

- a. a = báandi baantu
 D = 2other/certain 2people
 ‘(The) other people’
- b. a = baantu báandi
 D = 2people 2other/certain
 ‘Some/a certain people’

(472) D position with *-ndi* ‘other’ [Kinande, H&K 1993: 216]

- a. o = gundi múndu
 D = 2other/certain 1person
 ‘(The) other person’
- b. o = múndu gundi
 D = 1person 1other/certain
 ‘Some/a certain person’

Considering the flexibility in word order for the cases in (471)–(472), I adopt an analysis involving N-to-D movement for the (b) cases (see de Dreu 2008; Carstens 2008; and others). Based on the Universal Base Order Hypothesis, the (a) examples in Kirundi and in Kinande correspond to the tree in (473a), which shows that the noun is base generated. (472b) corresponds to the structure in (473b), in which N-to-D movement has taken place⁴.



As De Blois (1970) observes, several languages allow the *Determiner–Modifier–NP* word order, including Rwanda, R/Rukiga, and Kinande.

6.2.3 D and personal pronouns

Another area in which Bantu languages seem to differ, and sometimes raise questions about the D status on argument nominals, is with respect to the D requirement with personal pronouns. The examples from Zulu show that a pronoun may replace the augment/D, as in (474):

(474) Personal pronouns in Zulu

- a. thina **madoda** [Zulu, de Dreu 2008: 22]
 PN1P 6.men
 ‘We, men’
- b. thina **bantu** abampofu [Zulu, Halpert 2012: 130]
 we 2people REL2.poor
 ‘We, poor people’

4. This version of N-to-D movement is different from Longobardi’s in which movement is based on complementary distribution between the D and the modifier, and N has to replace the empty D slot, see §.6.7.1.3.

Furthermore, von Staden (1973) shows that there are two possible configurations for personal pronouns in Zulu, either with or without the D. According to von Staden, the contrasting data in (475) is evidence for the individuation [+IND]/[-IND] distinction. I argued in Chapter 5 that what von Staden calls the individuation feature is typically a D contrast forced by belief-of-existence. Here, the DP *u = mfundi* ‘a/the student’ in (a) has an existential interpretation, but in (b) *mfundi* ‘student’ is a predicate.

(475) Personal pronouns in Zulu [Zulu, adapted von Staden, 1973: 168]

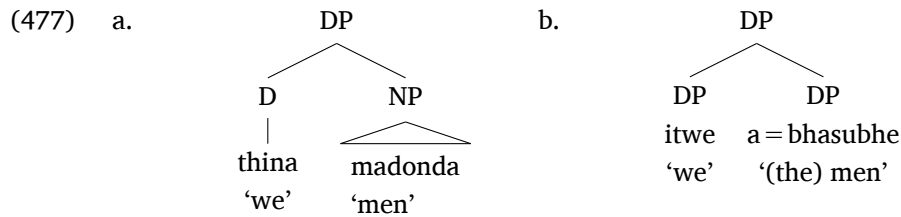
- a. na mi, u = mfundi, be-ngi-bona
and I, D = 1student PAST.IMP-1SG-see
‘I, a/the student, was also seeing.’
- b. na mi, mfundi, be-ngi-bona
and I, 1student PAST.IMP-1SG-see
‘I (in my capacity as) a student was also seeing.’

Nata obligatorily requires an augment with DPs occurring with a personal pronoun. The pronoun can occur either pre-nominally, (476a), or post-nominally (476b), but in either position it will be ungrammatical without a D, (476c).

(476) Absolute pronouns in Nata

- a. itwe a = bha-subhe
itwe a = βa-suβe
we D = C2-man
‘We men’
- b. a = bha-subhe itwe
a = βa-suβe itwe
D = C2-man we
‘We, men’
- c. *(itwe) bha-subhe (itwe)
*(itwe) βa-suβe (itwe)
(we) C2-man (we)
Intended: ‘We, men’

The Zulu nouns appearing without a D in (474) and (475b) are not bare nouns, as de Dreu (2008) proposes. The pronoun is a D; hence, the D position in (477a) is filled by the pronoun (see Postal 1966; Déchaine and Wiltschko 2002; Bhat 2007; and others). Halpert (2012) has a similar opinion that the pronoun is an extended projection of a(n) NP/predicate, although she does not explicitly state that it is D⁵. We can analyze the Nata cases in (476a,b) and the Zulu case in (475a) as forming an appositive structure, as in (477b).



It is important to stress that the pronoun in Zulu can function as D, taking the NP as its complement, a situation that is missing with Nata pronouns.

6.2.4 D and the universal quantifier ‘every’

Augment languages also differ with respect to the position of the universal quantifier glossed in English as *every*. In Haya, Luganda and similar languages, the universal quantifier is in complementary distribution with a D, as in (478a). In Haya and Luganda the forms are identical:

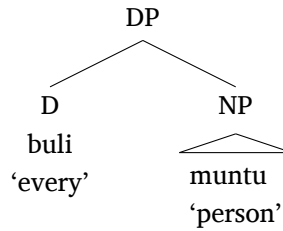
- (478) a. buli mu-ntu [Haya/Ganda, de Blois 1970: 128]
 every C1-person
 ‘Every person’
- b. *buli u = mu-ntu
 every D = C1-person
 Intended: ‘Every person.’

The contribution of QPs with a quantificational D to the existence-based theory developed here is that (strong) quantifiers presuppose existence, which entails

5. Recall that Halpert does not treat Zulu augments as D but merely as case markers; see Chapter 2 for discussion.

speaker's commitment to existence (cf. Matthewson 1998 for discussion). Syntactically, the D slot is filled with the quantifier *buli*, as in (479); hence, it takes the same structural position as the augment (cf. Barwise and Cooper 1981; von Stechow 1994; Van de Velde 2005).

(479)



In Nata, the quantifier occurs in post-nominal position only, and it always co-occurs with the D, (480):

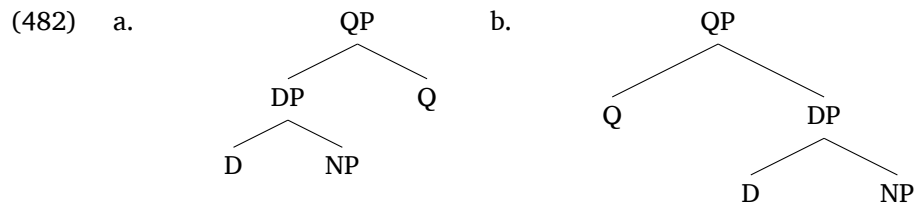
- (480) a. \bar{u} =mw-aana w- $\bar{q}\bar{q}\bar{s}\bar{e}$ [Nata]
 \bar{u} =mw-aaná w- $\bar{q}\bar{q}\bar{s}\bar{e}$
 D=C1-child C1-all
 'Every child.'
- b. *w- $\bar{q}\bar{q}\bar{s}\bar{e}$ \bar{u} =mw-aana
 *w- $\bar{q}\bar{q}\bar{s}\bar{e}$ \bar{u} =mw-aaná
 C1-all D=C1-child
 Intended: 'Every child.'
- c. *(w- $\bar{q}\bar{q}\bar{s}\bar{e}$) mw-aana (w- $\bar{q}\bar{q}\bar{s}\bar{e}$)
 *(w- $\bar{q}\bar{q}\bar{s}\bar{e}$) mw-aaná (w- $\bar{q}\bar{q}\bar{s}\bar{e}$)
 (C1-all) C1-child (C1-all)
 Intended: 'Every child.'

Finally, Zulu seems to allow the quantifier to co-occur with the D where it may appear pre-nominally, (481a), or post-nominally (481b), as in Nata:

- (481) a. wonke \bar{u} =mu-ntu [Durban Zulu, Halpert 2012: 39]
 every D=C1-person
 'Everyone/every person.'

- b. u=mu-ntu wonke
 D=C1-person every
 ‘Everyone/every person.’

The syntactic analysis proposed for Luganda and Haya above in which the Q sits in D does not work for languages that do not allow quantificational Ds like Nata and (Durban) Zulu. For these cases we may argue that the quantifier adjoins to DP, rather than taking NP as a complement. Thus, the surface word orders of the Nata and Zulu QPs in which the Q follows the DP (examples (480a)/(481b)) can be represented as in (482a). The Zulu surface order in which the quantifier precedes the DP can be presented as in (482b), where the quantifier is realized on the left.



In the Zulu and Nata cases, a Q does not replace D; this differs from the situation with the Luganda/Haya quantificational Ds in (478a) above. Since the quantifiers always presuppose the existence of their range, belief-of-existence denotations in Zulu and Nata follow straightforwardly. Treating quantifiers as adjuncts may explain the different word orders for Qs in (482). I am not concerned in this thesis with how different word orders are arrived at, but it seems to be the case that N movement is not required for these cases, as the cartographic approaches would suggest (see Cinque 1995, 2005; and others).

6.3 DP-external constraints

In this section, I talk about some syntactic constraints that ban Ds in certain syntactic positions. The locus of syntactic variation seems to surround the issues listed in Table 6.2. I will show that these constraints do not operate in Nata, and I argue that these variations are reducible to independent syntactic variation.

Table 6.1: Parametric variation in the syntax

Syntactic variation on D _∅	Nata	Other Bantu languages
DP with D _∅ as fragment answer	✗	✓
Surface c-command	✗	✓
Locality constraint	✗	✓
Clause-mate requirement	✗	✓
Focus marking requirements	✗	✓

I discuss each of these cases to show which cases are accounted for by the analysis I proposed here and which ones present a puzzle and hence need further research. I will start with sentence fragment answers.

6.3.1 Sentence fragment answers

Carstens and Mletshe (2016) discuss Zulu augmentless nominals or negative words/*n*-words such as *lutho* ‘nothing’, *muntu* ‘nobody’ and *ndawo* ‘nowhere’ that can be sentence fragment answers. An illustrative example is given in (483). The problem with these cases is that there appears to be no licensor for the polarity D_∅.

- (483) Q: Who did you see? [Zulu, Adapt. C&M 2016: 772]
 A: muntu!
 muntu!
 1person!
 ‘Nobody!’

Carstens and Mletshe also discuss data from Xhosa showing that Xhosa does not allow *n*-words to be sentence fragment answers. This is the case with Nata; a DP containing a D_∅ is licensed by an overt NEG⁶.

6. Other Zone E languages like Kuria use an enclitic negation that licenses the polarity D_∅ (data is from the author as I speak Kuria natively).

- (i) Q: Who did you see?
 A: mo-nto = he!
 mó-nto = he!
 C1-person = NEG!
 ‘Nobody!’

- (484) Q: Who did you see? [Nata]
- a. A: taa-nyí [redacted] moo-to!
 taa-nyí [redacted] móo-to!
 NEG-be [redacted] C1-person!
 ‘Nobody!’
- b. A: * [redacted] moo-to!
 * [redacted] móo-to!
 [redacted] C1-person!
 ‘Nobody!’

Carstens and Mletshe analyze such Zulu nominals as having an intrinsic negative force like *n*-words in Catalan, Italian, French, and English. They argue that NPIs in Zulu are not a uniform class, i.e., some have external licensors (see Chapter 5), some do not. However, it is also possible to propose, under the current syntactic analysis, that the covert Ds are licensed by a null negation in the elided vP structure consistent with approaches to *n*-words cross-linguistically (cf. Vallduvi 1994; Déprez 2000; Giannakidou 2006; Zeijlstra 2004; and others. Semantically, the answers to fragment sentences do not pose any challenge; their interpretation is consistent with the view that D_{\emptyset} conveys that the speaker is not committing to the belief of existence of a referent, as I argued in Chapters 4 and 5.

6.3.2 Surface c-command

Most syntactic accounts of augment licensing consider surface c-command as the norm for licensing DPs containing a polarity D_{\emptyset} . The data from Nata challenge this assumption. Recall the c-command definition (Reinhart 1976; Chomsky 1981) I have adopted for Nata in this thesis based on the fact that a non-factual operator always c-commands the D_{\emptyset} and not vice versa:

- (485) α asymmetrically c-commands β iff:
- The first binary-branching node that dominates α also dominates β .
 - Neither α nor β dominate each other.
 - α c-commands β but β does not c-command α .

The default word order in Bantu affirmative/declarative sentences is SVO. This is exemplified in the Kinande, Luganda, and Zulu examples below:

(486) SVO affirmative sentences

- a. o=mu-kali anzire Yohani [Kinande, Progovac 1993]
D=C2-woman SA1-like Yohana
'The woman likes John.'
- b. o=mu-kazi a-yagala John [Luganda, E.A.]
D=C1-woman SA1-like John
'A/the woman likes John.'
- c. u=mu-ntu u-pheka i=qanda [Zulu, M.B.]
D=C1-person 1s-cook D=C5.egg
'A/the person is cooking an/the egg.'

However, this changes immediately to NEG-initial word order when we introduce a NEG operator, in which case NEG c-commands the polarity D_{\emptyset} in the overt syntax. For the cases in (a) in (487)-(489), the subject DP containing the polarity D_{\emptyset} is vP-internal where it is being licensed by NEG. This means that for the polarity D_{\emptyset} to be licensed on subjects, negation has to be sentence-initial⁷. The ungrammaticality of the cases in (b) shows that a D_{\emptyset} cannot appear in the pre-NEG environment (cf. Kinande: Progovac 1993; Luganda: Hyman and Katamba 1993; Zulu: Adams 2010; Cheng and Downing 2009; Halpert 2012):

(487) Licensing of D_{\emptyset} with NEG [Kinande, adapt. Progovac 1993: 260]

- a. Si hali mu-kali wanzire Yohani
NEG there-is C1-woman likes John
'No woman likes John.'
- b. * mu-kali si (hali) anzire Yohani
C1-woman NEG there-is likes John
Intended: 'No woman likes John.'

7. There are different word order cases in these three languages. NEG is part of the main verb in Zulu, but in Kinande and Luganda, it is part of a light verb. See Baker (2003) following Doke (1955), for a discussion about verb raising to T in Zulu and related languages, which might explain how the surface word order obtains.

(488) Licensing of D_{\emptyset} with NEG [Luganda, E.A.]

a. Te-wali \square mu-kazi a-yagala John
 NEG-there-is \square C1-woman SA1-like John
 ‘No woman likes John.’

b. * \square mu-kazi te-wali a-yagala John
 \square C1-woman NEG-there-is SA1-like John
 Intended: ‘No woman likes John.’

(489) Licensing of D_{\emptyset} with NEG [Zulu, adapt. Halpert 2012:164; M.B.]

a. a-ku-pek-anga \square muntu i = qanda
 NEG-17s-cook-NEG.PAST \square 1person D = C5.egg
 ‘Nobody cooked an egg.’

b. * \square muntu a-ku-pek-anga i = qanda
 \square 1person NEG-17s-cook-NEG.PAST D = qanda
 ‘Intended: Nobody cooked an egg.’

Looking at Nata, a different picture emerges. The SVO affirmative sentence in (490a) presents two surface possibilities if changed to a negative sentence, (b) and (c). Now, the surface c-command principle can account for the licensing of the polarity D_{\emptyset} in (490b), but not the one in the pre-verbal position in (490c), which is banned in Kinande, Zulu, Luganda and many other languages:

(490) Neg-Aux-SVO vs S-Neg-Aux-VO [Nata]

a. \square = mu-kari a-seegh-ire Yohana
 \square = mu-kári a-sééy-ire johaná
 \square = C2-woman SA2-like John
 ‘A/the woman likes John.’

b. taa-nyihø \square mu-kari a-seegh-ire Yohana
 taa-nyíhø \square mu-kári a-sééy-ire johaná
 NEG-there-is \square C2-woman SA2-like John
 ‘No woman likes John.’

- c. mu-kari taa-nyih_o a-seegh-ire Yohana
 mu-kári taa-nyíh_o a-sééy-ire johaná
 C2-woman NEG-there-is SA2-like John
‘No woman likes John.’

In fact, Nata allows the NEG-VSO structures only with the negative existential copula. As the ungrammaticality of (491b) shows, when they occur with a main verb only, DPs containing the polarity D_{\emptyset} must be in pre-verbal position in the overt syntax (491a), which is the opposite of Zulu, Kinande, and Luganda:

(491) S NEG-V O vs *NEG-V SO [Nata]

- a. mu-kari ta-seegh-ire Yohani
 mu-kári ta-seegh-iré Yohaná
 C1-woman NEG-like-PFV John
‘No woman likes John.’
- b. *ta-seegh-ire mu-kari Yohana
*ta-seegh-iré mu-kári Yohaná
NEG-like-PFV C1-woman John
Intended: ‘No woman likes John.’

The surface c-command principle does not work at all for Nata. The proposal that unifies all these structures cannot be surface syntactic c-command but rather what I have argued for in this thesis, namely, semantic scope. That is, the D_{\emptyset} is interpreted under the scope of a non-factual operator where it yields a non-existential interpretation. Semantic scope requires c-command but not in the overt syntax in Nata. I have argued for Nata that licensing happens before Spell-out. In other languages licensing happens after Spell-out (cf. Halpert 2012 and Buell 2008 on this for Zulu). Thus, while in (490b) the subject is in situ, in (490c) the pre-verbal subject has raised from Spec, vP, where Bantu subjects are generated, to a higher position in the overt syntax (see Baker 2003; Koopman and Sportiche 1991; Ngonyani 1998; Carstens 2001, 2005; Halpert 2012; and many others).

6.3.3 Locality

Some Bantu languages require a 1:1 correspondence between licensors and licensees (DPs with a D_{\emptyset}), with the licensee being the highest DP in a sentence.

This restriction does not play a role in the grammar of Nata. This fact is evidenced by the possibility of multiple DPs containing a D_{\emptyset} all licensed by a single negation, as in the following example repeated from Chapter 3:

[Context: You hear a mentally confused person hallucinating saying *A man is teaching kids some language for a visitor*. You get outside to calm him down, correcting his belief:]

- (492)

	D_{\emptyset} mo-subhe	t-a-kw-eegh-er-i		D_{\emptyset} mu-gheni	D_{\emptyset} bha-ana
	D_{\emptyset} mo-súβe	t-a-kw-eeγ-éer-i		D_{\emptyset} mú-γeni	D_{\emptyset} βa-aná
	C1-man	NEG-SA1-teach-APPL-FV		C1-visitor	C2-child
	D_{\emptyset} ki-ghambɔ				
	D_{\emptyset} kí-γambɔ				
	D_{\emptyset} C7-language				

‘No man is teaching any kids any language for any visitor.’

$\neg[\exists xyzq [\text{man}(x) \ \& \ \text{PL.kid}(y) \ \& \ \text{language}(z) \ \& \ \text{visitor}(q) \ \& \ x \text{ is teaching } y \text{ for } q]]$

Data from various augment languages show that more than two polarity D_{\emptyset} s can be licensed by a single licenser. Representative examples come from Kinande and Luganda:

- (493) Multiple DPs with D_{\emptyset} are OK [Kinande, P.M.]

	D_{\emptyset} sihali		D_{\emptyset} mu-kali	a-kangiriraya		D_{\emptyset} mw-ana	yo
	NEG.there.is		C1-woman	SA1-taught		C2-child	of
	D_{\emptyset} mu-buge	okoajili ya	D_{\emptyset} mu-galimu				
	C3-language	because of	C1-teacher				

‘There is no woman who taught a child for a teacher.’

[Consultant comment: Here child and teacher are also not specific.]

- (494) Three DPs with D_{\emptyset} are OK [Luganda, E.A.]

	D_{\emptyset} Tewali		D_{\emptyset} mu-kazi	yawa		D_{\emptyset} mw-ana	yena		D_{\emptyset} ki-ntu
	NEG.there.is		C1-woman	gave		C1-child	any		C7-thing

‘No woman gave any child anything.’

Carsten and Mletshe 2016) should be explained by independent syntactic constraints.

6.3.4 Clause-mate restrictions

Some languages seem to impose clause-mate restrictions on DPs with a D_{\emptyset} in embedded clauses in negative contexts. Carstens and Mletshe (2016) report data from Zulu and Xhosa showing that object DPs containing a D_{\emptyset} cannot appear in negative contexts where they are separated from negation by an indicative clause boundary. Consider the data below from Xhosa, (496a), and Zulu, (497a). According to Carstens and Mletshe, if the indicative clause is changed to a subjunctive one⁹, the Xhosa sentence in (496b) and the Zulu sentence in (497b) are grammatical:

(496) Cross-clausal licensing [Xhosa, adapted from C&M 2016: 770]

- a. *A-ka-tshongo [okokuba u = Mandisa u-fund-is-é]
 NEG-1SA-say [that D = 1Mandisa 1SA-read-CAUS-CONJ1

ba-ntwana
 2-children]

Intended: ‘He didn’t say that Mandisa taught any children.’

- b. A-ndi-fun-i [(okokuba) u = Sabelo a-ty-e
 NEG-1sSA-want-FV [that D = 1Sabelo 1SA-eat-SUBJV

ku-tya]
 15-food]

‘I don’t want Sabelo to eat any food.’

(497) Cross-clausal licensing [Zulu, adapted from C&M 2016: 770]

- a. *u = Simiso a-ka-tshongo [ukuthi u = Nothando u-theng-é
 D = 1Simiso NEG-1SA-say that D = 1Nothando 1SA-buy-CONJ1

mi-fino]
 4greens]

Intended: ‘Simiso didn’t say that Nothando bought any greens.’

9. Halpert (2012) reports that in Durban Zulu there is no clause-mate restriction on licensing of unaugmented NPs. In her description, the subjunctive mood (SUBJV -e in (497b) is glossed as simply a final vowel (FV).

- b. A-*ngi-fun-i* [(ukuthi) u-bon-e muntu]
 NEG-1sSA-want-NEG [that 2s-see-SUBJV 1person]
 ‘I don’t want you to see anybody.’

In Nata, licensing happens freely, as long as the negation has scope over the polarity D_{\emptyset} . Licensing obtains in negative contexts when a DP containing the D_{\emptyset} is separated from negation by an indicative clause, as in (498); or when it is separated from negation by a subjunctive clause, as in (499). Both subject and object DPs are fine¹⁰.

- (498) a. Makuru t-a-a-bhugh-ire [(ango) Masato
 Makuru t-a-a-βuy-iré [(aŋgo) Masato
 Makuru NEG-3sg-PST-say-PFV [(that) Masato
 n-a-a-ghor-ire ma-kuwa]
 n-a-a-yór-ire má-kuwa]
 FOC-SA1-PST-buy-PFV C6-sugarcane]
 ‘Makuru didn’t say that Masato bought any sugarcane.’
- b. Makuru t-a-a-bhugh-ire [(ango) mw-aana
 Makuru t-a-a-βuy-iré [(aŋgo) mw-aaná
 Makuru NEG-3sg-PST-say-PFV [(that) C1-child
 n-a-a-ghor-ire a = ma-kuwa]
 n-a-a-yór-ire a = ma-kuwá]
 FOC-SA1-PST-buy-PFV D = C6-sugarcane]
 ‘Makuru didn’t say that any child stole (the) sugarcane.’
- (499) a. N-te-ghusabh-a [Masato a-rɔr-ɛ moo-to]
 N-te-yusáβ-a [Masato a-rɔr-é móo-to]
 1sg-NEG-wish/pray-FV [Masato 3sg-see-SUBJV C1-person]
 ‘I don’t wish Masato to see anyone.’
- b. N-te-ghusabh-a [moo-to a-rɔr-ɛ Masato]
 N-te-yusáβ-a [móo-to a-rɔr-é Masato]
 1sg-NEG-wish/pray-FV [C1-person 3sg-see-SUBJV Masato]
 ‘I don’t wish anyone to see Masato.’

10. The subjunctive mood can only be in the embedded clause if the matrix clause contains negation.

These data show that Xhosa and Zulu contrast with Nata with respect to restrictions on object DPs containing the D_{\emptyset} in the indicative and in embedded clauses in negative contexts (see also Progovac 1993 on the lack of clause-mate restriction in Kinande). While my analysis accounts for the Nata data, it does not predict these restrictions in Zulu and Xhosa. Future research is need to shed more light on what the language-specific syntactic/semantic differences might be.

6.3.5 Topic marking

The presence or absence of the augment in Kagulu correlates with topicality and deixis. I show that Nata does not force D choice based on topicality, and that the alternative analysis I propose may offer a promising solution.

Petzell (2003) argues that the augment in Kagulu marks topicality, i.e., ‘given’ or presupposed information. Petzell gives the examples in (500)-(501) to support the topic analysis. Here the overt D correlates with topic material and the covert D correlates with referents in non-topic position:

(500) D contrast in Kagulu [Kagulu, Petzell, 2003: 08]

- a. \bar{u} =mu-hogo u-o u-ni-ing’h-ile
 \bar{D} =3-cassava SM2-REL OM3-1SG-give-PST
 ‘The cassava you have given me...’
- b. ni-ing’he $\bar{}$ mu-hogo ni-diye
 1SG-give + SUBJ $\bar{}$ 3-cassava SM1.SG-eat + SUBJ
 ‘Give me cassava to eat.’

(501) D contrast in Kagulu [Kagulu, Petzell, 2003: 04]

- a. \bar{i} =mfele ya-k-w-ambik-il-a a = wanagwe
 \bar{D} =-1-woman SM1-PRES-OM2-cook-APPL-FV D = 2-child-POSS
 ‘The woman is cooking for her children.’
- b. ku-tola $\bar{}$ m-fele ku-swanu
 15-marry $\bar{}$ 1-woman 15-good
 ‘Marrying a woman is good.’

However, the use of the overt augment in DPs that are not in Topic position contradicts this claim. For instance, the DPs *u = mgunda* ‘farm’ in (502) is not in topic position but has the overt D¹¹.

- (502) No Topic: overt D is Ok [Kagulu, Petzell, 2003: 5/9]
 si-ku-lima u = m-gunda w-angu
 SM1.SG + NEG-PRES-cultivate D = 3-farm 3-POSS
 ‘I am not cultivating my farm.’

While I do not have enough data to draw a robust conclusion about the properties of the Kagulu augment data, the D contrast expressed here seems to be tracking the speaker’s personal knowledge as we saw for Bemba and St’át’imcets in Chapter 5. If we propose that Kagulu leans towards an assertion-of-existence D system, (500a) and (501a) would make sense; the speaker has personal knowledge about the ‘cassava’ and ‘woman’, respectively, but does not assert the existence of such referents in (500b) or (501b). This means s/he has no first hand evidence for the existence of the referents. While these initial data may appeal to an existence-based account, further research is needed to pin down factors contributing to the non-use of an augment in *wa-nike* ‘kids’ in (503), which is a dialogue between two neighbours¹²:

- (503) D contrast in a dialogue [Kagulu, Petzell, 2003: 6-7]
 a. a = wa-nike fo-wa-inuka na m-dala
 D = 2-youth how-SM2-wake and 1-wife
 ‘How did [the] kids and wife wake up?’
 b. kwa kweli wa-nike wa-inuka digoya
 in fact bf2-youth SM2 wake
 ‘In fact, [the] kids woke up fine.’

Petzell argues that the augment contrast in (503) is not due to topicality but to deixis: the unaugmented nominal in (503b) is deictic hence no augment is used. It is not surprising for an assertion-of-existence D system to encode deictic

11. I have glossed the augment as D throughout this thesis, for reasons that were laid out in Chapter 3, hence I replace Petzell’s abbreviation for the pre-prefix *Prpr* with *D =*.

12. It is not clear why the data were glossed without the definite article in the English translation.

features, eg., St'át'imcets also encodes spatial-temporal deictic distinctions on its assertion-of-existence Ds *X...a* as we saw in Chapter 4. Languages differ in their restrictions on Ds in deictic contexts; some languages prohibit Ds and others allow them (Corver 2008; Espinal 2013). Espinal (2013) argues that Ds are prohibited where nominal expressions are headed by a silent deictic head (DX) or other syncretic cases such as vocatives (see also Corver 2008; Ndayiragije et al., 2012; de Dreu 2008). While this may support an analysis of (503b) as an NP used in a deictic context, more details on the Kagula D semantics are needed before making any firm conclusions.

Nata, as a belief-of-existence D system, would use the overt D in all the Kagulu contexts given above. The relevant Nata examples are given below.

(504) Exchanging greetings: overt D Ok

- a. a = bha-ana no-o = mu-kari m-ba-ree-re?
 a = βa-ana na-o = mu-kári m-bá-ra(r)-ire
 D = C2-youth and-D = C1-wife FOC-SM2-be.well
 Lit: 'Are the kids and wife well?'
- b. kwa kweli a = bha-ana m-ba-ree-re
 kwa kweli a = βa-ana m-bá-ra(r)-ire
 in fact D = C2-youth FOC-SM2-be.well
 'In fact [the] kids are fine.'

Nata would only use a predicate nominal in vocative structures such as in (505b). The vocative structure contexts appear to be slightly different from the deictic usage of **wa-nike** 'kids' in the Kagulu example in (503a) above.

- (505) a. a = bha-gharúka m = ba-re-ere
 a = βa-yarúka m = ba-ra-ire
 D = C2-elder COP-2p-sleep-PFV
 '(The) elders slept fine.'
- b. **bha-yarúka!** m-mú-re-ere
βa-yarúka! m-mú-ra-ire
 C2-elder COP-2p-sleep-PFV
 'Have you slept (well), elders?'
 'How are you, elders?'

- c. *a = bha-gharúka! m-mu-re-ere
 *a = βa-γarúka! m-mu-ra-ire
 D = C2-elder COP-2p-sleep-PFV
 Intended: ‘How are you, elders?’

The form *βayarúka* in (505b) has an indexical function which is to address/call/greet individuals within the context of a speech act. In the literature, vocatives are often treated as nominal predicates which may predict that they also lack a D (see Longobardi 1994; Moro 2003; Corver 2008; Espinal 2013). This explains why Nata vocatives do not allow the augment/D as (505c) shows. Petzell lists a number of other environments that are puzzling such as objects of locatives, objects of comitatives, as well as other associative structures, which all do not allow the use of the (overt) augment. In future research I wish to compare Nata data with objects of Ps discussed below to determine the extent to which Nata and Kagulu vary with respect to using the overt D in these contexts¹³.

6.3.6 Focus licensing

I hinted in Chapter 5 that in some Bantu languages like Luganda, a Focus parameter accounts for the distribution of augmentless nominals (henceforth [-A] nominals), which I argue may be distinct from polarity sensitive Ds. Consider Hyman and Katamba’s (1993) well-formedness condition in (506) that applies to augmentless nominals. This rule will be relevant in the current discussion of Focus licensing.

- (506) Licensing in Luganda [Hyman and Katamba 1993: 224]
 [-A] is well-formed only if it is licensed by NEG or FOC.

I present the various Focus operations which seem to license [-A] nominals in Bantu, then show that Nata lacks such operations. I propose that there is a distinction between Focussed nominals and argument DPs containing a polarity

13. Petzell and Kühl (2017) investigate Lugulu—a sister language of Kagulu—and report on the influence of non-linguistic factors affecting augment use. They discuss, among other factors, the way the consultants actively manipulate Lugulu by deleting the augment in translation tasks of the Bible and in the editing process. However, they report that the younger generation has an overusage of the augment, hence correcting places where the augment was initially deleted. This makes sense to me given that most if not all Bantu overt augments are not syntactically restricted. Petzell and Kühl think that, even in Lugulu, the function of the augment is marking topicality, givenness and other discourse functions but they conclude that it does not have a semantic function.

sensitive D_{\emptyset} . The sharp difference between the two nominals is that DPs with a polarity sensitive D_{\emptyset} always scope under a non-factual operator, while [-A] nominals appearing in focussed positions do not depend on licensing by a non-factual operator but depend on focal stress (see Zimmermann 2008; Carstens and Mletshe 2016; and others). While marking stress may help in disambiguation, unfortunately in most Bantu literature, Focussed expressions are not consistently marked. I discuss data from Nata, Haya, Luganda, Kinande, and Zulu/Xhosa to argue that Focus licensing is completely missing in Nata.

6.3.6.1 Focussed DPs in negative environments

Hyman (1979) and Watters (1979) argue that the dedicated Focus position in some languages is “Immediately After the Verb” (IAV) (see also Cheng and Downing 2009; Costa and Kula 2008; Buell 2009; van der Wal 2015 and others). Hyman and Katamba (1993) discuss a number of constructions in Luganda for which they argue that the lack of an augment correlates to Focus. One of the examples they give is (507a) where they argue that the [-A] nominal modified by DEM can appear in the post-NEG environment, the position for focus. On the other hand, the DP in (507b) is illicit because it appears with an overt D in a focus position. As Hyman and Katamba illustrate, if the DP no longer falls under the c-command domain/scope of the FOC operator, as indicated by the right square bracket or exbraciation (their term) after the DEM in (507c)¹⁴, it will appear with the overt D, as in (507c). The DP with an overt D which is in a same sentence with the NEG in (507c), is right dislocated/is in topic position. This is consistent with Mould (1974) who argues that if a speaker is referring to a familiar referent, DP structures with an overt D must be used.

(507) Focus marking [Luganda, adapted from H&K 1993:226]

- a. *tè-yà-láb-à* **bì-tábó** **bì-nó**
 NEG-3sg.PST-see-FV **C8-book** **C8-DEM**
 ‘He didn’t see these books.’
- b. **tè-yà-láb-à* e = *bì-tábó* **bì-nó**
 NEG-3sg.PST-see-FV **D = C8-book** **C8-DEM**
 Intended: ‘He didn’t see these books.’

14. Hyman (p.c) pointed out to me that (507c) had a typo in the original work; hence, I have added a [t] which is part of the negation morpheme.

- c. [t]è-yà-láb-à **bì-nó]** e = bì-tábó
 NEG-3sg.PST-see-FV **C8-DEM]** e = C8-book
 ‘He didn’t see these books.’

One may argue that the [-A] nominals here are DPs containing D_{\emptyset} given that there is a NEG that may have licensed them. This is a weak argument. We know from Chapter 5 that in Luganda, like in many other Bantu languages, when DEMs are used they modify DPs with an overt D, which always are associated with an existential interpretation. There is no overt D in the focussed DP in (507c).

Nata presents a different picture, consistent with the current analysis which predicts that an overt D must be used in all structures which induce existential interpretation (e.g., declarative sentences, DPs modified with DEMs and OMs, etc.). If we compare/contrast the structures of (507a,b) from Luganda and the ones in (508) from Nata, we notice that in Nata, the DP modified with DEM must occur with an overt D, even when used with a non-factual operator like NEG, as in (508a).

- (508) a. ta-a-rooch-e [e = bhi-tabho **bhi-nɔ]** [Nata]
 ta-a-root[-e] [e = βi-taβo **βi-nɔ]**
 NEG-SA1-PST-see-FV [D = C8-book C8-PROX.DEM]
 ‘He didn’t see these books.’
- b. *t-a-a-rooch-e [**bhi-tabho bhi-nɔ]**
 *t-a-a-root[-e] [**βi-taβo βi-nɔ]**
 NEG-SA1-PST-see-FV [C8-book
 Intended: ‘He didn’t see these books.’

In Nata, Focus is morphologically marked using a different strategy, namely a copula nasal *N*. Structures inducing a focus interpretation have *N* at the left edge enclitized to the focussed material, forcing the formation of a cleft sentence. I do not discuss these cases here since the Luganda cases appear to be very different syntactically from the focus marked structures in Nata (see Brown 2013 also Gambarage and Keupdjio 2013 for discussion).

6.3.6.2 Focussed DPs in relative clauses

My analysis predicts that DPs modified with a relative clause will take an overt D and be associated with an existential interpretation. While this is the case in Nata

as I show below, Mould (1974) shows that in Luganda, a focussed DP will appear with a [-A] nominal even when it is modified with a restrictive relative clause, and when it is associated with an existential interpretation, (509b). Note that the focussed DP in Luganda must follow negation, and here the verb is marked with an OM, which means the DP refers to a familiar doctor.

(509) Focus in Relative clauses [Luganda, Mould 1974:225]

- a. *saamulaba o = mu-sawo e-yajja
 NEG.1sg.PST.OM.see D = C1-doctor REL-SM1.PST.come
 'I didn't see THE DOCTOR who came.'
- b. saamulaba mu-sawo e-yajja
 NEG.1sg.PST.OM.see C1-doctor REL-SM1.PST.come
 'I didn't see THE DOCTOR who came.'

In Nata, which lacks this kind of Focus operation, the equivalent of (509b) is ungrammatical, as (510b) shows. (510a) is good because the DP modified with a relative clause has an overt D, and is marked by an OM:

- (510) a. N-ty-a-a-mo-rooch-e o = mu-ghabho u-nɔ [Nata]
 N-ti-a-a-mo-róotʃ-e o = mu-ɣabho u-nɔ
 1sg-NEG-1s-PST-OM-see-PFV D = C1-doctor C1-REL
 i-i-ch-ire
 i-i-tʃ-íre
 SA-PST-come-PFV
 'I didn't see (him) the doctor who came.'
- b. *N-ty-a-a-mo-rooch-e mu-ghabho u-no
 *N-ti-a-a-mo-rootʃ-é mú-ɣaβo u-nɔ
 1sg-NEG-1s-PST-OM-see-PFV C1-doctor C1-REL
 i-i-ch-ire
 i-i-tʃ-íre
 SA-PST-come-PFV
 'I didn't see (him) the doctor who came.'

It is not clear to me if these examples are focussed, since the focus marker in Nata and NEG are in complementary distribution. Even if they are, they still

show that [-A] nominals are ruled out in all contexts where a belief-of-existence interpretation holds, unlike in Luganda focussed constructions. I show below that [-A] nominals are licensed in many other focussed constructions in Luganda and in other languages also.

6.3.6.3 Focused DPs with clefts

My discussion will centre around DPs in clefted positions, which are usually argued to be associated with exhaustive focus (see Higgins 1973; Rochemont (1986, 2013); Krifka 1998; 2008 Schwarzschild 1999; Mikkelsen 2005; Lyon 2013; but see Percus (1997); Davis et al. 2004; Lyon 2013). However, their status in terms of D content seem to vary. For convenience, the structure of the English cleft-sentence is given in (511a), showing three parts: the initial clefting pronoun *it*; the Focussed DP; and the residue/remnant of the cleft, a CP.

(511) English cleft-sentence [Lyon 2013: 50]

- a. It was **the snake** that the mongoose caught.
- b. [*It*_{cleft-pronoun}] was [**the snake**_{DP-focus}] [*that the mongoose caught*_{residue}].

I explore whether polarity sensitive Ds are licensed by a FOC operator in clefts in Nata like [-A] nominals in some languages discussed here.

Starting with Nata, cleft sentences come in two types: (i) Copula initial (focus marker) with an optional overt complementizer/a relative clause marker (REL), which agrees in Focus as in (512a); and (ii) DP-initial followed with an obligatory relative clause marker with focus agreement, (513a). In both cases, the overt D must be present on argument DPs receiving an exhaustive focus reading:

(512) D in copula-initial cleft sentences [Nata]

- a. **no** = **o** = mo-subhe (ni-**we**) i-ibh-ire a = ma-bheere
ne = **o** = mo-suβe (ni-**we**) a-iβ-ire a = ma-βeere
FOC = **D** = C1-man (FOC-REL) SA1.PST-steal-PFV D = C6-milk
 ‘It’s THE MAN who stole the milk.’
- b. ***no** = mo-subhe (ni-**we**) i-ibh-ire a = ma-bheere
 ***no** = mo-suβe (ni-**we**) a-iβ-ire a = ma-βeere
FOC = C1-man (FOC-REL) SA1.PST-steal-PFV D = C6-milk
 Intended: ‘It’s THE MAN who stole the milk.’

(513) D in non-copula-initial cleft sentences [Nata]

a. o=mo-subhe *(ni-we) i-ibh-ire a = ma-bheere
 o=mo-suβe *(ni-we) a-iβ-ire a = ma-βeere
 D=C1-man FOC-REL SA1.PST-steal-PFV D=C6-milk
 ‘The man is the one who stole the milk.’

b. *mo-subhe *(ni-we) i-ibh-ire a = ma-bheere
 *mo-suβe *(ni-we) a-iβ-ire a = ma-βeere
 C1-man FOC-REL SA1.PST-steal-PFV D=C6-milk
 Intended: ‘The man is the one who stole the milk.’

In either type of cleft sentence, it is impossible to have a focussed DP (whether preceding or following the copula) that is not a DP containing an overt D. Based on the Nata speaker’s comments the (a) cases seem to be picking a man from a set of previously mentioned men, an idea I link with the exhaustivity implicature.

Data from R/Rukiga, (514b) show that an overt augment/D is not allowed in cleft sentences, hence an [-A] nominal is used¹⁵.

(514) Clefts: no overt D [R/Rukiga, adapt. Allen 2014: 117]

a. *o=mu-ti ni-gwo gu-gw-ire
 *D=C3-tree COP-REL SM3-fall-PFV
 Intended: ‘It is the tree that has fallen (down).’

b. **mu-ti** ni-gwo gu-gw-ire 5
C3-tree COP-REL SM3-fall-PFV
 ‘It is the tree that has fallen (down).’

The Kiziba dialect of Haya seems to use the overt D in one structure and the [-A] nominal in the other. Riedel (2010) illustrates that when the full relative demonstrative cliticized to the copula follows the noun, as we saw in Nata in example (512) above, the overt D is used, as shown in (515a). However, when this *COP-RM2* element, which possibly renders exhaustive focus, is missing, the [-A] nominal must be used, as in (515b):

15. Note that many Bantu languages in Zone J do not have nasal overt copulas as in Nata. In copula constructions, some other elements may be used, see Hayman and Katamba (1993), Schneider-Zioga and Mutaka (2014)

(515) Clefts sentences in Haya [Haya (Kiziba), Riedel 2010: 03]

- a. a = Ba-isiki ni-bo y-a-tweeke-ire e = bi-gemuro
D = C2-girl COP-RM2 SM1-P1-send.APPL-P2 D = C8-present
'It's the girls who she sent presents to.'
- b. **Ba-isiki** a-ba-i-ku-zanira a = ha-nyaja
C2-girl RM-SM2-be-INF-play.APPL D = C16-C9.river
'It's the girls who are playing by the river.'

While the prohibition of the overt D here may be linked to other factors also, e.g., the kind of REL used (see Demuth and Harford 1999 on this), we have seen in R/Rukiga and some Haya dialects, [-A] nominals are licensed in focus contexts which is not what we found in Nata.

6.3.6.4 Focussed DPs in declarative sentences

In Luganda, Focus is marked with a special intonation/focal stress; when presented with sentences containing [-A] nominals as regular declarative sentences (without the intonation/focal stress), the speakers will reject them.

(516) Focus DP in declaratives [Luganda, Mould 1974:228]

- a. Yatunda **ma-ta**
3sg.PST.sell.FV **C6-milk**
'He sold SOME/THE MILK'
Comment: 'What he sold was milk.'
- b. Nayita **mu-sawo**
1sg.PST.call.FV **C1-doctor**
'I called THE DOCTOR'
Comment: Who is the person you called?

Based on Mould's comments, the kind of Focus expressed here seems to have some exhaustivity implicature, a property missing in Nata. Mould says that the focussed 'unaugmented nouns' are emphasized, but in the same vein he adds that what is being focussed denotes "attributes". It is not clear from his comment if he means that the material in Focus are predicates in the sense of predicate focus (Zimmermann 2016; 2008).

Comparing the above Luganda example with the Nata example in (517b), we see that focus marking using the Focus sensitive D_{\emptyset} does not obtain in Nata. As (517a) shows, focus is marked by a copula nasal at the left edge, in which case the overt D is required on the argument DP.

- (517) a. n=a=ma-bheṛe a-a-ghor-iri [Nata]
 n=a=ma-βéere a-a-ḡor-iri
 FOC=D=C6-milk 3sg-PST-sell-PFV
 ‘He sold SOME/THE MILK.’
 Lit: ‘It’s THE MILK that he sold.’
- b. *a-ka-ghor-i ma-bheṛe
 *a-ka-ḡor-i ma-βéere
 3sg-PST-sell-FV C6-milk
 Intended: ‘He sold SOME/THE MILK.’

The Nata argument DPs appearing in focus positions always take an overt D. Obviously the polarity D_{\emptyset} could not occur in (517b), given that there is no non-factual operator that can license it.

6.3.6.5 Focussed stressed DPs in Xhosa/Zulu

Carstens and Mletshe (2016) have recently led the discussion that stressed [-A] nominals in Zulu/Xhosa have a [+Focus] feature. Carstens and Mletshe argue that stressed DPs have a [+Focus] feature and are ruled out in certain structural positions not associated with a Focus feature, e.g., in subject pre-verbal positions (see also Cheng and Downing 2009 for similar observations but with a slightly different conclusion). They argue that the ungrammaticality of (518a) may be explained by a focus-based analysis and not negation licensing, given that [-A] nominals in object positions in embedded clauses are licensed, (518b).

- (518) No D_{\emptyset} in embedded vP-external [Xhosa, adapt. C&M 2016: 782]
- a. *a-ngi-fun-i [okokuba m-ntu a-bon-e
 NEG-1sSA-want-FV [that C1-person 1SA-see-SUBJ
 u-Sabelo]
 D=Sabelo]
 Intended: ‘I don’t want anybody to see Sabelo.’

- b. a-*ngi-fun-i* [okokuba u-Sabelo a-bon-e
 NEG-1sSA-want-FV [that D = Sabelo 1SA-see-SUBJ
 m-ntu]
 C1-person
 ‘I don’t want Sabelo to see anybody.’

The strongest evidence for a Focus feature presented by Carstens and Mletshe is that the distribution of [-A] nominals shares the same structural restrictions as focussed materials such as DPs containing *kuphela* ‘only’, as in (519a), and wh-phrases, as in (519b), which also never appear in subject pre-verbal positions:

- (519) *kuphela*-DP restriction [Xhosa/Zulu, adapt. C&M 2016: 788-9]
- a. *u = Loyisoa u-th-é (okokuba) [u = Sabelo **kuphela**
 D = 1Loyiso 1SA-say-CONJ1 (that) [D = Sabelo only]
 u-fik-ile
 1SA-arrive-DISJ1
 Intended: ‘Loyiso said that only Sabelo arrived.’
- b. *U-bani/bani u-fik-ile
 1-1who/1who 1SA-arrive-DIJS1
 Intended: ‘Who arrived?’

Carstens and Mletshe conclude that the ruled-out subject preverbal DPs are in positions not associated with Focus¹⁶.

16. Carstens and Mletshe identify four positional constraints which ban Zulu and Xhosa DPs with a D_{\emptyset} :

- (i) The 4 prohibited locations in Xhosa and Zulu
- Preverbal subject position.
 - Right-dislocated position.
 - Direct object position in a mono-transitive TEC.
 - Applied object or causee in TECs.

Regarding (c) and (d), I do not discuss Transitive Expletive Constructions (TECs) as Nata does not have TECs; hence, there is no parallel data to compare. Regarding (b), we already know that object DPs corresponding with Topic or old information always force object marking where DPs are either right or left-dislocated and always require an overt D, which convey speaker’s commitment to existence of a referent denoted as old familiar information.

An alternative analysis to Focus licensing for pre-verbal subjects is that of Halpert (2012), who does not consider licensing restrictions as based on clause-mate restrictions (see §6.3.4) or Focus. Rather, she argues that what makes the [-A] nominal cases like (520a) bad is that licensing of such nominals never obtains in vP-external positions. She argues that if the subject of the embedded clause raises to object/vP-internal position of the matrix clause, it will be licensed, (520b).

(520) No D_{\emptyset} in vP-external position [Zulu, adapt. Halpert 2012: 164]

- a. *a-*ngi-fun-i* [ukuthi \square mu-*ntu* a-*phek-e*
 NEG-1SG-want-NEG [that \square C1-person 1SJC-cook-SUBJ
 i = qanda]
 D = C5.egg]

Intended: ‘I don’t want anyone to cook an/the egg.’

- b. a-*ngi-fun-i* \square mu-*ntu_i* [ukuthi *t_i* a-*phek-e*
 NEG-1SG-want-NEG \square C1-person [that 1SJC-cook-SUBJ1
 i = qanda]
 D = C5.egg]

‘I don’t want anyone to cook an egg.’

Whether these restrictions derive from raising to object position, as Halpert (2012) claims, or they target Focus licensing locations, as Carstens and Mletshe (2016) claim, or a mix thereof, the lack of similar restrictions in Nata argues for parameterization of such operations in Bantu. Consider, for instance, that Nata DPs with a D_{\emptyset} are allowed in the exact positions where Xhosa and Zulu [-A] nominals are ruled out, (521). While one may argue that in (521a) the DP with the D_{\emptyset} has raised to the object position (cf. Halpert 2012), (521b) with an overt complementizer shows that the DP with a D_{\emptyset} is in subject position and is fine. The D_{\emptyset} of the embedded clause is licensed by NEG in the main clause.

(521) D_{\emptyset} in embedded vP-external position: Ok [Nata]

- a. N-*ti-kwend-a* [\square moo-*to* a-*terek-e* ri = i = *bhurunga*]
 N-*te-kwend-a* [\square moo-*to* a-*terék-e* ri = i = *βurúungá*]
 1sg-NEG-want-FV [\square c1-person 3sg-cook-SUBJ D = C5-egg]

‘I don’t want anyone to cook an/the egg.’

- b. Makuru t-a-a-bhugh-ire [ango mw-aana a-ka-ghor-a
 Makuru t-a-a-βuy-ire [ango mw-aana a-ka-γor-a
 Makuru NEG-3sg-PST-say-PFV [that C1-child 3sg-PST-buy-FV
 a = ma-kuwa]
 a = ma-kuwa]
 D = C6-sugarcane]
 ‘Makuru didn’t say that any child stole (the) sugarcane.’

Unlike DPs modified by *kuphela* ‘only’ in Zulu and Xhosa, which are banned in pre-verbal subject position, Nata *umwene* ‘him/herself/only’ DPs are freely used in subject preverbal positions:

(522) *Only-DP is allowed* [Nata]

- a. [(n-)John u = mw-ene] a-a-hik-ire
 [(n-)John u = mw-ene] a-a-hik-ire
 [(FOC)John D = C1-self] SA1-PST-arrive-PFV
 ‘(It’s) only John (who) arrived.’
- b. M. a-ka-bhugh-a (kubha) [(n-)John u = mw-ene]
 M. a-ka-βuy-a (kuβa) [(n-)John u = mw-ene]
 M. 3sg-PST-say-FV that [(FOC-)John D = C1-self
 a-a-hik-ire
 a-a-hik-ire
 SA1-PST-arrive-PFV
 ‘M. said that (it’s) (only) John (who) arrived.’

Note that Nata uses the focus marker, the nasal *N-*, on the clefted DP *John*, unlike Zulu and Xhosa. This brings home the point that Nata does mark Focus morphologically, and it does not deploy the same strategies as Zulu and Xhosa in licensing the [-A] nominals. My analysis also does not capture the focus restrictions discussed in cases that allow existential interpretation with [-A] focus nominals. My analysis does not also predict why the cases such as (520a) are bad given that NEG c-commands the [-A] nominal. I propose parameterizing Focus as an independent syntactic constraint.

6.4 Areas of further research

Here I talk about the inconsistent behaviour of proper names in Nata in relation to other Bantu languages. I also discuss prepositional objects to show that there is variation among languages concerning whether D is required in these structures.

6.4.1 D requirement on proper names

My analysis predicts that proper names would appear with an overt D, which conveys the speaker's commitment to existence of an individual identified by a name, based on the fact that names are definite descriptions that uniquely identify an individual they are associated with every time they are uttered (see Burge 1973; Recanati 1997; Kripke (1977); and others). While languages such as Zulu, Xhosa, Ndali and many others (de Dreu 2008, Visser 2008, Botne 1998) require an augment/D on all noun types including proper names and kinship terms¹⁷, (523), Languages like Nata cannot have a D on names or kinship terms, (524):

- (523) D required on names [Xhosa, Visser 2008: 5; M.N.]
- | | | | |
|----|-------------------|----|-------------------|
| a. | u =Ndlovu | b. | u =tata |
| | D =1Ndlovu | | D =1father |
| | 'Ndlovu' | | 'Father' |

- (524) Names and kinship terms in Nata
- a. **Makuru** a-ka-bhereker-a **Wasato**
Makurú a-ka-βéreker-a **Wasáto**
Makuru SA1-PST-call-FV Wasato
'Makuru called for Wasato.'
- b. **Ghooko** a-ka-bhereker-a **taata**
yookó a-ka-βéreker-a **taatá**
grandma SA1-PST-call-FV father
'Grandma called for Daddy.'

17. St'át'imcets shares this property as it requires a D on all argument nominals. According to Davis (2019) St'át'imcets proper names have a dual representation: On the one hand they behave as predicates and on the other hand nominalized names are arguments of type *e*.

The difference between Xhosa-type and Nata-type languages seems to be that in the former, the overt D is obligatory for marking argumenthood even on constituents that are directly referring expressions like proper names, while in the latter a D is not required on names. I consider two hypotheses regarding the lack of D on names. One is to treat names as being of argumental type. This argument parallels Chierchia (1998) on bare nouns (NPs) in Chinese (see also Gillon and Armoskaite 2013). Alternatively, we can adopt the view that a D needs to be projected for a noun to function as an argument (Déchaine 1993; Longobardi 1994; Matushansky (2008); Alexiadou et al. 2007; Déchaine and Tremblay 2011; and others). Under this assumption, we can either propose with Longobardi (1994, 1999, 2001) that N raises to D to fill the empty D slot (see also Carstens 2008 on Bantu); or we can treat names as having a complex structure with a D and a predicate, in line with Matushansky (2008) and in part Davis (2018). The diagnostics below reveal that these hypotheses yield inconclusive results which means further research is needed to discern the status of Nata proper names.

Diagnosics	Nata	Other Ls	Source
N is Pred: an Einstein test	✗	✓	Zamparelli (1995)
N can be predicate in SC	(✓)	✓	Matushansky (2008)
N undergoes N-to-D in LF	?	✓	Longobardi (1994)

In Hypothesis I, proper names may be treated as a special class of nominals that are arguments by themselves. This may mean also that names are lexically fully DPs, they have no functional layer (see Gillon and Armoskaite. 2013 on this hypothesis). However, the common view about arguments is that a D needs to be projected for a nominal to function as an argument (Déchaine 1993; Longobardi 1994; Matushansky 2008; Alexiadou et al. 2007; Déchaine and Tremblay 2011; and others). Furthermore, based on results of diagnostics, it appears that Nata names do not behave as argument DPs per se, and they are also not strictly predicates, which means further research is needed. I discuss the mixed properties of Nata names below.

6.4.1.1 N is not Pred in the ‘an Einstein’ test

Nata proper names behave superficially as arguments. First they only appear to allow an individual-denoting reading in contexts where predicates are used. Zamparelli (1995) argues that names may allow for a predicative interpretation in

certain contexts, such as when they occur after the copula and take an indefinite D, (525a):

- (525) Predicate and Kind DPs [English; Zamparelli, 2005: 181]
 a. That man is an Einstein.
 b. That man is Einstein.

In example (525a), *an Einstein* is a property (the quality of being like Albert Einstein) predicated of *that man*. In contrast, (525b) refers to the genuine Albert Einstein; hence, it is interpreted as a rigid designator, i.e., picking out the unique individual with such a name (see for instance Kripke 1977; Van de Velde 2019). The predicative use of proper names in English, as in (525a), is not found in Nata. Similar examples reveal that names pick out individuals, hence they behave as arguments rather than predicates, (526)¹⁸:

- (526) a. o=mo-to u-yo n-anga Makuru
 o=mo-to u-jo n-anga Makuru
 D=C1-man C1-DEM COP-like Makuru
 ‘That man is like/resembles (the man called) Makuru.’

18. The one context where Nata names appear to take a D is in structures with the ‘human genitive proclitic’ $\text{ɔ} =$, usually denoting home, family or descendant (cf. Higgins 2011 who refers to it as simply a ‘locative’ in Ikoma).

- (i) a. a-ka-bhoori o=∅-Marwa
 a-ka-βoori ɔ=∅-Marwa
 3sg-PST-ask Gen.D=C1-Marwa
 ‘S/he asked (the people) at Marwa’s (home).’
 b. a-ka-bhoori o=bha-Marwa
 a-ka-βoori ɔ=βa-Marwa
 3sg-PST-ask Gen.D=C2-Marwa
 ‘S/he asked (the people) at Marwa and company’s (home).’

Analyzing the human-genitive proclitic as occupying the D position (recall from Chapter 3 that other proclitic elements in Nata take a D also) these data suggest that the proper name is taking an overt D, hence it is patterning like a predicate (see Boër 1975). While this seems to be the case here, we see that Nata names are not strictly predicates as argued below, which gives us inconclusive results.

- b. o=mo-to u-yo m = Makuru
 o=mo-to u-jɔ m = Makuru
 D= C1-man C1-DEM COP = Makuru
 ✗‘That man has the properties of Makuru’
 ✓‘That man is called Makuru.’

Nata proper names seem to lack a predicative usage, as they always force the name occurring after the relator *nanga* ‘like’ to be a DP denoting an individual, not a property. That is, the individual denoted by the subject DP is the same individual picked by the name *Makuru*. Leaving *nanga* ‘like’ out, (526b) is an equative copula construction, with the subject DP and the name making reference to the same individual.

6.4.1.2 N is not strictly Pred in complement clauses

Adopting Hypothesis II, we may argue that Nata names are predicates which may or may not take a D depending on where they are used, in line with Matushansky (2008) (see also Boër 1975). Matushansky uses a small clause test to see if names may behave syntactically as predicates (xNPs, where x is a D slot). She shows that in small clauses, verbs of naming can only appear with a name that is a nominal predicate of a small clause, (527) (emphasis is mine):

- (527) Small Clauses [Matushansky 2008: 584-9]
 a. Earnshaw named [the founding **Heathcliff**].
 b. We call [William Gates **Billy**].

Applying the small clause test to Nata proper names, we see that Nata names can be interpreted as arguments on the one hand, (528a), and as predicates on the other hand, (528b)(see Davis (2019) for a similar observation in St’át’imcets).

- (528) a. bha-ka-rok-a [u = mw-aana e = **rii-na Makuru**]
 βa-ka-rok-a [u = mw-aana e = **rii-na Makuru**]
 3pl-PST-name-FV [D = C1-baby D = **C5-name Makuru**]
 Lit: ‘They named [the baby **the name Makuru**].’

- b. bha-ka-rok-a [u = mw-aana **Makuru**]
 βa-ka-rok-a [u = mw-aana **Makuru**]
 3pl-PST-name-FV [D = C1-baby **Makuru**]
 Lit: ‘They named [the baby **Makuru**].’

The syntactic environment that Matushansky presents for hosting a predicate yields an appositive structure in (528a), i.e., in (528a) the subject DP is picking out the the same individual: the baby/Makuru. Thus, in the naming construction in (a) the name behaves as an argument and not a predicate. Note that in English the sentence with the literal meaning **They called [the child the name Eli]* is ungrammatical. Matushansky argues that this is because in English “a proper name X cannot be replaced with a/the name X in naming constructions, which means that X does not denote the name X”, (p.590)¹⁹. Turning to the (b) case, Makuru is not an individual, but rather an attribute/property. This test also gives us inconclusive results.

6.4.1.3 The N-to-D movement test

Longobardi (1994) argues that in Southern varieties of Italian, proper names that occur without a lexically filled D start out as nouns which move into D, unless D is occupied by other D material. He notes:

The specific definite reading of determinerless proper names is obtained by raising the head noun to D at some level of representation and leaving the foot of the chain (i.e., the N position) *uninterpreted*.
 [Longobardi 1994: 648]

Longobardi gives evidence from Romance languages with syntactically conditioned alternations between the presence and the absence of the article for human proper names. He shows that names can appear either after, (529a), or immediately before the possessor, (529b), but never after it when the D is missing, (529c). Thus, in (529b) the name replaces the D:

19. This may not be a relevant test for predicates since even in the English cases we get appositive structures not a predicate of a small clause. Rose-Marie Déchaine (p.c) observes that it is possible in English to say *they called the child by the name Eli* which is grammatical, and which invalidates Matushansky’s test. The same goes for examples such as *We call [William Gates **Billy**]* in (527) where the two names may be forming an appositive structure with two arguments.

- (529) N⁰-to-D⁰ movement [adapted from Longobardi 1994: 623]
- a. [_{DP}[Il]_D mio [_{NP}[Gianni]_N]] ha finalmente telefonato.
 the my Gianni has finally called up
- b. [_{DP} [Gianni]_D mio [_{NP}[Gianni]_N]] ha finalmente telefonato.
 Gianni my has finally called up
- c. *Mio Gianni ha finalmente telefonato.
 my Gianni has finally called up

While I do not rule out this possibility, Nata shows neither morphological nor syntactic evidence for raising of proper names to D²⁰. Thus, the N-to-D analysis is also inconclusive. The behaviour of Nata names calls for further research.

6.4.2 D requirement on prepositional objects

In traditional Bantu, prepositional objects include objects of locatives, associatives and comitatives (see Koopman 2000; Rugemalira 2007). Largely, however, locatives do not seem to behave as prepositions in a number of languages, rather they either replace the augment or they pattern as noun class prefixes where they follow the augment. In Nata, locatives obligatorily require a complement introduced by an augment/D and pattern as prepositions. This section is intended to discuss these variations and show that further research on locatives is needed. I do not have data for associatives and comitatives for other languages, however, to shed light on this subject, I discuss Nata data with comitatives (§6.6.2.1) and associatives (§6.6.2.2); then locatives (§6.6.2.3), before comparing Nata locatives with locatives in other languages in §6.2.4. I first show that, within Nata, while objects of comitative and associative Ps behave like normal core arguments in permitting overt D in default environments (contexts not requiring licensing) and polarity D_∅ in polarity sensitive environments, objects of locative Ps allow only overt D.

6.4.2.1 Objects of comitative P permit overt or covert D

The preposition *na* (and its allomorphs) occurring in comitative structures has a meaning parallel to *with*. The objects of the comitative behave as nominal arguments. In syntactic contexts not allowing licensing, the overt D is required.

20. This would mean that Nata has two kinds of covert Ds. We know that in Nata, the covert D has meaning, i.e., it encodes the non-belief of existence of a referent and it is restricted in its distribution (see Chapter 4 and the next section). Cross-linguistically names do not have licensing requirements.

- (530) a. Maria a-ka-bhin-a [no = *(o =)mo-chuungu]
 Maria a-ka-βín-a [na = *(o =)mo-tʃuungú]
 Maria SA1-PST-dance-FV [with = D = C1-white.person]
 ‘Maria danced with a/the white man.’
- b. Maria a-ka-bhin-a [na = *(a =)bha-chuungu]
 Maria a-ka-βín-a [na = *(a =)βa-tʃuungú]
 Maria SA1-PST-dance-FV [with = D = C2-white.person]
 ‘Maria danced with (the) white men.’

A non-factual operator may license the polarity sensitive D_{\emptyset} in the object of a comitative P:

- (531) a. Maria ta-a-bhin-ire [na = mo-chuungu]
 Maria ta-a-βín-ire [na = mo-tʃuungú]
 Maria SA1-PST-dance-FV [with = C1-white.person]
 ‘Maria did not dance with any white man.’
- b. Maria ta-a-bhin-ire [na = bha-chuungu]
 Maria ta-a-βín-ire [na = βa-tʃuungú]
 Maria SA1-PST-dance-FV [with = C2-white.person]
 ‘Maria did not dance with any white men.’

6.4.2.2 Objects of associative P permit overt or covert D

Associative/possessive structures are formed by two DPs (i.e., $DP_{\text{possessum}}$ of $DP_{\text{possessor}}$) linked by a preposition with a similar meaning to *of* in English, which is the complement of the associative (see Koopman 2000; Carstens 2000, 2008). Associatives permit either overt D or D_{\emptyset} . In (532) the object of P (the possessor) permits overt D:

- (532) a. N-ka-rɔr-a [e = ghi-tabho ky = o = mu-kári]
 N-ka-rɔr-a [e = ɣí-taβo kj = o = mu-kári]
 1sg-PST-see-FV [D = C7-book C7.POSS=D = C1-woman]
 ‘I saw a/the book of a/the woman.’

- b. N-ka-rɔr-a [e = bhii-tabho **bhy** = a = bha-kári]
 N-ka-rɔr-a [e = βí-taβo **βi** = a = βa-kári]
 1sg-PST-see-FV [D = C8-book C8.POSS=D = C2-woman]
 ‘I saw (the) books of (the) women.’

Note that the possessum also requires a D, as the above examples show²¹. Licensing of D_{\emptyset} is decided on the basis of the syntax of possession. A non-factual operator may license the polarity sensitive D_{\emptyset} both on the object of P (the possessor) and on the possessum, (533a). In (533b) the possessum alone may be licensed. However, a null D is licensed on the possessor (i.e., the referent of the NP is not believed to be existent by the speaker), the possessum DP obligatorily also takes the null D, which rules out the possibility of licensing the possessor alone, (533c). These results hold for plural DPs as well.

- (533) a. n-tj-a-rooch-e [ghi-tabho **ke** = mu-kári]
 n-ti-a-root[-e] [γí-taβo **ke** = mu-kári]
 1sg-NEG-PST-see-PFV [C7-book C7.of= C1-woman]
 ‘I didn’t see any book of any woman.’
- b. n-tj-a-rooch-e [ghi-tabho **ky** = o = mu-kári]
 n-ti-a-root[-e] [γí-taβo **kj** = o = mu-kári]
 1sg-NEG-PST-see-PFV [C7-book C7.of=D = C1-woman]
 ‘I didn’t see any book of a/the woman.’
- c. *n-tj-a-rooch-e [e = ghi-tabho **ke** = mu-kári]
 *n-ti-a-root[-e] [e = γí-taβo **ke** = mu-kári]
 1sg-NEG-PST-see-PFV [e = C7-book C7.of= C1-woman]
 Intended: ‘I didn’t see a/the book of any woman.’

The ungrammaticality of (533c) taps into possessor-possessum restrictions which is one of the syntactic-semantic puzzles to be researched further in the future.

21. Note that in Bantu the possessor follows the possessum, which contrasts with the English genitive structures that put the possessor before the possessum e.g., *John’s book* (see Kayne 1994; Ajiboye 2005; and others). Based on the fact that P always agrees in number with the possessum DP, some scholars argue that the possessum follows P during Merge (see Carstens 2001, 2008; Koopman 2000; and others).

6.4.2.3 Objects of locative P require overt D

Locatives are marked by classes 17, *ko*, and 18, *mo*, and can be glossed as ‘on the N’, and ‘in the N’, respectively²². In English, the object of P may permit the use of *a/the*, (534), but may also permit the licensing of the polarity item *any* when a non-factual operator is used, (535):

- (534) a. He threw the grass on *a/the* roof.
 b. He added (the) salt to *some/the* soup.

- (535) a. He did not throw the grass on **any** roof.
 b. They did not add salt to **any** soup.

Nata locatives seem to have special morphosyntactic restrictions that set them apart from other prepositions. I present a variety of syntactic contexts to show that an object of a locative P always takes the overt D in Nata, unlike those found in locative structures such as (535) which allow a polarity reading. First, I show that without non-factual operators, the overt D is required, (536); also with non-factual operators the overt D is still required. This happens in all the licensing environments, (537)-(539):

- (536) a. n-a-a-reker-ire o = bhu-nyaaki [ko = *(o=)ghi-sara]
 n-a-a-reker-ire o = βu-náaki [ko = *(e=)yi-sára]
 FOC-3sg-PST-throw-FV D=C14-grass [C17=D=C7-roof]
 ‘He threw (the) grass on the roof.’
- b. n-a-a-tor-ire o = moo-nyo [mo = *(o=)mo-sori]
 n-a-a-tóor-ire o = moo-nó [mo = *(o=)mo-sóri]
 FOC-3pl-PST-put-FV D=C3-salt [C18=D=C3-soup]
 ‘She put (the) salt in the soup.’

22. The locatives may be realized on the surface as {ko, ku, kw} and {mo, mu, mw}, respectively, based on vowel harmony rules (see Angheliescu (to appear)).

(537) Negation: Overt D is required on object of locative

- a. t-a-a-rəkər-ire o = bhu-nyaaki [ko = *(o=)ghi-sara]
 t-a-a-réker-ire o = βu-ɲáaki [ko = *(e=)yi-sára]
 NEG-3sg-PST-throw-PFV D = C14-grass [C17 = D = C7-roof]
 ‘He didn’t throw (the) grass on the roof.’
- b. t-a-toor-ire o = moo-nyo [mo = *(o=)mo-sori]
 t-a-tóor-ire o = moo-ɲó [mo = *(o=)mo-sóri]
 NEG-3sg-PST-put-PFV D = C3-salt [C18 = D = C3-soup]
 ‘She didn’t put (the) salt in the soup.’

(538) Polar questions: Overt D is required on object of locative

- a. a-ka-rəkər-a o = bhu-nyaaki [ko = *(o=)ghi-sara?]
 a-ka-réker-a o = βu-ɲáaki [ko = *(o=)yi-sára?]
 NEG-3sg-PST-throw-FV D = C14-grass [C17 = D = C7-roof]
 ‘Didn’t he throw (the) grass on the roof?’
- b. a-gha-toor-a o = moo-nyo [mo = *(o=)mo-sori?]
 a-ya-tóor-a o = moo-ɲó [mo = *(o=)mo-sóri?]
 3pl-PST-put-FV D = C3-salt [C18 = D = C3-soup]
 ‘Did she put (the) salt in the soup?’

(539) Conditionals: Overt D is required on object of locative

- a. a-anga-réki-ire o = bhu-nyaaki [ko = *(o=)ghi-sara,
 a-aŋga-réke(r)-ire o = βu-ɲáaki [ko = *(o=)yi-sára,
 3sg-COND-throw-PFV D = C14-grass [C17 = D = C7-roof,
 n-tw-anga-sək-ire]
 n-tw-aŋga-sək-ire]
 FOC-2pl-COND-laugh-PFV]
 ‘If he threw (the) grass on the roof, we would laugh.’

- b. a-anga-toor-ire o = moo-nyo [mo = *(o=)mo-sori,
a-anga-tóor-ire o = moo-ᵿó [mo = *(o=)mo-sóri,
3pl-COND-put-PFV D = C3-salt [C18 = D = C3-soup,
n-tw-anga-kum-iri]
n-tw-anga-kum(i)-iré]
FOC-2pl-COND-be.surprised-PFV]
‘If she put (the) salt in the soup, we would be surprised.’

Nata does not allow the licensing of the polarity D_{\emptyset} on objects of locatives. The polarity sensitive D_{\emptyset} is not permitted in negation, (540a), in polar questions, (540b), in conditionals (540c), etc.

- (540) a. *t-a-a-reker-ire o = bhu-nyaaki [ko = ghi-sara]
*t-a-a-réker-a o = βu-ᵿáaki [ko = yi-sára]
NEG-3sg-PST-throw-PFV D = C14-grass [C17 = C7-roof]
Intended: ‘He didn’t throw (the) grass on any roof.’
- b. *a-ka-reker-a o = bhu-nyaaki [ko = ghi-sara?]
*a-ka-réker-a o = βu-ᵿáaki [ko = yi-sára?]
3sg-PST-throw-FV D = C14-grass [C17 = C7-roof]
Intended: ‘Didn’t he throw (the) grass on any roof?’
- c. *a-anga-reki-ire o = bhu-nyaaki [ko = ghi-sara]
*a-anga-réke(r)-ire o = βu-ᵿáaki [ko = yi-sára]
3sg-COND-throw-PFV D = C14-grass [C17 = C7-roof]
n-tw-anga-sek-ire
n-tw-anga-sek-ire
FOC-2pl-COND-laugh-PFV]
Intended: ‘If he threw (the) grass on any roof, we would laugh.’

There are two ways in which a polarity D_{\emptyset} can be licensed. One is that licensing of D_{\emptyset} is possible if the locative is removed and the applicative is used instead. When this happens, what was originally the object of P will now be the applied object and will appear immediately after the verb. In this case a direct object (if available) will follow the applied object.

- (541) a. t-a-a-reker-i-ire [ghi-sara o = bhu-nyaaki]
t-a-a-reker-e(r)-ire [yi-sara o = βu-náaki]
NEG-3sg-PST-throw-APPL-PFV [C7-roof D = C14-grass]
‘He didn’t throw to any roof (the) grass.’
- b. a-ka-reker-er-a [ghi-sara o = bhu-nyaaki?]
a-ka-reker-er-a [yi-sara o = βu-náaki?]
3sg-PST-throw-APPL-FV [C7-roof D = C14-grass]
‘Did he throw to any roof (the) grass?’
- c. a-anga-reki-ire [ghi-sara o = bhu-nyaaki,
a-anga-reke(r)-ire [yi-sara o = βu-náaki,
3sg-COND-throw-PFV [C7-roof D = C14-grass,
n-tw-anga-sek-ire]
n-tw-anga-sek-ire]
FOC-2pl-COND-laugh-PFV]
‘If he threw (the) grass to any roof, we would laugh.’

The second way is to use the existential construction coupled with the applicative extension on the main verb as (542) shows. Even with this strategy, the locative argument must come immediately after the existential verb and the direct object (if available) must follow.

- (542) a. ghi-ta-nyihə [ghi-sara a-reker-i-ire
ghi-ta-nihə [yi-sara a-reker-i-ire
SA7-NEG-there.is [C7-roof 3sg-PST-throw-PPL-PFV
o = bhu-nyaaki]
o = βu-náaki]
D = C14-grass]
‘There is no roof that he threw (the) grass to.’

- b. N-ke-nyihø [ghi-sara a-rəkər-i-ire
 N-ke-nihø [yi-sára a-rəkər-i-ire
 SA7-NEG-there.is [C7-roof 3sg-PST-throw-APPL-PFV
 o = bhu-nyaaki?]
 o = βu-náaki?]
 D = C14-grass]
 ‘Is there a roof that he threw (the) grass to?’

It is possible to have both argument DPs with the D_{\emptyset} in any of these structures, which indicates that with the applicative strategy, the usual licensing applies. I wish to propose an idea for a solution of these cases.

Locatives, indeed, behave as special cases in not allowing the polarity D. I propose that Nata locatives trigger a special pragmatic effect: namely, that of inducing a presupposition of existence consistent with the principle of pragmatic accommodation (Stalnaker 1974; Heim 1982; Chierchia and McConnell-Ginet 1990; Matthewson 1998; and others):

...the hallmark of a presupposition is that it is taken for granted in the sense that its assumed truth is a precondition for felicitous utterance of the sentence and places a kind of constraint on discourse contexts that admit the sentence for interpretation
 (Chierchia and McConnell-Ginet 1990: 283)

It seems to be the case that Nata locatives carry an existence presupposition, which is the reason they clash with DP complements containing the polarity D_{\emptyset} . This observation is analogous to Merrindah’s (2016) argument that locatives in Bemba (Bantu) introduce definiteness. We should therefore consider the Nata structure rendered as *she put salt in the soup*, for instance, as having to do with the speaker’s assumption that the hearer can work out the presupposition that *there is something that the salt is in*. If the presupposition is not satisfied in discourse when the locative sentence is uttered, this can be accommodated just like any presupposition would. This then must be a felicity condition of all locative sentences in Nata. While further research on the contribution of locative phrases in Nata goes beyond the scope of this dissertation, I submit that these structures are consistent with the core notion of belief of existence, in that the speaker’s belief of existence follows straightforwardly from the existence presupposition of locative arguments, which must have an overt D. Next I turn to discuss the behaviour of

locatives in other Bantu languages and show that these languages behave differently from Nata.

6.4.3 D and locatives in other Bantu languages

In this section I discuss variation found with locatives in other languages which indicates that locatives in Bantu are not a uniform class. Nata and other Zone E languages like Kuria, Ngoreme, Zanaki and others fall under (543); most languages do not allow an augment with the locative (cf. De Blois 1970). I now turn to discussing the morphosyntactic/semantic properties of locatives of the (b-c) types.

- (543) a. Languages that require overt Ds on complements of locatives (i.e., Nata-type, as discussed above).
- b. Languages that do not allow overt Ds on complements of locatives (i.e., Bemba/Kinande-type).
- c. Languages that allow overt Ds on complements of locatives for certain structures only (i.e., Luganda/Zulu-type).

6.4.3.1 Bemba/Kinande-type: objects of locative P prohibit overt D

Based on Givón's (1970) description of Bemba, locatives pattern differently from other prepositions, in that they cannot ever take a complement introduced by a D:

(544) Spatial Adjunct [Bemba, adapted from Givón 1970: 55]

- a. *A-li MU = u = mu-shi
3sg-be LOC = u = C3-village
Intended: 'He's in the village.'
- b. A-li MU = mu-shi
3sg-be LOC = C3-village
'He's in the village.'

Givón argues that for these cases, the 'no-augment' rule is maintained even when it is under the c-command of a non-factual operator like negation, as (545) illustrates. Thus, even though there is no augment both the existential and non-existential interpretations are available, as shown in (545b). This situation does not obtain with Nata as we saw.

(545) Locatives prohibit D [Bemba, adapt. Givón 1970: 55]

a. *nshiatumine i = ci-tabo KU-u = mu-ana
1sg.NEG.PST.send.FV D = C10-book LOC-D = C1-child

Intended: 'I didn't send the book to any/the child.'

b. nshiatumine i = ci-tabo KU-mu-ana
1sg.NEG.PST.send.FV D = C10-book LOC-C1-child

'I didn't send a/the book to the child.

'I didn't send a/the book to any child.'

Consistent with Givón, I consider the objects of LOC in structures like in (545b) to have no D. This seems to be a case of semantic neutralization (i.e., both readings are possible).

Irimia and Schneider-Zioga (2019) discuss data in Kinande showing that arguments do not feature on the complements of locatives. In constructions that allow differential marking, they show that the locative is *uku* in nouns that do not take a D (like pronouns or proper nouns) (546a); and it is *oko* elsewhere/with common nouns, (546b). Interestingly, they show that in negative polarity environments where the covert D would have been used, the *uku* locative form is used, as in (546c), mimicking its use in proper names and pronouns:

(546) Locatives [Kinande, Irimia & Schneider-Zioga 2019: 2]

a. o = mundú mw-á-hika **uku** Yésu
u = 1person AFF-3s-arrive UKU 1Jesus

'A man approached **Jesus**.'

b. Maryá sy-á-wíte **oko** kitábu
1Marya NEG-3S-have 17LOC 7book

'Mary doesn't have **the book**.'

c. Maryá sy-á-wíte **uku** kitábu
1Marya NEG-3S-have UKU 7book

'Mary doesn't have **any** book.'

We have seen that in Bemba and in Kinande the objects of locatives are not introduced by arguments, which is the opposite of Nata. As Matthewson (p.c) points out, there could be two responses to the proposal I made about presupposition of

existence: either because existence is presupposed, it must be matched with an overt D as is the case of Nata, or conversely, a language could choose to not allow an overt D because existence is already presupposed as in the case of Bemba. Now for Kinande, we cannot assume that the speaker's belief of existence is conveyed by changing the locative form from *oko* to *uku* because proper names and nominals interpreted under the scope of negation both use *uku* even though they do not have the same semantics. It appears that the speaker-oriented notion of existence is not encoded in these structures, possibly because differential object marking is in control. A syntactic analysis assuming that the LOC heads its own projection or that the LOC sits in D is possible (Irimia and Schneider-Zioga 2019; de Dreu 2008).

6.4.3.2 Zulu/Luganda: objects of locative P permit overt D sometimes

Language-specific requirements for locatives are also found in Zulu (de Dreu 2008) and in Luganda (Hyman and Katamba 1993), where augments with locatives are only allowed in some special cases. In Zulu, de Dreu (2008) reports various types of locatives which do not allow a D in their complements. For instance, locative structures in Zulu may be composed of a locative prefix *ku-*, (547a); a locative prefix *E/O*; (547b) or a locative prefix and a suffix *E/O...ini*, (548a). In some cases a locative precedes a noun formed by a pre-nominal DEM, (548b), or the oblique element that marks benefactive objects, *kwa-*, (549) (see Doke 1992; Halpert 2012; de Dreu 2008). Consonant or vowel phonotactics may apply.

- (547) Locative positions [Zulu, de Dreu 2008: 57/58]
- | | |
|---------------------|--------------------|
| a. ku-mu-ntu | b. e-sitolo |
| LOC-C1-person | LOC-7.store |
| ‘near somebody.’ | ‘in the store.’ |

- (548) Locative positions [Zulu, de Dreu 2008: 57]
- | | |
|-------------------------------|-------------------------|
| a. e-m-buzi-<i>ini</i> | b. ku-lolu-hlobo |
| LOC-C9-goat-LOC | LOC-this.11-summer |
| ‘on the goat.’ | ‘in this summer.’ |

- (549) No augment with *kwa-* [Zulu, adapt. from Halpert 2012: 212]
 u = 1Sipho u-zo-pheka u = kudla **kwa**-zingane
 D = 1Sipho 1s-FUT-cook D = C15-food **LOC**-C10-child
 ‘Sipho will cook food for the children.’

However, the grammar may require a D in some special cases in order for objects to function as DP arguments. De Dreu (2008) points out that the same locatives *kwa* and *ku* may allow a D in special cases such as with kinship terms, (550a), or with very recent class 9 loan nouns not used with *E/O* or *-ini*, as shown in (550b). (550c) shows that not all loan nouns receive a D, however.

- (550) a. kobaba [Zulu, adapt. from de Dreu 2008: 58]
 ku = o = baba
 LOC = D = 2a.fathers
 ‘near the fathers.’
- b. kw = i = confederations cup
 ku = i = confederations cup
 LOC = D = confederations cup
 ‘at the confederations cup.’
- c. kwa = MTN Service Provider [Halpert, 2012: 212]
 LOC = 5.MTN Service Provider
 ‘to the MTN Service Provider.’

De Dreu, following Koopman (2000) and den Dikken (2006), argues that even though locatives have been analyzed traditionally as P/D in Zulu, they do not sit in D position. Rather, these structures are comprised of NPs occurring with some other projections, e.g., the *E/O* and the *ini* may project to phrases. However, there is no explanation why the D is allowed in the ‘special cases’ and not in other cases, which shows that further research is needed.

In Luganda, locative structures expressing spatial-temporal domains seem to not allow the use of D.

- (551) Locatives with no D [Luganda, H&K 1993: 237]
- a. *ya-kí-teek-a [ku = e = mmééza]
 3sg-PST-put-FV [C17 = D = C9.table]
 Intended: ‘He put it on the table.’

- b. ya-kí-teek-a [ku = mmééza]
 3sg-PST-put-FV [C17 = C9.table]
 ‘He put it on the table.’

- (552) a. *ya-kí-teek-a [mu = e = nnyúmba]
 3sg-PST-put-FV [C18 = D = C9.house]
 Intended: ‘He put it in the house.’
- b. ya-kí-teek-a [mu = nnyúmba]
 3sg-PST-put-FV [C18 = C9.house]
 ‘He put it in the house.’

However, in some special cases, spatial VP adjuncts are DPs and the D is required in order for the locative object to function as an argument, as in (553).

- (553) Locatives with D [Luganda, adapt. H&K 1993: 238]
- a. ya-lá-ba e = bí-tábó [byáá o = ku = mmééza]
 3sg-PST-put-FV D = C8-book [of D = C17 = C9.table]
 ‘He saw (the) books kept on the table.’
- b. ya-lá-ba e = bí-tábó [byáá o = mu = nnyúmba]
 3sg-PST-put-FV D = C8-book [of D = C18 = C9.house]
 ‘He saw (the) books kept in the house.’

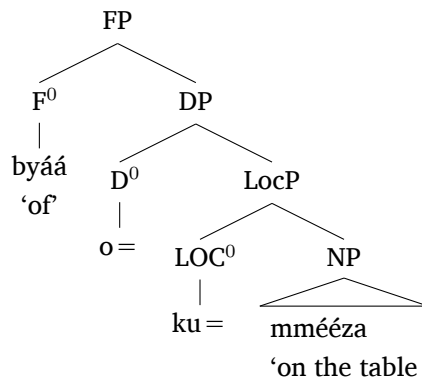
The English translations do not indicate the semantic differences between the locative structures with and without an augment. My Luganda informant notes that the literal translation for the sentence in (553a) should be #‘*He saw the books of the table*’, where the speaker is locating the books that are usually kept there as opposed to those from the shelf. These comments are in line with my intuition for Nata, where an object rather than a space is the meaning of the locative object, as in (554):

- (554) Spatial-VP adjuncts are DPs [Nata]

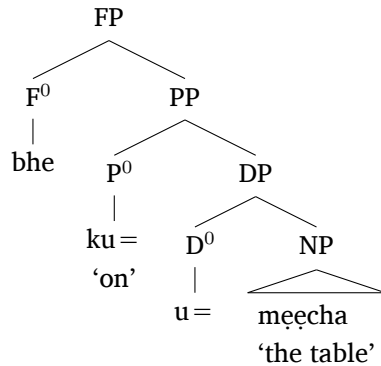
- a. a-ka-rɔr-a e=bhi-tabho [bhe ku=u=meecha]
 a-ka-rɔr-a e=βí-taβo [βe ku=a=mɛɛtʃá]
 3sg-PST-see-FV D=C8-book [of C17=D=C9.table]
 Lit: 'He saw (the) books of the table (are on the table).'
- b. a-ka-rɔr-a e=bhi-tabho [bhe mo=o=nyuumba]
 a-ka-rɔr-a e=βí-tabo [βe mo=a=ɲuumbá]
 3sg-PST-see-FV D=C8-book [of C18=D=C9.house]
 Lit: 'He saw (the) books of the house (are in the house).'

I propose that for Nata the functional element preceding the locative is the partitive element. In Nata, as argued above, the locative is the P which takes the complement introduced by D. In Luganda, the locative does not seem to be a preposition contrary to what we saw in Nata; it behaves as a normal noun class prefix preceding the D as seen in (555a). Even though it appears here that Nata and Luganda both allow a D, the data clearly show that the Luganda order of locative structures is different from Nata, at least on the surface; i.e., in Luganda the D precedes the LOC, which is not the case in Nata:

(555) a. Luganda



b. Nata



Myers (1987) and Bresnan and Mchombo (1987a) propose that locatives in Chechewa are class prefixes and are syntactic heads (see also Diercks 2010 who proposes the LocativeP for Lubukusu). However, this does not account the facts in Nata. Carsten (1991, 1993) argues that locatives do not head locative NPs or introduce gender information and that they are prepositions. This observation is consistent with Nata data.

This section has shown that there are a number of independent constraints on Bantu locatives at play. The Bemba locatives, for instance, present a puzzle to the theory I developed here. My analysis does not account for all the vagaries of locatives discussed in some of these languages. For Nata, the language I designed my analysis for, the account is quite successful. Further research on locatives is needed to determine whether the puzzles from other languages are reducible to independent variation (see Marten et al. 2007, for instance, for an initial discussion of various parameters in Bantu syntax).

6.5 Summary and conclusion

The question I have addressed in this chapter is the locus of parametric variation in a subset of Bantu augment languages. I presented data considered to be problematic for a semantic account and argued that some cases that have been considered as “old problems” turn out to be non-problematic. I have shown that some DP-level elements such as demonstratives, pronouns, and some quantifiers also may occupy the D slot, hence they can be in complementary distribution with the augment (cf. Van de Velde 2005; Carstens and Mletshe 2016; and others). With locatives, we also saw that languages differ in terms of D requirements on locatives and there is no uniform treatment. The solution lies in future research.

In this thesis I have challenged the idea that syntactic licensing is necessarily a surface-oriented phenomenon. For languages with surface-oriented operations, the non-factual operator must c-command the polarity D_{\emptyset} in the overt syntax, e.g., in Zulu, Xhosa, Luganda, Kinande, Haya, Bemba, and Runyankore-Rukiga. For languages in which surface c-command is not a requirement, we saw that licensing takes place before Spell-out. We also saw that subject DPs containing the polarity D require the licenser to occur above vP; and if the licenser is a lexical negative verb only object DPs can be licensed not subject DPs. We can summarize the similarities and differences across the languages as in Table 6.2:

Table 6.2: Syntactic-semantic similarities and variation

Component		Nata-type	other Ls
Syntax	Licensing by a non-factual Op	✓	✓
	Licenser/Op sits above the D_{\emptyset}	✓	✓
	Surface c-command	✗	✓
	Licensing is after Spell-out	✗	✓
	Locality	✗	✓
	[-A]–Focus interaction	✗	✓
Semantics	D is a speaker oriented system	✓	✓/Dzamba
	D choice based on existence	✓	✓

Quite strikingly, we saw that the ‘null D’ is not a uniform class in languages like Zulu, Xhosa, some Haya dialects, Luganda, and R/Rukiga. We saw that the same D encodes both the speaker’s non-existential interpretation and Focus marking. While positional restrictions may be a way of diagnosing syntactic Case as Halpert claims or Focus phenomena as Carstens and Mletshe illustrate, we saw that in certain negative contexts, a null D may be ambiguous between the Focus reading and the NPI interpretation, as the Xhosa transitive expletive construction example in (556) shows.

- (556) *Focussed DP in negative contexts* [Xhosa, C&M 2016:765]
 A-ku-phek-anga mu-ntu a=ma-qanda!
 NEG-17SA-cook-NEG.PAST mu-ntu i=6-egg
 ‘NOBODY cooked eggs!’

How does one disambiguate between the Focus reading and, say, the NPI interpretation of the D_{\emptyset} in a case like this? Most augment accounts have in common the non-factual operators (negation, subjunctive mood, modals, Q-morpheme, etc.), which appear to condition the distribution of augments syntactically. An open question is about the link between the non-factual operators and syntactic phenomena like Focus. The questions for future research are about how my analysis can extend to other Bantu languages.

Furthermore, there are certain grammatical phenomena that I have not explored due to lack of data from augment languages, eg., animacy effects and obligatorily object marking. Aissen (2003), for instance, proposes hierarchies of animacy and definiteness showing that, in assertions, the objects highest on both scales have higher chances of being object-marked than those on the lower end (see also Morimoto 2002; Riedel 2009, 2010; Bax and Diercks (2012); Seidel and Dimitriadis 1997; and others).

- (557) The dimensions for object marking Aissen (2003: 437)
- a. Animacy: Human > Animate > Inanimate
 - b. Definiteness: Proper name > Pronoun > Definite NP > Indef. Specific NP > Non-specific NP.

In a non-augment language like Swahili, obligatory object marking is linked to animacy (Vitale 1981; Morimoto 2002; Riedel 2009, 2010 and many others). Object-marked structures are used in a variety of contexts, including definite, indefinite, and NPI contexts. In Swahili, it is not possible to use a proper name or an animate thing in an object position without object marking the verb. However, inanimate things need not be object marked unless they are mentioned in the previous discourse. With obligatory object marking for animates, speakers allow an NPI interpretation of the object marked DP, as the co-referenced objects in (558) show.

- (558) a. ha-ku-*(**m_j**)-piga risasi tembo_j yeyote. [Swahili]
 NEG.SM-PST-(**OM**)-hit bullet elephant any
 ‘He didn’t shoot any elephant.’
- b. Si-ku-*(**mw_j**)-agiza ma-ji m-toto_j yeyote
 NEG.SM-PST-(**OM**)-order-FV C6-water C1-child any
 ‘I didn’t order water from any child.’

Nata does not allow object marked DPs to be used in indefinite or in negative polarity contexts as predicted by my analysis (refer to Chapters 3 and 4). Object marked DPs always render existential interpretations and polarity Ds clash with the anaphoric reading of object markers. Are there augment languages which allow an NPI reading or an indefinite reading with object marked DPs?

Finally, I have argued that the notion of existence is pertinent to other Bantu languages, and I have shown that while various previous accounts of Bantu assumed the mostly known features of specificity or definiteness; only Dzamba encodes definiteness. Obviously I have investigated only a handful of Bantu augment languages. The question for future research is: are there D systems which have been misanalysed or misdescribed as conveying either definiteness or specificity, but it is really speaker-oriented existence?

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