

Argument licensing and agreement in Zulu

by

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Abstract

In this thesis, I examine some core grammatical phenomena – case licensing, agreement, the EPP – through the lens of the Bantu language Zulu. Zulu has a number of remarkable and puzzling properties whose analysis affords us new insight on the interaction between these components. Despite a number of unusual-looking properties in the domain of nominal distribution, I propose that Zulu has both a system of abstract structural case *and* a system of morphological case. This conclusion is notable because it has long been assumed that Bantu languages lack both of these types of case (e.g. Harford Perez, 1985). Though the type of case system that I propose for Zulu is at its core similar to our current understanding of case, there are a number of differences between the case system I argue for in Zulu and more familiar case systems. In particular, I demonstrate that the positions in which structural licensing occur in Zulu are *not* the familiar positions of structural licensing: *none* of the heads that function as structural licensors in a language like English – T^o , v^o , and P^o – are licensors in Zulu. The absence of licensing from these positions gives rise to a system in which case-licensing and phi-agreement have no syntactic overlap. I show that the interactions between phi-agreement and *morphological* case in Zulu provide a novel argument in favor of treating phi-agreement as a syntactic process. I also argue that Zulu has a novel type of morphological case: the *augment* vowel functions as a freely-applying case-licenser for nominals that lack structural case. The existence of such a morpheme is notable because this type of element has been explicitly ruled out by various theories (e.g. Schütze, 2001) on the grounds that it would render the Case Filter vacuous. Finally, I build on this system of case in Zulu to analyze constructions that involve a puzzling agreement pattern: *complex NPs* and *raised subjects* appear to allow optional agreement in positions where Zulu otherwise requires it. I argue that the optional agreement effect in these constructions arises from the possibility for T^o to agree with a CP. From these constructions, we gain insight into the properties of agreement and the EPP in Zulu. Specifically, these constructions demonstrate the inadequacy of a theory of “reverse agree” to capture the patterns in Zulu and the primacy of a syntactic EPP to Zulu syntax.

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Ngokubonga

Umuntu ngumuntu ngabantu – ngenxa yeqiniso lelo, kufanele ngiqale leli phepha elikhulu ngokubonga wonke amaZulu angifundisile, angisizile, aphinda futhi angiphatha kahle njengesihlobo sawo. Ngempela nginenhlanhla enkulu kakhulu ukwazi abantu abaningi abanomusa kanje. Angikwazi ukuwabhala wonke amagama abantu engithanda ukubabonga, kodwa ngizozama ukukhuluma kancane ngabanye manje.

Uhambo lwami lwaqala eNyuvesi iYale, indawo lapho engaqala ukufunda isiZulu khona. Uthisha wami, uSandra wakwaSanneh (Ndlovukazi!), wangifundisa kakhulu ngolimi lwesiZulu, nangomlando, nangamasikho alolu limi. Ngakuthokozela kakhulu ukufundiswa wuye, engilungisela kahle ukucwaninga ngobuciko isiZulu nangendlela yokuphila eMzansi. Ngibonge futhi uJacob wakwaDlamini (Nkosi, Sibalukhulu, Mlangeni! Mfazi omabele made oncelisa ingane ingaphesheya komfula!), umszizi wethisha – wangisiza kakhulu ngokuphefuka isiZulu sami. Ngokuphetha, ngibonga kakhulu uThenjiwe wakwaMagwaza (Njinji, Manqondo, Yengwayo!). UThenji wayevakashele eYale ngo2005-2006. Wangifundisa kakhulu ngezindlela zokucwaninga eThekwini kanti futhi wangisiza kakhulu nangocwaningo lwami ngo2006 – wangethula nakubantu abaningi, kosolwazi besiZulu nakomama abadayisa ubuhlalu emakethe eduze nakuVictoria St.

Ngaya eMzansi kabili ngesikhathi sokufundela iqu lami eYale. Ngaba nenhlanhla ukuthi ngifundiswe isiZulu eUKZN (eMgungundlovu) wothisha abahle – uMary wakwaGordon noNelson wakwaNtshangase (Mgazi, Biyela, Menziwa Ndabezitha!), nabasizi babo – uZama wakwaDlamini (Nkosi, Sibalukhulu, Mlangeni!) noBongeka Hlengwa (Mashasha!). Ngibonge futhi oMkhize baseMbali VI naboMkhize baseMaqongqo (Khabazela kaMavovo, Gubhela kay'hlandhla!) – ngangithanda kakhulu ukuhlala nabo. Umdeni wami waseMaqongqo wangiphatha kahle kakhulu ngezihambo eziningi – ngiyabonga kakhulu. Ngibakhumbula kabi – uMama noBaba, Wendy noSipho, Nonhlanhla, nezingane zabo: uVu, uThamsangqa, uZinhle, uTamiya, uKhanyo, noThando (umszizi wami). Ngiyathemba ukuthi ngizophinde futhi ngivakashe masinyane – ngingathanda ukubuka izingane ngaphambi kokuba zikhulile.

Ngesikhathi ngiphuma eNew Haven ngathutha ngayohlala eCambridge, la ngahlangana khona nabantu abathathu abangisiza kahulu. UZoliswa wakwaMali (MaDlamini, Jama, Sijadu, Ngxib'inoboya, Fakade, Ntenteshe! Intombi yakwaSidzumo!) wafika eBoston ngesikhathi kufike mina. UZoli ubanjwe wumsebenzi wakhe eNyuvesi yakwaBoston kodwa uyaye athole isikhathi sokuthi akhulume nami, kanti uyangisiza nangocwaningo lwami. NguZoli owangazisa kuMichael wakwaLanga (Ndwande, Zwide, Nxumalo, Mkhathswa!) nakuDoctor wakwaKatamzi (Jama!), abanye abantu abangisiza nocwaninga lwami. Ngibonge kakhulu kuDoctor, owasebenza nami iminyaka emine – owayevuka ekuseni kakhulu ukuze ahlangele nami eDunkin Donuts eBraintree – ungumuntu ohlakaniphe nonesineke.

Ngenxa kaDoctor, ngathola ithuba lokuhlala eMlazi nomndeni wakhe ukuze ngenze

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Sengiqedile.

Nokukhanya

Acknowledgments

- (0) umuntu ng- umuntu nga-bantu
AUG.1person COP- AUG.1person NGA.AUG-2people
'A person is a person because of people.' (Zulu proverb)

In reflecting on everyone whose teaching, ideas, feedback, and support have played a role in making me the linguist that I am – and in getting this thesis written – the Zulu expression above kept coming to mind. This sentiment seems like an appropriate place to start as I express my gratitude to the people who have helped define me and my work as a linguist. Before I start, I'll simply say that I owe my thanks to more people than I can mention here, and I apologize in advance for the oversights I am no doubt about to make.

My career in linguistics began at Yale University, where in my very first semester I signed up for an intro syntax course taught by Julie Anne Legate. That course, and Julie's wonderful teaching, got me hooked – I've been doing syntax ever since. I also have Julie to thank for sparking my interest in lesser-studied languages. Her course and her own research were inspiring examples of what we stand to gain from working on such languages and planted the seeds for my decision to study Zulu the following year. Though Julie was only at Yale for a year, I was very well taken care of by others in the linguistics department after she left. Dasha Kavitskaya, Dianne Jonas, and Larry Horn in particular were all wonderful mentors whose enthusiasm was infectious. Perhaps the most formative experience I had in linguistics while at Yale was working with Oluseye Adesola. Seye arrived at Yale in my junior year as a Yoruba instructor, but he spent countless hours – three semesters' worth of independent studies – talking syntax with me. Seye pushed me to start thinking like a linguist – teaching me to take a stance despite not having "all the data", showing me how to construct an argument, challenging me to think about the implications of my work.

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List of Abbreviations

ACC	accusative
APPL	applicative
ASP	aspect
AUG	augment
CAUS	causative
COP	copula
CS	case
DAT	dative
DEM	demonstrative
DET	determiner
DUR	durative
EXCL	exclusive
FUT	future
FV	final vowel
GEN	genitive
IMP	imperfective
INF	infinitive
LOC	locative
NEG	negation
NOM	nominative
O	object agreement
OBL	oblique
PART	partitive
PASS	passive

PAST	past
PFV	perfective
PL	plural
POSS	possessive
PRES	present
PRT	participial
REFL	reflexive
REL	relative
REM	remote
SG	singular
S	subject agreement

Overview

(1) a. ku- bonakala [ukuthi **uZinhle** **u-** zo- xova ujeqe]
 17S- seems that AUG.1Zinhle 1S- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’

b. **uZinhle** **u-** bonakala [ukuthi **u-** zo- xova ujeqe]
 AUG.1Zinhle 1S- seem that 1S- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’

c. **uZinhle** **ku-** bonakala [ukuthi **u-** zo- xova ujeqe]
 AUG.1Zinhle 17S- seems that 1S- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’

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is *identical*, containing an overt complementizer and a finite predicate that agrees with the embedded subject.

The existence of this type of alternation in Zulu gives rise to several puzzles. First, we can ask why the raising in these constructions is *optional*. Raising is often assumed to be driven by the structural case needs of a nominal: required when the subject lacks case (say, in Spec,TP, of a nonfinite clause in a language like English) but ruled out when the subject receives case in the embedded clause. In Zulu, the raising is freely available and apparently independent of any particular properties of the embedded clause. This optionality fits into a larger pattern in Zulu – and the Bantu language family more generally – of a distribution of nominals that is relatively unrestricted.

A number of proposals have characterized this unrestricted distribution of nominals as evidence that Bantu systematically lacks case effects on nominals (e.g. Harford Perez, 1985; Diercks, 2012, and others). In this thesis, I argue in favor of a different conclusion.

In chapters 3-5, I demonstrate that Zulu *does* in fact have a system of structural *and* morphological case, though I show that the positions of structural-licensors differ from those found in more familiar case systems. Though I agree with the conclusion of previous research that structural case does not play a driving role in the raising constructions in (1), I argue that the reason that structural case effects are often obscured in Zulu is the availability of freely-applying case morphology that can *intrinsically* license a nominal, independent of the syntax. This crucial difference accounts for the fact that Zulu nominals are much less restricted in their distribution than nominals in a language like English, which lacks this type of intrinsic case-licenser.

An additional two puzzles raised by the constructions in (1) are the question of what allows nominals in Zulu to raise out of a CP with a finite complement and why there are two options for agreement when the nominal has raised. More specifically, the raising in Zulu seems to be occurring out of the finite complement of an (overt) C^o, a type of movement that is generally ruled out by the *Phase Impenetrability Condition* (PIC Chomsky, 2000, 2001). Furthermore, as I establish in chapter 2, elsewhere in Zulu, preverbal subjects obligatorily agree with the verb, so the fact that they do not need to agree in raising constructions like (1c) is surprising. I argue that these two puzzles are related. Following Rackowski and

Richards (2005), I reduce the PIC to an instance of intervention, arguing that the embedded CP in Zulu functions as a potential goal for higher phi-agreement probes. Once that CP has been agreed with, however, it no longer intervenes and the embedded subject can therefore be probed by elements that are outside of the embedded CP. In the raising construction, I propose that the obviation of the PIC and the optional agreement both stem from the fact that the matrix predicate agrees *twice* – first with the embedded CP and then with the embedded subject. A final question raised by these constructions is the question of what *does* drive the raising, since it does not happen due to the needs of the raising subject. I argue in chapter 6 that this type of raising, and subject agreement in Zulu more generally, results from a requirement that Spec,TP, be filled by a syntactic category. When that requirement is met by an element that moves from lower in the structure, phi-agreement results.

1.1 Insights on syntax and variation

One of the most striking conclusions of this thesis is the discovery that Zulu has a system of case-licensing, realized both in terms of structural licensing and case morphology on nominals. As noted above, this conclusion goes against the prevailing view that case is not relevant in the grammar of Bantu languages (Harford Perez, 1985; Baker, 2003a, 2008; Carstens and Diercks, forthcoming; Diercks, 2012, and others). Though the type of case system that I propose for Zulu is at its core similar to our current understanding of case, there are a number of differences between the case system I argue for in Zulu and the more familiar systems of languages like Icelandic and English. These differences give us insight onto how case functions in the grammar.

I demonstrate in chapters 3 and 4 of this thesis that the positions in which structural licensing occur in Zulu are *not* the familiar positions of structural licensing found in languages like English or Icelandic. As we will see, *none* of the heads that function as structural licensors in a language like English – T^o , v^o , and P^o – are licensors in Zulu. Instead, Zulu has a ‘higher’ case associated with a Licensing head that licenses the highest element in vP and a ‘lower’ case that is assigned by APPL or CAUS in conjunction with V^o . The fact that licensing is associated with these unfamiliar positions in Zulu is one factor that has

helped to obscure its effects.

I also show that Zulu displays some novel properties in the domain of morphological case. In particular, as I mentioned above, I will argue that a piece of nominal morphology called the *augment* vowel functions as a freely-applying case licenser, which can ‘rescue’ a nominal that appears in a position where it is not assigned structural case. The existence of such a morpheme is notable because this type of element has been explicitly ruled out by various theories (e.g. Schütze, 2001) on the grounds that it would render the Case Filter vacuous by providing a means for nominals to appear in any position. As I argue in this thesis, such a conclusion is welcome for Zulu, since nominals with this morphology *do not* behave as though they are subject to the Case Filter.

Another conclusion that emerges from this picture of structural licensing is that while Zulu has a robust system of phi-agreement, it shows no syntactic overlap between phi-agreement and structural licensing. While the idea that case and agreement are not linked to each other in Bantu has been suggested by Baker (2003a, 2008) and others, this observation rested on the assumption that case was playing little to no role in the first place. While Zulu points to the same higher-level conclusion, it does so by showing that case and agreement can both be active in a language yet not overlap or show any dependencies. Like Baker (2003a, 2008), I conclude that agreement in Zulu is closely linked to the EPP.

As we will see in chapter 6, I argue on the basis of agreement and raising facts that the EPP functions as the driving engine for many of the syntactic movement and processes I explore in this dissertation. On the surface, the fact that phi-agreement tends to correlate with movement to Spec,TP, in Zulu is in line with theories of “reverse agree”, which reduce the EPP to a byproduct of the agreement process by arguing that goals must c-command their probes (e.g. Bošković, 2007; Wurmbrand, 2011; Zeijlstra, to appear). In chapter 6, I show that this generalization does not always hold in Zulu. In particular, I argue on the basis of constructions like (1c) above, I argue that Agree is crucially a downward-probing operation, and that it must function independently of the EPP, though I claim that in Zulu, the EPP can trigger Agree processes.

In chapter 7, I will return to the ways in which the analysis of Zulu that I present in this thesis give us a new perspective on some core areas of syntax.

1.2 Organization of the thesis

The remainder of the thesis is organized as follows.

In chapter 2, I establish some basic facts about agreement and position of subjects in the structure. I show that while Zulu subjects display a fair amount of flexibility in terms of the syntactic position in which they may appear, agreeing subjects must always surface outside of vP – vP -internal subjects cannot control agreement in Zulu. In addition, I demonstrate that these different positions correlate with different information structure properties, as shown in table 1.1.

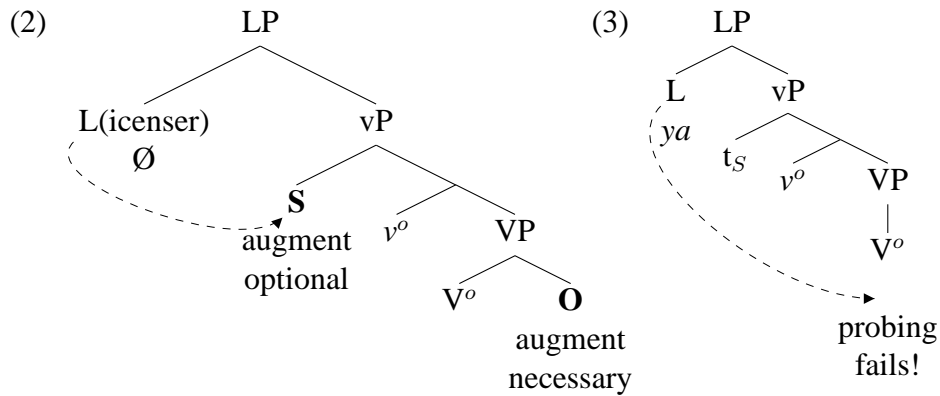
POSITION	AGREEMENT	INFORMATION STRUCTURE	
		Permitted	Prohibited
Spec,TP	required	indefinites new information answers to <i>wh</i> -Q	<i>wh</i> -words <i>only</i> -DPs
Left-dislocated	required	discourse topic	focus new information
Right-dislocated	required	old information	focus discourse topic
vP -internal	prohibited	focus new information	topic

Table 1.1: Properties of vP - internal and external subjects

I also return to the raising constructions illustrated in (1) at the beginning of this chapter, focusing on the alternation between non-raised subjects and agreeing raised subjects. I show that these constructions require a raising analysis and therefore raise the puzzles that I discussed above.

In chapters 3-5, I focus on the puzzle of Zulu’s relatively unrestricted nominal distribution patterns. As discussed in the previous subsection, I argue that despite this unrestricted distribution, Zulu in fact exhibits both structural and morphological case. Evidence for structural licensing comes from the behavior of *augmentless* nominals, which, in contrast to nominals with an augment vowel, are restricted to specific syntactic positions. I argue that these restrictions require a structural licensing account. I propose in chapter 3 that augmentless nominals can be licensed in two ways: through a maximally local relation-

ship to a licensing head L^o or by V^o in conjunction with a specifier-taking CAUS or APPL head. In chapter 4, I tie this distribution to another syntactic phenomenon in Zulu, the *conjoint/disjoint* alternation that marks verbal predicates. I show that this alternation has the same distribution as augmentless nominals. I argue on the basis of this parallel that the conjoint and disjoint morphemes themselves are a morphological spell out of the head L^o that licenses nominals.



One striking similarity between the licensing of augmentless nominals and the conjoint/disjoint alternation is that both appear to be sensitive only to *surface* position of arguments. I establish in chapters 3 and 4 that we can in fact distinguish these processes from truly surface-oriented ones. I argue on the basis of this evidence that both phenomena should therefore be considered part of the syntactic derivation. I propose that their apparent surface-oriented properties arise from the ability of the licensing relationship to be freely ordered with respect to A-movement. These ordering possibilities include one in which arguments move *before* they can be structurally licensed. I attribute the absence of the opposite order of operations – in which arguments would first be licensed by L^o and subsequently move – to the Activity Condition (Chomsky, 2001): once a nominal is licensed by L^o , it is inactive for all further A-processes.

The structural licensing that I argue for in chapters 3 and 4 appears to only apply to augmentless nominals. In chapter 5, I return to the question of why augmented nominals in Zulu do not require structural licensing. I argue in this chapter that the *augment* vowel that

marks most nominals functions as an intrinsic case licenser, allowing nominals that it marks to appear in unlicensed positions. I extend my investigation of nominal licensing beyond core arguments, to compare augmented nominals to nominals with oblique prefixes in Zulu. Through this comparison, I show that Zulu has a familiar system of case morphology, corresponding to the *structural*, *quirky*, and *inherent* cases found in languages like Icelandic (e.g. Schütze, 1997). At the same time, I argue that the augment itself is a novel type of case – one that inherently licenses nominals but is able to agree with the verb. I argue that these four types of case are predicted based on the two parameters that are necessary to delineate the typology of case [\pm Intrinsic] and [\pm Agreeable] in languages like Icelandic.

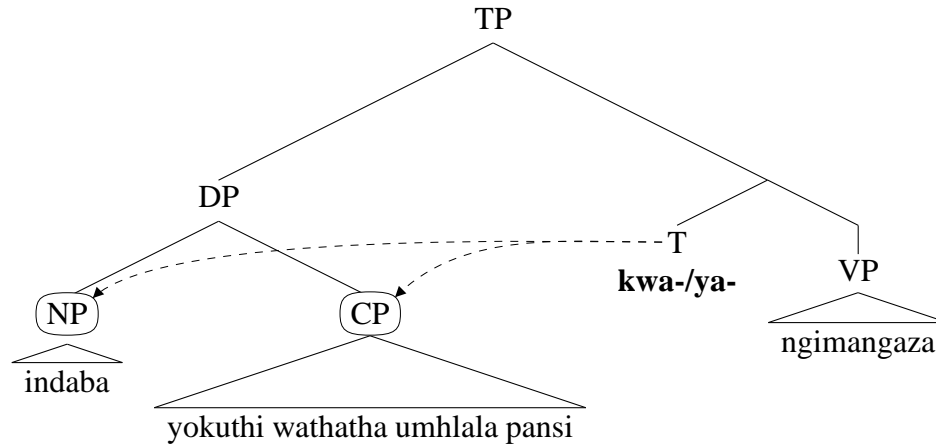
+ intrinsic + agreeable augment	– intrinsic + agreeable (“ <i>structural</i> ”) augmentless
+ intrinsic – agreeable (“ <i>inherent</i> ”) aug-replacing	– intrinsic – agreeable (“ <i>quirky</i> ”) aug-permitting

Table 1.2: Licensing strategies and nominal morphology in Zulu

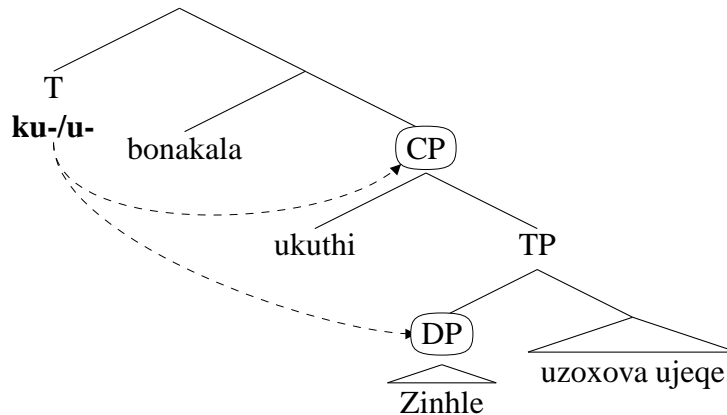
With the licensing mechanisms for Zulu in place, in chapter 6 I return to the puzzle posed by the construction in (1c): the question of optional agreement. In this chapter, I introduce two novel constructions in Zulu that involve optional agreement with preverbal subjects: *complex NP* subject constructions and the *raising-to-subject* construction that we saw above. I present new diagnostics to show that the non-agreeing preverbal subjects in these constructions are necessarily in the same Spec,TP, position that otherwise requires agreement and conclude that they are therefore true exceptions to the generalization from chapter 2 that preverbal nominals must agree. I argue that the ‘default’ agreement option in these constructions does not result from an *absence* of agreement with T^o, but rather from agreement of T^o with an accessible CP. The optionality in these constructions arises

because both involve a configuration where T^o can either spell out the result of a phi-agreement relationship with a CP or with the expected nominal.

(4) **Agreement possibilities with a complex NP**



(5) **Multiple agreement operations in a raising construction**



As I argue in chapter 6, the CP agreement that occurs in raising-to-subject constructions is source of both the absence of PIC effects *and* the optional agreement effect.

Finally, in chapter 7, I discuss some higher-level conclusions that Zulu suggests concerning the organization of syntax. I review the insights we gain on case, agreement, and the EPP, and compare the properties of Zulu in these domains with those of Icelandic. I close with some conclusions and questions that arise when we consider the results presented here for Zulu in a broader cross-Bantu perspective.

1.3 A note on Zulu

Zulu (also written isiZulu) is a Bantu language in the Nguni subgroup. The Bantu language family comprises over 500 languages¹ that are spoken indigenously in twenty-seven African countries, as well as by populations living in the United States, Europe, and elsewhere (Nurse and Philippson, 2003). The Bantu languages are divided into sixteen lettered subgroups (“Guthrie zones”), which are further broken down by number into more closely related subgroups. Zulu has the Guthrie classification of S42. Zone S contains languages spoken in the southern part of the continent, including Zimbabwe, Mozambique, Botswana, South Africa, Lesotho, and Swaziland. The Nguni subgroup (S40) contains Zulu’s closest relatives: Xhosa, Swati, and Ndebele, which have a fair degree of mutual intelligibility with Zulu. Zulu is spoken by over 10 million speakers worldwide, primarily living in South Africa, with other Zulu-speaking communities in Botswana, Lesotho, Malawi, Mozambique, and Swaziland (Ethnologue). As of 2001, 10.7 million South Africans, 23.8% of the population, claimed Zulu as their first language, making it the most prevalent first language in the country (2001 Census).

The main Zulu-speaking areas in South Africa are the provinces of KwaZulu-Natal (81% native Zulu speakers) and Gauteng (21.5% native Zulu speakers). While Zulu is prevalent throughout the province of KwaZulu-Natal, including its major urban center of Durban, most Zulu speakers in Gauteng are located in and around Johannesburg, South Africa’s largest city (2001 Census). The majority of Zulu speakers in Zulu-dominant regions receive Zulu-medium education in the early years of their schooling, and typically at least some Zulu-based instruction throughout their later academic career.

The data in this thesis come from my original fieldwork with native speakers of Durban Zulu, collected between September 2008 and June 2012. The majority of the data was collected on two field trips to South Africa in 2011 and 2012, with the rest of the data coming from in-person elicitation sessions with three speakers in the Boston area and phone consultations with three speakers from Durban. In Durban, I conducted interviews with 38

¹The exact number is in dispute. Recent estimates include 501 (Grimes, 2000) and 660 (Maho, 2003). See Nurse and Philippson (2003) for discussion.

different speakers, mainly from Umlazi Township, through much of the data reported here comes from regular meetings with six of these speakers. In addition to direct elicitation, some examples are taken from naturally-occurring conversation and from the internet. As I have noted throughout the thesis, the judgments of Durban Zulu speakers sometimes contrast with those reported in previous linguistic literature and grammar books. In addition, my fieldwork uncovered some systematic variation within the Durban population, which I have noted where relevant.

Finally, I would like to note that while Zulu is a tone language, its syntactic tonal properties are largely predictable (cf. Khumalo, 1981, 1982). Throughout the thesis, I do not mark tone unless specific tonal properties are directly relevant to the syntactic analysis.

Chapter 2

Movement and agreement in Zulu: the cast of characters

In this chapter, I introduce some of the basic syntactic constructions that are the focus of this thesis. In chapters 3 - 6 I address a number of issues that involve the distribution of nominals and their ability to agree with verbs. In order to analyze these constructions, it is necessary to have a solid baseline understanding of the different syntactic positions available to nominals in Zulu and of the different agreement properties associated with these positions. I begin the chapter with some brief remarks on the basic pattern of nominal morphology in Zulu in section 2.1, an issue to which I return in much greater depth in chapters 3 and 5. Then I turn to the basic word order patterns in Zulu in section 2.2 and in section 2.3 to the ways in which the syntactic position of the subject correlates with both agreement patterns and information structure. This intersection between syntactic position and information structure will be crucial when we consider the restricted distribution of certain nominals in chapter 3 and when we examine the properties of non-agreeing preverbal subjects in chapter 6. In discussing the connection between subject position and agreement morphology in this chapter, I argue in favor of treating the subject marker as an agreement morpheme that arises when the verb agrees with a nominal in Spec,TP – and not as a pronominal clitic. This distinction allows us to better understand the relationship between phi-agreement with subjects and structural case that we will see in subsequent chapters. In section 2.4, extend the discussion of agreement and subject positions in Zulu to raising

constructions. I show that Zulu allows optional raising out of finite agreeing clauses, a fact that will serve as background to my investigation of case in chapter 3. I return to raising predicates and their unique agreement properties in chapter 6, where I propose an analysis for why raising can occur out of finite clauses in the language. In section 2.5, shift away from the agreement properties of subjects to examine argument structure within *vP*. I establish how different types of arguments, particularly those associated with applicative and causative constructions, are introduced in the language. In chapter 3, I build upon these observations to discuss the specific configurations in which arguments are case-licensed in Zulu.

2.1 Nominals and noun class

Zulu nouns are divided into 14 different noun classes, a distinction that is realized both in terms of morphology on the nominal and in a variety of agreement and concord processes throughout the grammar.¹ Every Zulu noun stem is marked with prefixal morphology that corresponds to the noun class of the nominal. This prefixal morphology typically consists of two parts. The first part, which appears on every nominal, is the noun class prefix, a C/CV/CVC/Ø morpheme that attaches to the stem and indicates noun class. This noun class prefix is optionally preceded by an *augment* vowel (also referred to as the *initial vowel* or *pre-prefix*), that reflects the vowel in the noun class prefix (see Taraldsen, 2010). The full paradigm of noun class prefixes and augments is given in Table 2.1.²

In the remainder of this chapter, I focus mainly on nominals that have *augment* morphology and do not discuss the internal morphological makeup of these nominals any fur-

¹This type of noun class system is pervasive in the Bantu language family. The numbers associated with each noun class correspond to the reconstructed noun class system for Proto-Bantu, which includes approximately 24 noun classes (see Katamba, 2003, for an overview). Zulu, like other attested modern Bantu languages, does not retain the full set of noun class markers, which leads to some of the numbering gaps in table 2.1.

²Throughout this thesis, I do not distinguish between classes 1/1a and 2/2a in the glossing of examples. While classes 1a and 2a have distinct nominal prefix morphology from classes 1 and 2, they pattern with these classes for all other morphological processes.

NOUN CLASS	AUGMENT	PREFIX	EXAMPLE	TRANSLATION
1	u-	m(u)-	umuntu	‘person’
1a	u-	Ø	ugogo	‘grandmother’
2	a-	ba-	abantu	‘people’
2a	o-	Ø	ogogo	‘grandmothers’
3	u-	m(u)-	umunwe	‘finger’
4	i-	mi-	iminwe	‘fingers’
5	i-	(li-)	iqanda	‘egg’
6	a-	ma-	amaqanda	‘eggs’
7	i-	si-	isipho	‘gift’
8	i-	zi-	izipho	‘gifts’
9	i-	N-	indawo	‘place’
10	i-	ziN-	izindawo	‘places’
11	u-	(lu-)	uthando	‘love’
14	u-	(bu-)	ubuntu	‘humanity’
15	u-	ku-	ukudla	‘food’
17	u-	ku-	ukwindla	‘autumn’

Table 2.1: Noun class prefixal morphology

ther. In chapter 3, I return to the issue of the augment and specifically to contexts in which nominals may appear without an augment to argue that these augmentless nominals require case-licensing. In chapter 5, I again return to the issue of augment morphology to discuss what role it plays in the syntax. I propose in chapter 5 that the augment functions as a case morpheme that licenses nominals that it marks independently of the syntactic structure.

2.2 Flexible word order

The canonical word order in Zulu transitive clauses is SVO:

- (6) uZinhle u- xova ujeqe
 AUG.1Zinhle 1S- make AUG.1steamed.bread
 ‘Zinhle is making steamed bread.’

In addition to SVO word order, however, Zulu also permits a number of non-canonical word orders. The use and acceptability of the different word order possibilities in Zulu depends on a number of independent factors, including agreement and information structure,

which will be discussed in more detail later in this chapter. Setting aside these factors for a moment, we can see that all possible orderings of subject, verb, and object are permitted (Buell, 2005):

- | | | | | | | | | |
|-----|----|---|---------|-----|------|---------|---------|-----|
| (7) | a. | uZinhle | u- | ya- | wu | xova | ujeqe | SVO |
| | | AUG.1Zinhle 1S- YA- 1O- make AUG.1steamed.bread | | | | | | |
| | b. | ujeqe | u- | ya- | wu | xova | uZinhle | OSV |
| | | AUG.1steamed.bread 1S- YA- 1O- make AUG.1Zinhle | | | | | | |
| | c. | uZinhle | ujeqe | u- | ya- | wu | xova | SOV |
| | | AUG.1Zinhle AUG.1steamed.bread 1S- YA- 1O- make | | | | | | |
| | d. | ujeqe | uZinhle | u- | ya- | wu | xova | OSV |
| | | AUG.1steamed.bread AUG.1Zinhle 1S- YA- 1O- make | | | | | | |
| | e. | u- | ya- | wu | xova | ujeqe | uZinhle | VOS |
| | | 1S- YA- 1O- make AUG.1steamed.bread AUG.1Zinhle | | | | | | |
| | f. | u- | ya- | wu | xova | uZinhle | ujeqe | VSO |
| | | 1S- YA- 1O- make AUG.1Zinhle AUG.1steamed.bread | | | | | | |
| | | ‘Zinhle is making steamed bread.’ | | | | | | |

Furthermore, we find in Zulu that certain word orders can be associated with multiple syntactic structures. Because the verb in Zulu raises to a head that is above νP ,³ there are two possible locations for nominals that follow the verb: they may either be νP -internal or in a higher, right-dislocated position.

We can observe this contrast in postverbal subject positions if we look at the behavior of the low adverb *kahle* ‘well’, which Buell (2005) shows always appears within νP , at its right edge. Postverbal arguments may either appear to the left of *kahle*, and thus inside νP , or to its right:

³See Julien (2002); Buell (2005); Cheng and Downing (2012); Zeller (2010a) for a discussion of the morphological evidence for head movement in Zulu, and in Bantu more generally. For Buell, the verb raises to a position called “Aux”, which hosts the final vowel that appears at the end of verbal complexes; Cheng and Downing simply denote the position to which the verb raises as “X.” For Julien (2002), who focuses specifically on Shona, head movement of the verb reaches “Mood”, which is located above νP or CausP, which introduce the highest argument.

- (8) a. ku- xova uZinhle ujeqe **kahle**
 17S- make AUG.1Zinhle AUG.1steamed.bread well
- b. u- wu xova **kahle** uZinhle ujeqe
 1S- 1O- make well AUG.1Zinhle AUG.1steamed.bread
 ‘Zinhle makes steamed bread well.’

Using *kahle* as a marker of the right edge of the ν P domain, we can conclude that the postverbal arguments in (8a) are between the verb and *kahle*, and thus presumably *inside* ν P, while the arguments in (8b) follow *kahle* and thus are *outside* of ν P. As we will see throughout this chapter and chapter 4, a number of other properties also reliably correlate with the right edge of ν P, including *penultimate lengthening* of vowels at the ν P edge (cf. Cheng and Downing, 2009) and the *conjoint/disjoint* alternation in verbal morphology that I discuss in detail in chapter 4. As we will see in chapter 4, the disjoint form (-ya-) appears when the ν P is empty, as in (11a) below, and the conjoint (\emptyset) appears if not. In addition to the difference in word order that the subject displays with respect to *kahle* in (8), in the next section we will see that these two positions further correspond to obligatory differences in agreement patterns.

I will show in the next section that not only do postverbal arguments have such structural ambiguities, but preverbal arguments are subject to them as well. In addition, I will discuss some of the additional factors, such as agreement and information structure, that correlate with the different structural positions that subjects may occupy in Zulu.

2.3 Subjects and agreement

Zulu finite predicates always contain a subject agreement morpheme. In addition to first and second person agreement, third person agreement tracks *noun class*, which I introduced in section 2.1. The subject agreement paradigm for these noun classes is given below in table 2.2.

When the subject appears outside of ν P – or is pro-dropped – this subject morpheme matches the noun class of the subject:⁴

⁴Though see chapter 6 for a discussion of some exceptions to this pattern.

NOUN CLASS	INDIC.	SUBJUNCT.	PARTICIP.	REL.	OBJECT MARKER	PRONOUN
1SG	ngi-	ngi-	ngi-	engi-	-ngi-	mina
1PL	si-	si-	si-	esi-	-si-	thina
2SG	u-	u-	u-	owu-	ku-	wena
2PL	ni-	ni-	ni-	eni-	-ni	nina
1	u-	a-	e-	o-	-m(u)-	yena
2	ba-	ba-	be-	aba-	ba-	bona
3	u-	u-	u-	o-	-wu-	wona
4	i-	i-	i-	-yi-	e-	yona
5	li-	li-	li-	eli-	-li-	lona
6	a-	a-	a-	a-	-wa-	wona
7	si-	si-	si-	esi-	-si-	sona
8	zi-	zi-	zi-	ezi-	-zi-	zona
9	i-	i-	i-	e-	-yi-	yona
10	zi-	zi-	zi-	ezi-	-zi-	zona
11	lu-	lu-	lu-	olu-	-lu-	lona
14	bu-	bu-	bu-	obu-	-bu-	bona
15	ku-	ku-	ku-	oku-	-ku-	kona
17	ku-	ku-	ku-	oku-	-ku-	kona

Table 2.2: Subject agreement morphology

(9) **Pre-verbal agreed-with subjects**

- a. (**uZinhle**) **u-** xova ujeqe
AUG.1Zinhle 1S- make AUG.1steamed.bread
'Zinhle is making steamed bread.'
- b. (**omakhelwane**) **ba-** xova ujeqe
AUG.2neighbor 2S- make AUG.1steamed.bread
'The neighbors are making steamed bread.'
- c. (**iqhawe**) **li-** xova ujeqe
AUG.5hero 5S- make AUG.1steamed.bread
'The hero is making steamed bread.'

(10) **Post-*vP* agreed-with subjects**

- a. **u-** xova ujeqe kahle _{*vP*} **Zinhle**
1S- make AUG.1steamed.bread well AUG.1Zinhle
'Zinhle makes steamed bread well.'

- b. **ba-** xova ujeqe kahle_{*VP*}] **omakhelwane**
 2S- make AUG.1steamed.bread well AUG.2neighbors
 ‘The neighbors makes steamed bread well.’
- c. **li-** xova ujeqe kahle_{*VP*}] **iqhawwe**
 5S- make AUG.1steamed.bread well AUG.5hero
 ‘The hero makes steamed bread well.’

When no external argument is present, as in the weather predicate in (11a) – which lacks arguments altogether –and the unaccusative in situ *wh*-question in (11b) below, the verb bears a default noun class 17 marker, *ku-* (Buell, 2005):

- (11) a. **ku-** ya- banda
17S- YA- be.cold
'It's cold.'
- b. **kw-** ezneka- ni?
17S- happen- 9what
'What's happening?'

Similarly, when the external argument remains inside *v*P, the verb must also bear the default *ku-* marker instead of reflecting the noun class of the subject. In (12) below, the post-verbal subject appears between the verb and the low adverb *kahle*, and is thus inside *v*P. In these constructions, the default *ku-*marker is required:

(12) **ν P-internal subjects: agreement prohibited**

- a. ***u-** pheka uZinhle kahle
1S- cook 1Zinhle well
- b. **ku-** pheka uZinhle kahle
17S- cook AUG.1Zinhle well
'Zinhle cooks well.'
- c. ***li-** pheka iqhawe kahle
5S- cook AUG.5hero well
- d. **ku-** pheka iqhawe kahle
17S- cook AUG.5hero well
'The hero cooks well.'

What emerges from the data in (10)-(12) is that the appearance of the subject marker is sensitive to syntactic structure:

- (13) **Subject agreement generalization:** ν P-external subjects *must* agree; ν P-internal subjects *cannot* agree.

Next I will look in more detail at the nature of this subject marker and the positions of nouns that trigger it.

2.3.1 Properties of ν P-external subjects

As I showed above, when the subject surfaces outside of ν P in Zulu, the verb *must* bear a subject marker, regardless of whether that subject is pre- or post- ν P. In this thesis, I will follow Buell (2005) in analyzing this subject marker as an agreement morpheme and will assume that the subject agreement morpheme can agree with an overt DP subject in Spec,TP. In this section, I motivate these proposals in the face of the ongoing debate in the Bantu and Zulu literature over the syntactic status of both the subject marker and of the positions that agreeing subjects can occupy. There are two main points of contention. First is the question of whether the subject marker is itself a pronominal clitic that saturates the external argument of the verb (for example Givón, 1976; Van der Spuy, 2001; Schneider-Zioga, 2007; Zeller, 2008) or is in fact an agreement marker that reflects the noun class of a DP argument (for example Carstens, 2001; Baker, 2003b; Buell, 2005; Henderson, 2006a; Diercks, 2010). A distinct, but related, question is the issue of whether agreed-with subjects occupy Spec,TP, or are always dislocated.

On the pronominal clitic view of the subject marker, the overt subject always appears in a dislocated, A-bar position because the subject marker occupies the argument position for the subject in the syntax, as Van der Spuy (2001) argues for Zulu. This analysis accounts for the fact that the subject can only be pro-dropped if a subject marker is present – in those cases the subject marker fulfills the actual role of the subject, which the full DP must do in the absence of the subject marker.

Corbett (2006) proposes that one way to distinguish between clitic doubling and agreement morphology is the appearance of multiple instances of the morpheme: multiple agreement markers are permitted, but only one clitic will occur per clause. If the subject marker is a pronominal clitic, then we expect only one agreement marker to be possible in a single

clause. In fact, however, as Buell (2005) notes for Zulu, in line with work on several other Bantu languages (including Kinyalolo, 1991; Carstens, 2001; Baker, 2003b; Henderson, 2006a; Thwala, 2006; Zeller, 2008), constructions that involve auxiliary verbs, such as so-called ‘compound tenses’, require multiple subject markers – one for each verbal element:

(14) **Multiple subject markers in compound tenses**

- a. **thina** si- zo- be si- sa- dlala ibhola
 we 2PL- FUT- be 2PL.PRT- DUR- play AUG.5ball
 ‘We will still be playing soccer.’
- b. **abafana** ba- zo- be be- nga- ka- dlal- i ibhola
 AUG.2boy 2S- FUT- be 2S.PRT- NEG- EXCL- play- NEG AUG.5ball
 ‘The boys will not yet be playing soccer.’ (Nyembezi, 1991, p. 168, 172)

We also find this pattern in Zulu with the numerous auxiliary verbs historically called ‘deficient verbs’ that tend to carry an adverbial meaning (see Slattery, 1981, for an exhaustive list):

(15) **Multiple subject markers with deficient verbs**

- a. uma zi- sukuma, **izingane** zi- phinde zi- w- e
 when 10PRT- stand.up AUG.10children 10S- again 10S- fall- SJC
 ‘Every time they stand up, the children fall down again.’
- b. **abazali** bami ba- yaye ba- vuk- e ngo-five
 AUG.2parents 2POSS.my 2S- usually 2S- awake- SJC NGA.AUG-1.five
 ‘My parents usually wake up at 5.’

By Corbett’s diagnostic, the appearance of multiple subject markers in (14) and (15) is an argument in favor of an agreement analysis over a pronominal clitic analysis.

Preminger (2009a) provides a different diagnostic for distinguishing agreement markers from clitic-doubling. He claims that only agreement morphology can surface in a ‘default’ form in the absence of anything to agree with; pronominal clitics, by contrast, simply do not appear at all when there is nothing to double. By this measure as well, the Zulu subject markers behave more like agreement than like pronominal clitics. We have already seen that default agreement marker *ku-* appears when the verb does not agree with a the-

matic subject, even in constructions such as weather predicates, which presumably have no thematic subject to begin with, repeated from (11a) above⁵:

- (11a) **ku-** ya- banda
 17S- YA- be.cold
 ‘It’s cold.’

In light of these types of evidence that favor an agreement analysis of the subject marker throughout Bantu, Baker (2003b) develops an alternative to the pronoun analysis: he argues that while the subject marker in Bantu languages is an agreement morpheme, rather than a pronominal clitic, it is always agreement with a null *pro* in Spec,TP. The optional overt DP, on this view, is in a dislocated position (Baker, 2003b). Both the pronominal clitic view and the agreement-with-*pro* view share the assumption that the agreeing subject is *always* in a dislocated, A-bar position. Both of these analyses therefore predict that agreeing subjects will always have A-bar properties.

Sabel and Zeller (2006) and Zeller (2008) show that some subjects with identificational, or exhaustive, focus (following Kiss, 1998), such as *wh*-words and DPs modified by *only*, cannot appear in agreeing subject position. These elements, they point out, must instead appear either inside *v*P or in a cleft:

- (16) a. ***ubani** **u-** fik- ile?
 AUG.1who 1S- arrive- PFV
- b. ku- fik- e **bani**?
 17S- arrive- PFV 1who
- c. ng- **ubani** o- fik- ile?
 COP- AUG.1who 1REL- arrive- PFV
 ‘Who came?’ (Sabel and Zeller, 2006, ex. (5))

⁵Note that these facts contrast with the behavior of the object marker: in intransitive clauses, or when the object is *v*P-internal, no object marker morpheme appears on the verb at all. Unlike the subject marker, the object marker does not appear to have a morphological default (Buell, 2005; Adams, 2010; Zeller, to appear). This asymmetry is reminiscent of the classic characterization of the EPP – that clauses uniformly require a subject, though there is no uniform requirement for there to be an object (Chomsky, 1981). I return to the connection between the subject agreement patterns in Zulu and the EPP in chapter 6, where I argue that the EPP is responsible for all subject agreement patterns in Zulu.

(17) *ngi- mem- e wonke umuntu, kodwa...*
 1sg- invite- PFV 1every AUG.1person but
 ‘I invited everyone, but...’

- a. * **uJohn kuphela u- fik- ile**
 AUG.1John only 1S- arrive- PFV
- b. *ku- fik- e uJohn kuphela*
 17S- arrive- PFV AUG.1John only
 ‘only John came.’ (Zeller, 2008, ex. (37))

Sabel and Zeller (2006) and Zeller (2008) argue that this ban on these identificational focus elements in preverbal subject position is expected if agreeing DPs have the status of dislocated, clitic-doubled elements in Zulu, since such elements are cross-linguistically bad in dislocated positions. As Van der Wal (2009) points out in reply, however, preverbal subjects in Bantu do not always display the behavior expected of dislocated elements. Van der Wal (2009) shows that in Makhuwa-Enahara, as in many other Bantu languages, universal quantifiers, which are often restricted in dislocated positions (c.f. Rizzi, 1986; Baker, 1996), may appear in agreeing subject position, though they are prohibited in unambiguously dislocated positions. In addition, Van der Wal (2009) shows that DPs with nonspecific indefinite interpretations are also permitted as agreeing preverbal subjects, again unexpected on a dislocation analysis.

Both of these patterns that Van der Wal (2009) demonstrates for Makhuwa-Enahara hold in Zulu as well: universal quantifiers and nonspecific indefinites are both permitted as preverbal subjects, but not as right-dislocated postverbal subjects or as high left-dislocated subjects:

(18) **Universal quantifiers in agreeing subject position**

- a. **wonke umuntu u- ya- wa- thanda amaswidi**
 1every AUG.1person 1S- YA- 6O- like AUG.6candy
 ‘Everyone likes candy.’
- b. * **u- ya- wa- thanda amaswidi wonke umuntu**
 1S- YA- 6O- like AUG.6candy 1every AUG.1person
- c. * **wonke umuntu amaswidi u- ya- wa- thanda**
 1every AUG.1person AUG.6candy 1S- YA- 6O- like

(19) **Nonspecific indefinites in agreeing subject position**

- a. namhlanje **abantu** **aba-thathu** **ba-** zo- li- wina iloto
today AUG.2people 2REL-three 2S- FUT- 5O- win AUG.5lottery
‘Today, three people will win the lottery.’
- b. # namhlanje **ba-** zo- li- wina iloto **abantu** **aba-thathu**
today 2S- FUT- 5O- win AUG.5lottery AUG.2people 2REL-three
- c. # namhlanje **abantu** **aba-thathu** iloto **ba-** zo- li- wina
today AUG.2people 2REL-three AUG.5lottery 2S- FUT- 5O- win

In (18a) and (19a), the strong quantifier or nonspecific indefinite DP agrees with the verb in immediate preverbal position. In the ungrammatical (18b,c) and (19b,c), the subject attaches to the left of the agreeing left-dislocated object (Buell, 2005; Cheng and Downing, 2009; Zeller, to appear) – and is therefore presumably itself in an A-bar position. This contrast in grammaticality between the immediately preverbal agreeing subject and those in higher positions suggests that a true argument position in Spec,TP is available for agreeing subjects.

In addition to the ability of strong quantifiers and indefinites to agree with the verb, the preverbal agreed-with position is also grammatical for subjects with *information* focus – that is subjects that are non-presupposed new information (following Kiss, 1998).

(20) **New information agreed-with subject**

- Q: kw- ezneka- ni?
17S- happen- what
‘What’s happening?’
- A: **uZinhle** **u-** xova ujeqe
AUG.1Zinhle 1S- make AUG.1steamed.bread
‘Zinhle is making steamed bread.’

Perhaps even more striking, the *answer* to a subject *wh*-question can appear in an agreeing preverbal position:

(21) **Agreed-with subject as answer to *wh*-question**

- Q: ng- **ubani** o- fik- ile?
COP- AUG.1who 1REL- arrive- PFV
‘Who came?’

A: **uMfundo** **u-** fik- ile
 AUG.1Mfundo 1S- arrive- PFV
 ‘Mfundo came.’

In (20), the response to the question merely has information focus, encompassing the whole sentence. Everything, including the subject, is new information but the subject is nevertheless able to agree with the verb. Moreover, even though *wh*-words themselves are unable to occupy agreeing subject positions, as (16) above illustrated, the *answer* to a subject *wh*-question, which Kiss (1998) classifies as an identificational focus because of its exhaustivity, as in (21), is able to agree. This pattern would be unexpected if agreeing subjects were always dislocated. Indeed, in (22), we can see that a truly dislocated subject that precedes the dislocated object is infelicitous as a response to a *wh*-question, in contrast to the subject that follows the dislocated object:

- (22) Q: ng- **ubani** o- theng- e amaqhoks lawa?
 COP- AUG.1who 1REL- buy- PFV AUG.6high.heels 6DEM
 ‘Who bought these high heels?’
- A1: amanye amaqhoks **uZama** u- wa- theng- ile
 6REL.some AUG.6high.heels AUG.1Zama 1S- 6O- buy- PFV
 ‘Some of the high heels, Zama bought.’
- A2: #**uZama** amanye amaqhoks u- wa- theng- ile
 AUG.1Zama 6REL.some AUG.6high.heels 1S- 6O- buy- PFV
 ‘(As for) Zama, she bought some of the high heels.’

In light of these contrasts, we can conclude that agreeing subjects are *not* necessarily dislocated and *can* appear in Spec,TP position, as Van der Wal (2009) concludes for subjects in Makhuwa-Enahara.

While the examples in (18) through (21) indicate that Zulu has a position for agreeing subjects that does not exhibit properties of dislocation, agreeing subjects in Zulu also seem able to appear in *dislocated* positions at both the left- and right-peripheries. The strong quantifier and indefinite subjects in (18) and (19) above, which were grammatical in an agreeing preverbal position, were *ungrammatical* both in a postverbal, *vP*-external position and in a preverbal position to the left of the preverbal object. As Cheng and Downing (2009) discuss, these pre- and post-verbal dislocation positions in Zulu correlate with specific

information structure properties: left-dislocated elements are discourse topics, while right-dislocated elements are merely old information. Since these positions are A-bar positions, the ungrammaticality of nonspecific indefinites and strong quantifiers that we observed above is expected. Cheng and Downing (2009) show the difference in interpretation of the two types of dislocation by demonstrating that discourse topics cannot appear in right-dislocated positions:⁶

- (23) a. ma-ní:ng') amátha:ng') e-nsím-íní ká-Si:pho)
 COP.6-many AUG.6pumpkin LOC-9garden-LOC POSS-1Sipho
 'There are many pumpkins in Sipho's garden.'
- b. **ámá-ny'** amátha:ng') uSíph' u- zo- wa- ník' ízihlóbo
 6-some AUG.6pumpkin AUG.1Sipho 1S- FUT- 6O- give AUG.8relative
 z-á:khe)
 8POSS-his
 'Sipho will give his relatives some pumpkins.'
- c. # uSípho u- zo- wa- ník' ízihlóbo z-á:khe) **ámá-ny'**
 AUG.1Sipho 1S- FUT- 6O- give AUG.8relative 8POSS-his 6-some
ámátha:ng')
 AUG.6pumpkin

(Cheng and Downing, 2009, ex. (6))

In the discourse in (23) above, the sentence in (23a) establishes *amathanga* 'pumpkins' as a discourse topic. The sentence in (23b) is a felicitous continuation, because the discourse topic *amathanga* is left-dislocated, while (23c) is infelicitous because right-dislocation is incompatible with a topic reading.

We can conclude from the evidence in this section that agreeing subjects in Zulu do not have a uniform syntactic status. While they may appear in an A-position, as specifier of Spec,TP, they may also occur in dislocated positions to the left and right of the verb. In other words, even when an agreeing subject is preverbal in Zulu, it may appear either in Spec,TP, or in a dislocated preverbal position. Bresnan and Mchombo (1987) come to the same conclusion about preverbal subjects in Chichewa, and Schneider-Zioga (2007) makes

⁶The examples below are reproduced with markings as in the original: the apostrophes indicate vowel elision in rapid speech, while the close parentheses indicate prosodic boundaries.

a similar point about Kinande, for which she argues that only under special circumstances can an agreeing subject actually surface in Spec,TP.

POSITION	AGREEMENT	INFORMATION STRUCTURE	
		Permitted	Prohibited
Spec,TP	required	indefinites new information answers to <i>wh</i> -Q	<i>wh</i> -words <i>only</i> -DPs
Left-dislocated	required	discourse topic	focus new information
Right-dislocated	required	old information	focus discourse topic

Table 2.3: Properties of *v*P-external subjects

To summarize what we have seen in this section, the Zulu verb is marked with an obligatory subject agreement morpheme, which is realized as a default class 17 *ku-* when the verb does not agree with a subject. Agreeing subjects either appear outside of *v*P, or are *pro*-dropped. Agreeing subjects may either surface in Spec,TP, or in a right- or left-dislocated position. In Spec,TP, subjects cannot involve certain types of identificational focus, but they can be new information, strong quantifiers, or answers to *wh*-questions. Left-dislocated elements must be discourse topics, while right-dislocated elements are merely old information – and cannot be discourse topics. These patterns are outlined in table 2.3.

2.3.2 Properties of *v*P-internal subjects

As we saw earlier in the chapter, while *v*P-external subjects must agree, subjects that remain inside *v*P cannot agree with the verb, illustrated in (12), repeated below:

(12) ***v*P-internal subjects: agreement prohibited**

- a. * **u-** pheka uZinhle kahle
1s- cook 1Zinhle well
- b. **ku-** pheka uZinhle kahle
17s- cook AUG.1Zinhle well
'Zinhle cooks well.'

- c. ***li-** pheka iqhawe kahle
5S- cook AUG.5hero well
- d. **ku-** pheka iqhawe kahle
17S- cook AUG.5hero well
'The hero cooks well.'

The example in (12) shows that *vP*-internal subjects are permitted with unergative verbs; example (24) below shows that they are also grammatical, with the same agreement pattern, with unaccusatives:

- (24) a. ***i-** w- e inkomishi *vP*]
9S- fall- PFV AUG.9cup
- b. **ku-** w- e inkomishi *vP*]
17S- fall- PFV AUG.9cup
'The/a cup fell.'

In contrast to *vP*-external subjects, which can appear in multiple positions, these non-agreeing subjects that appear inside *vP* have a more rigid word order with respect to the other elements inside *vP*. A low subject always appears before any other *vP*-internal arguments.⁷

So far, we have only examined *vP*-internal subjects in intransitive constructions. The example below in (25) shows that Zulu similarly allows a *vP*-internal subject with expletive agreement with a *transitive* predicate – a *transitive expletive construction* (TEC):

- (25) a. ku- fund- isa **uSipho** isiZulu
17S- learn- CAUS AUG.1Sipho AUG.7Zulu
'Sipho teaches Zulu.'
- b. *ku- fund- isa isiZulu **uSipho**
17S- learn- CAUS AUG.7Zulu AUG.1Sipho

In TECs in Zulu, as illustrated above, the subject must precede the object, as in (25a), and cannot follow it, as the ungrammatical sentence in (25b) shows. Note that if the predi-

⁷As Buell (2005), Adams (2010), and Zeller (to appear) discuss, non-agreeing objects are also typically inside *vP* – with a few exceptions – while agreeing objects are always dislocated. The presence or absence of object agreement is a useful way to determine whether a postverbal object is inside *vP*: agreeing postverbal objects are always *vP*-external, while non-agreeing objects are nearly always *vP*-internal.

cate in (25b) agreed with the subject, the subject would be located in a ν P-external position after the object and would thus be grammatical:

- (26) u- fund- isa isiZulu ν P] **uSipho**
 1S- learn- CAUS AUG.7Zulu AUG.1Sipho
 ‘Sipho teaches Zulu.’

Zulu further allows *ditransitive* expletive constructions, where the subject remains inside ν P with a ditransitive predicate. The word order these constructions is again rigid:

- (27) a. ku- fund- isa **uSipho** abantwana isiZulu
 17S- learn- CAUS AUG.1Sipho AUG.2children AUG.7Zulu
 ‘Sipho teaches the children Zulu.’
- b. *ku- fund- isa abantwana isiZulu **uSipho**
 17S- learn- CAUS AUG.2children AUG.7Zulu AUG.1Sipho
- c. ku- fund- isa abantwana **uSipho** isiZulu
 17S- learn- CAUS AUG.2children AUG.1Sipho AUG.7Zulu
 ‘The children teach Sipho Zulu.’
 * ‘Sipho teaches the children Zulu.’
- d. *ku- fund- isa **uSipho** isiZulu abantwana
 17S- learn- CAUS AUG.1Sipho AUG.7Zulu AUG.2children

As with the TECs, in the ditransitive expletive constructions, the subject must precede the internal arguments, as (27a) shows. The examples in (27b-c) show that the subject cannot follow the internal arguments. The example in (27d) shows that the rigidity in word order extends beyond the relative position of the subject: reordering of the internal arguments with respect to each other also yields ungrammaticality. To summarize, ν P-internal subjects seem to require a rigid word order of *subject* > (*indirect object*) > *direct object* within ν P. I return to the specific structure of these ν P-internal arguments in TECs and ditransitive expletive constructions in section 2.5.

This rigidity in word order of ν P-internal arguments contrasts with the more flexible ordering of adjuncts with respect to the ν P-internal subject that Buell (2009) reports. Buell claims that the interpretation of the subject is linked to its ordering possibilities with respect to adjuncts. He shows that a focused ν P-internal subject necessarily precedes adjuncts, as in (28) below:

(28) a. yin' indaba ku- hlala **uSipho** khona?
 COP.what AUG.9news 17S- stay AUG.1Sipho there
 'Why does SIPHO live there?'

b. *yin' indaba ku- hlala khona **uSipho**?
 COP.what AUG.9news 17S- stay there AUG.1Sipho

(Buell, 2009, ex. (6))

In contrast, when the subject is *not* an identificational focus, such adjuncts may precede it, as in (29) – (31):

(29) indawo lapho ku- hlala khona **uSipho**
 AUG.9place where 17S- stay there AUG.1Sipho
 'the place where Sipho lives'

(Buell, 2009, ex. (14))

(30) a. ng- a- ya lapho ku- hlala **uSipho** khona
 1sg- PST- go where 17S- stay AUG.1Sipho there

b. ng- a- ya lapho ku- hlala (khona) **uSipho**
 1sg- PST- go where 17S- stay (there) AUG.1Sipho

'I went to where Sipho lives.'

(Buell, 2005, ex. (282))

(31) a- ng- azi isikhathi o- ku- cula nga- so **uSipho**
 NEG- 1sg- know AUG.7time REL- 17S- sing NGA- 7DEM AUG.1Sipho

'I don't know (the time) when Sipho sang.'

(Buell, 2005, ex. (284))

In (29) and (30), the resumptive locative adjunct *khona* may precede the subject in relative clauses with *vP*-internal subjects. In (31), Buell shows the same pattern with the a temporal adjunct.⁸

It is perhaps unsurprising that the interpretation of the subject is tied to its relative position inside *vP*. We saw in the previous section that the interpretive possibilities of the subject correlate with its position outside of the *vP*: dislocated subjects required a topic interpretation while non-dislocated preverbal subjects resisted certain types of focus elements. Here we will see that while there is some overlap between preverbal and *vP*-internal subjects, as Buell (2005) demonstrates, the only restriction on *vP*-internal subjects is that they cannot be topics.

⁸Note that in all of these constructions, the verb does *not* agree with the subject *Sipho* – rather, class 17 *ku-* agreement appears instead. This lack of agreement evidence that the subject is necessarily inside *vP* in all of these constructions, and not in a right-dislocated position.

We saw in the previous section that while *wh*- subjects and subjects modified by *only* cannot appear outside of *vP*, they are grammatical within *vP*, repeated below:

- (16) a. ***ubani** **u-** fik- ile?
 AUG.1who 1S- arrive- PFV
- b. ku- fik- e **bani**?
 17S- arrive- PFV 1who
 ‘Who came?’ (Sabel and Zeller, 2006, ex. (5))
- (17) ngi- mem- e wonke umuntu, kodwa...
 1sg- invite- PFV 1every AUG.1person but
 ‘I invited everyone, but...’
- a. ***uJohn** **kuphela u-** fik- ile
 AUG.1John only 1S- arrive- PFV
- b. ku- fik- e **uJohn** **kuphela**
 17S- arrive- PFV AUG.1John only
 ‘only John came.’ (Zeller, 2008, ex. (37))

These subjects fit into the class of identificational focus subjects that Buell (2009) describes as having rigid word order with respect to adjuncts. Identificational focus is not *required* for *vP*-internal subjects, however; Buell (2005) identifies circumstances in which a subject can appear inside *vP* when it is not focused. In the following inversion constructions, for example, the low subject does not necessarily receive a focus interpretation. The example in (32) illustrates *quotative inversion*, where a quotation is fronted with expletive agreement on the verb and the subject remains inside *vP*. As Buell (2005) notes, this construction has a counterpart in English (Branigan, 1992; Collins and Branigan, 1997):

- (32) “U- zo- pheka- ni?” Kw- a- buza uSipho.
 2SG- FUT- cook- what 17S- PST- ask AUG.1Sipho
 “‘What will you cook?’ asked Sipho.” (Buell, 2005, ex. (269))

Nkabinde (1985), Buell (2007) and Zeller (2010b) document additional inversion constructions in Zulu, where locative and instrument arguments appear in the canonical subject position, while the subject remains inside *vP*:

(33) **Locative inversion**

a. lezi zindlu zi- hlala **abantu abadala**
10these 10houses 10S- stay 2people 2REL.old

b. abantu abadala ba-hlala ku- lezi zindlu
2people 2REL.old 2S-stay KU- 10these 10houses
'Old people live in these houses.'

(Buell, 2007, ex. (7))

(34) a. lesi silonda si- phuma **ubovu**
7this 7sore 7S- exit AUG.11pus
'Pus is coming out of this sore.'

(Nkabinde, 1985, p. 47)

b. indlela i- mila **utshani**
AUG.9path 9S- grow AUG.14grass
'Grass grows on the path.'

(Nkabinde, 1985, p. 47)

(35) **Instrument inversion**

a. i- sipuni si- dla **uJohn**.
AUG- 7spoon 7S- eat AUG.1John

b. u- John u- dla nge- sipuni
AUG- 1John 1S- eat NGA.AUG- 7spoon
'John is eating with a spoon.'

(Zeller, 2010b, ex. (50))

While the verb in the quotative inversion constructions bears class 17 agreement morphology,⁹ the verb in these locative and instrument inversions agrees with the fronted locative or instrument.¹⁰ I return to the locative and instrument inversion constructions in greater detail in chapter 5, where they will be crucial to our understanding of the relationship between case and agreement in Zulu.

Again, in all of these inversion constructions, the subject does not require a identificational focus interpretation; in fact, as Buell (2005) notes, the most natural interpretation of such sentences is with information focus on the entire predicate. In general, the other

⁹See chapter 6 for a discussion of whether *ku-* agreement is always default.

¹⁰Unlike in some other Bantu languages such as Chichewa (see Bresnan and Kanerva, 1989), the inverted noun does not keep its 'locative morphology'. Instead, the locative/instrumental morphology does not appear when the noun is in subject position and the verb agrees with its underlying noun class. I address this ability of the locative/instrumental morphology to disappear in section 5.5.2.

instances of non-focused ν P-internal subjects that Buell identifies all involve broad, or information, focus on the predicate as well. The subject itself can be definite or indefinite, specific or nonspecific, as long as it is not a topic:

- (36) ku- fund- e **umfana nga-munye_i** incwadi yakhe_i
 17S- read- PFV AUG.1boy NGA-1.each AUG.9book 9POSS.his
 ‘Each boy_i read his_i book.’ (Buell, 2005, ex. (277))

- (37) njalo nje ku- thol- wa **impendulo entsha**
 always just 17S- find- PASS AUG.9answer 9.new
 ‘Every time, a new solution is found.’ (Buell, 2005, ex. (278))

The sentence in (36) shows that strong quantifiers are permitted with ν P-internal subjects. The sentence in (37) shows a context in which the sentence asserts the existence of the indefinite subject. As with the inversion constructions, these constructions show that a range of interpretations are available for ν P-internal subjects in Zulu.

In contrast, in a context that forces a topic reading for the subject, the ν P-internal position is ungrammatical:

- (38) Q: uMlu w- enza- ni manje?
 AUG.1Mlu 1S- do- what now
 ‘What is Mlu doing now?’
 A1: # ku- bhukuda uMlu manje
 17S- swim AUG.1Mlu now
 A2: uMlu u- ya- bhukuda manje
 AUG.1Mlu u- YA- swim now
 ‘Mlu is swimming now.’

To summarize, ν P-internal subjects never agree with the verb. While they can support a wider variety of identificational focus readings than ν P-external subjects, the only interpretive requirement for subjects inside ν P is that *they not be topics*. The full set of subject properties in different positions is given in table 2.4.¹¹

¹¹In table 2.4, note that only for Spec,TP, do I separate out particular types of focus. As we have seen in this section, it is only in this position that there is a split in the behavior of focused elements. In the other positions I have discussed, all focused elements seem to pattern together and thus I do not retain the distinction.

POSITION	AGREEMENT	INFORMATION STRUCTURE	
		Permitted	Prohibited
Spec,TP	required	indefinites new information answers to <i>wh</i> -Q	<i>wh</i> -words <i>only</i> -DPs
Left-dislocated	required	discourse topic	focus new information
Right-dislocated	required	old information	focus discourse topic
vP-internal	prohibited	focus new information	topic

Table 2.4: Properties of vP- internal and external subjects

2.3.3 Optionality for subjects

In this section, we have seen that there are a number of positions that subjects in Zulu may occupy. I have focused on the basic difference between vP-external and vP-internal subjects, which correlates with subject agreement patterns: vP-external subjects must agree with the verb, while vP-internal subjects cannot agree with the verb. While this difference is robust throughout the language, in chapter 6 I will introduce novel data that involve two *exceptions* to the generalization that vP-external subjects must agree with the verb: constructions in which the preverbal subject optionally does not control agreement morphology on the verb.

In addition to the difference regarding agreement patterns, we saw some differences in the available interpretations for subjects in these different positions. Most basically, certain elements that unambiguously always receive a identificational focus interpretation, such as *wh*-words and *only* DPs cannot appear in vP-external positions, though other elements can occupy these positions. Topics, by contrast, cannot appear in vP-internal positions, though other elements can.

At the same time, there is a certain amount of overlap in the possible interpretations for vP-internal and (non-dislocated) vP-external subjects. Both can be new information, including answers to subject-oriented *wh*-questions and strong quantifiers:

(39) **Optionality: new information**

Q: kw- eznek- e- ni izolo?
17S- happen- PFV- what yesterday
'What happened yesterday?'

A1: **uMfundo** u- fik- ile
AUG.1Mfundo 1S- arrive- PFV
'Mfundo came.'

A2: ku- fik- e **uMfundo**
17S- arrive- PFV AUG.1Mfundo
'Mfundo came.'

(40) **Optionality: answers to *wh*-questions**

Q: ku- fik- e bani?
17S- arrive- PFV who
'Who came?'

A1: **uMfundo** u- fik- ile
AUG.1Mfundo 1S- arrive- PFV
'Mfundo came.'

A2: ku- fik- e **uMfundo**
17S- arrive- PFV AUG.1Mfundo
'Mfundo came.'

(41) **Optionality: strong quantifiers**

a. **wonke umuntu** u- fik- ile namhlanje
1.all AUG.1person 1S- arrive- PFV today

b. ku- fik- e **wonke umuntu** namhlanje
17S- arrive- PFV 1.all AUG.1person today
'Everyone came today.'

In (39)-(41), speakers judge both the ν P-external and ν P-internal subject to be felicitous in the same contexts. While the choice of subject position may sometimes be dictated by the interpretation of the subject, these examples show that in other cases, Zulu appears to permit true optionality.

2.4 Raising constructions in Zulu

In the previous section, we saw that there are a number of positions available for subjects in monoclausal Zulu sentences and that different positions have different consequences for agreement morphology. In particular, I showed that there are two non-dislocated positions for the subject: one *vP*-internal – the in situ position of the subject – and one *vP*-external, in Spec,TP. In this section, I examine another type of construction in which we find optionality with respect to the position of the subject and in which subject position has consequences for agreement: bi-clausal *raising* constructions, which we first saw at the beginning of chapter 1. In these constructions, the thematic subject of an embedded clause can optionally appear in an A-position in the matrix clause – either as a *vP*-external matrix subject in *raising-to-subject* (RtS) constructions, or as a *vP*-internal matrix object in *raising-to-object* (RtO) constructions.

In this section I will show that these constructions involve A-movement out of finite, agreeing embedded clauses and will show that we can distinguish these constructions from surface-similar *control* configurations in the language.

2.4.1 Raising-to-subject

In this subsection, I will focus on the properties of RtS out of finite embedded clauses in Zulu. I will compare the properties of these constructions with those of two surface-similar constructions: the compound tense/deficient verb constructions discussed in section 2.3.1 and subject control constructions. I will show that RtS in Zulu has the following properties:

(42) **Properties of raising-to-subject in Zulu**

- a. RtS involves a full embedded CP that may have an overt complementizer.
- b. RtS is optional – subjects may appear in one of three (non-dislocated) positions:¹²
 - i. vP-internal position in the embedded clause
 - ii. Spec,TP, position in the embedded clause
 - iii. Spec,TP, position in the matrix clause
- c. Raised subjects agree with both the matrix and embedded verb.
- d. Raised subjects are thematically related only to the embedded verb.
- e. Raised subjects create a new antecedent for binding.

Multi-verb constructions

In section 2.3.1 I showed that Zulu ‘complex tense’ and ‘deficient verb’ constructions involve a single thematic subject that agrees with multiple verbal elements:

(14) **Multiple subject markers in compound tenses**

- a. **thina si-** zo- be **si-** sa- dlala ibhola
we 2PL- FUT- be 2PL.PRT- DUR- play AUG.5ball
‘We will still be playing soccer.’
- b. **abafana ba-** zo- be **be-** nga- ka- dlal- i ibhola
AUG.2boy 2S- FUT- be 2S.PRT- NEG- EXCL- play- NEG AUG.5ball
‘The boys will not yet be playing soccer.’ (Nyembezi, 1991, p. 168, 172)

(15) **Multiple subject markers with deficient verbs**

- a. uma zi- sukuma, **izingane** zi- phinde zi- w- e
when 10PRT- stand.up AUG.10children 10S- again 10S.SJC- fall- SJC
‘Every time they stand up, the children fall down again.’

¹²Subjects in these constructions may also appear in dislocated positions where independently permitted, as discussed in section 2.2. In chapter 6 I return to this issue of optionality and develop an analysis of subject-to-subject raising in Zulu that accounts for why the fourth position – vP-internal in the matrix clause – does not occur.

- b. **abazali bami ba-** yaye **ba-** vuk- e ngo-five
 AUG.2parents 2POSS.my 2S- usually 2S.SJC- awake- SJC NGA.AUG-five
 ‘My parents usually wake up at 5.’

Carstens and Kinyalolo (1989) argue that such auxiliary verbs in Bantu have the properties of raising verbs in that the two verbal elements in these constructions share a single subject that is thematically related only to the lower verb. We can observe this property through the behavior of idioms, which show that the subject in these constructions is selected by the lower verb.

Zulu has several idioms that include an idiomatic subject (see Nyembezi, 1963)¹³:

(43) **Zulu subject idioms**

- a. iqhina li- phum- e embizeni
 AUG.5steinbok 5S- exit- PFV LOC.9pot
 ‘The secret came out.’
 lit. ‘The steinbok exited the cooking pot.’¹⁴
- b. insimba y- esul- ela nge-gqumusha
 AUG.9genet 9S- wipe- APPL NGA.AUG-5bushshrike
 ‘Blame was shifted to an underling.’ / ‘Abuse of power occurred.’
 lit. ‘The genet wiped itself on the bushshrike.’¹⁵

With the multi-verb constructions above, the idiomatic subject is able to retain its idiomatic meaning even when it appears before – and agrees with – the higher auxiliary verb:

(44) **Idiomatic subjects with auxiliary verbs**

- a. iqhina li- zo- be li- nga- ka- phum- i embizeni
 AUG.5steinbok 5S- FUT- be 5PRT- NEG- EXCL- exit- NEG LOC.9pot
 ‘The secret will not yet be out.’

¹³The younger speakers of Durban Zulu who I have encountered through my fieldwork are unfamiliar with the majority of the documented idioms in Zulu, and particularly with the subject idioms discussed here. All subject idiom judgments and data were collected from older residents of Umlazi Township, Durban. While some of these older speakers moved to the Durban area as adults, their production and judgments of other aspects of the relevant grammatical phenomena matches that of younger Durban speakers.

¹⁴A steinbok is a small antelope that typically reaches a height of 1 1/2 – 2 feet tall.

¹⁵A genet is a small predator related to civets and mongooses. A bushshrike is a small species of bird.

- b. insimba i- phinde y- esul- ela nge-gqumusha
 AUG.9genet 9S- again 9SJC- wipe- APPL NGA.AUG-5bushshrike
 ‘Blame was shifted again.’

Despite the presence of two verbal elements (and two agreement markers), there is no clear evidence that these constructions are truly biclausal, rather than involving a single inflectional domain. In all of these constructions, the subject may either appear inside the *v*P of the lower verb, with *ku*-agreement on both verbal elements, as in (45a), *or* it may appear in a *v*P-external position preceding the higher verb, in which case it agrees with both verbal elements, as in (45b). The subject may not appear between the two elements, regardless of agreement pattern, as shown in (46):

- (45) a. emini ku- zo- be ku- sa- dla **abafana**
 LOC.noon 17S- FUT- be 17PRT- DUR- eat AUG.2boy
 b. emini **abafana** ba- zo- be be- sa- dla
 LOC.noon AUG.2boy 2S- FUT- be 2PRT- DUR- eat
 ‘At noon, the boys will still be eating.’
- (46) a. * emini ku- zo- be abafana be- sa- dla
 LOC.noon 17S- FUT- be AUG.2boy 2PRT- DUR- eat
 b. * emini ba- zo- be abafana be- sa- dla
 LOC.noon 2S- FUT- be AUG.2boy 2PRT- DUR- eat
 c. * emini ku- zo- be abafana ku- sa- dla
 LOC.noon 17S- FUT- be AUG.2boy 17S- DUR- eat
 d. * emini ba- zo- be abafana ku- sa- dla
 LOC.noon 2S- FUT- be AUG.2boy 17S- DUR- eat

As we will see, this behavior contrasts with the behavior of truly biclausal constructions, which always allow a *v*P-external subject to immediately precede the lower verb.

In addition, the temporal relationships between the verbal elements in these constructions appears to be more tightly linked than in truly biclausal constructions. For the compound tenses, the auxiliary verb is always a light verb and the temporal morphology on each verbal component combines to apply to the single event, as in the ‘overflow’ patterns described by Bjorkman (2011). In the deficient verb constructions, while the higher verb does have some semantic content, it serves to modify the lower verb. Temporal morphology

on the lower verb is highly restricted and dependent on the higher verb; the morphology that determines the tense of the entire event is realized on the higher verb, as in (45a). Though more work is needed to fully understand the temporal properties of these deficient verb constructions, we will see below that this behavior contrasts with that of biclausal constructions, which support independent temporal morphology and interpretations in the two clauses.¹⁶

Finally, nonverbal elements that can typically appear at clause boundaries or edges in Zulu are unable to intervene between the verbal elements in these constructions. First, while overt complementizers in Zulu are typically permitted (if not required) to introduce embedded clauses, as in (48), no complementizer may appear between the verbal elements in these constructions, as in (47):

- (47) uma zi- sukuma, **izingane** zi- phinde *ukuthi **zi-** w- e
 when 10PRT- stand.up AUG.10children 10S- again *that 10SJC- fall- SJC
 ‘Every time they stand up, the children fall down again.’
- (48) si- funa (**ukuthi**) izingane zi- w- e
 2PL- want (that) AUG.10child 10SJC- fall- SJC
 ‘We want the children to fall.’

Similarly, adverbial phrases, which can appear at the left edge of an embedded clause, as in (50), cannot appear between the verbal elements, as in (49):

- (49) a. **namhlanje** izingane zi- phinde za- wa
 today AUG.10child 10S- again 10.SJC.PAST- fall
 ‘Today, the children fell again.’
- b. * izingane zi- phinde **namhlanje** za- wa
 AUG.10child 10S- again today 10.SJC.PAST- fall
- (50) a. **namhlanje** si- funa (ukuthi) izingane zi- w- e
 today 2PL- want (that) AUG.10child 10S- fall- SJC
 ‘Today we want the children to fall.’

¹⁶These are reminiscent of “restructuring” predicates, where clauses that contain multiple inflected verbal elements appear to behave as a single unit with respect to phenomena such as tense, aspect, or passivization (e.g. Cinque, 2004, 2006; Wurmbrand, 2001, 2007). In recent work on Mayrinax Atayal, Chen (2012) has argued for a restructuring analysis of multiverb constructions that strongly resemble the “deficient verb” constructions in Zulu in terms of the range meanings of the higher element.

- b. si-funa (ukuthi) **namhlanje** izingane zi- w- e
 2PL-want (that) today AUG.10child 10.SJC- fall- SJC
 ‘We want the children to fall today.’

To summarize, while these multi-verb constructions involve more than one verbal element that appear to share a single thematic subject, there is no clear evidence in favor of a biclausal analysis of these constructions. Rather, it appears that the two verbal elements are part of a single articulated temporal domain. As we will see next, this class of constructions contrasts in various ways with clearly biclausal raising constructions that share a single thematic subject.

Raising predicates

In this subsection, I focus on two Zulu predicates that allow raising-to-subject: the deontic modal *fanele* ‘be necessary’¹⁷ and *bonakala* ‘seem’. In contrast to the constructions in the previous subsection, these predicates clearly take a full CP complement and allow the complementizer to appear in the embedded clause. *Fanele* takes an embedded CP with an optional complementizer and a *subjunctive* predicate (Zeller, 2006). *Bonakala* takes an embedded CP with an obligatory complementizer and an *indicative* predicate. While the multi-verb constructions in the previous subsection only allowed the subject to appear inside vP, following the second verb, or to precede the first verb, these constructions allow the subject to appear in a vP-external position immediately preceding *either* verb: In both constructions, the embedded subject may either remain in a preverbal position in the embedded clause, controlling agreement on the embedded verb while default *ku*-agreement appears on the raising verb (51a, 52a), or it may raise to subject position in the matrix clause, controlling agreement on both verbs (51b, 52b):

¹⁷A second deontic necessity modal *mele* is also found in the language and to my knowledge interchangeable with *fanele*. For simplicity, I focus on *fanele* throughout the thesis.

(51) **Raising-to-subject: *fanele* (subjunctive complement)**

- a. ku- fanele (ukuthi) **uZinhle** a- xov- e
 17S- be.necessary that AUG.1Zinhle 1SJC- make- SJC
 ujeqe manje
 AUG.3steamed.bread now
 ‘Zinhle must make steamed bread now.’
- b. **uZinhle** u- fanele (ukuthi) a- xov- e ujeqe
 AUG.1Zinhle 1S- be.necessary that 1SJC- make- SJC AUG.3steamed.bread
 manje
 now
 ‘Zinhle must make steamed bread now.’
- c. ku- fanele (ukuthi) ku- xov- e uZinhle
 17S- be.necessary that 17SJC- make- SJC AUG.1Zinhle
 ujeqe manje
 AUG.3steamed.bread now
 ‘Zinhle must make steamed bread now.’

(52) **Raising-to-subject: *bonakala* (indicative complement)**

- a. ku- bonakala [ukuthi **uZinhle** u- zo- xova ujeqe]
 17S- seems that AUG.1Zinhle 1S- FUT- make AUG.3steamed.bread
 ‘It seems that Zinhle will make steamed bread.’
- b. **uZinhle** u- bonakala [ukuthi u- zo- xova ujeqe]
 AUG.1Zinhle 1S- seem that 1S- FUT- make AUG.3steamed.bread
 ‘It seems that Zinhle will make steamed bread.’
- c. ku- bonakala [ukuthi ku- zo- xova **uZinhle** ujeqe]
 17S- seems that 17S- FUT- make AUG.1Zinhle AUG.3steamed.bread
 ‘It seems that Zinhle will make steamed bread.’

Speakers judge the (a) and (b) constructions in (51) and (52) to be equivalent; whether the subject appears in the matrix or the embedded clause does not impact grammaticality. This free variation is similar to the optionality between certain vP-internal and vP-external subjects that I showed in the previous section. For non-quantified subjects, there are no observable interpretive differences between the two constructions, which is expected for raising, but not for similar constructions, such as copy-raising or control, whose contrasting

behavior we will see shortly.¹⁸

As with the multi-verb constructions above, the subject in these raising predicates is thematically related only to the embedded verb. Again, the behavior of subject idioms reveals this connection, since the subject can maintain its idiomatic reading even when it appears in the higher clause:

(53) **Subjunctive raising preserves idiom**

- a. **ku-** fanele [(ukuthi) iqhina li- phum- e embizeni]
17S- necessary that AUG.5steinbok 5SJC- exit- SJC LOC.AUG.9pot
The secret must come out.
- b. **iqhina** li- fanele [(ukuthi) li- phum- e embizeni]
AUG.5steinbok 5S- necessary that 5SJC- exit- SJC LOC.AUG.9pot
The secret must come out.

(54) **Indicative raising preserves idiom**

- a. **ku-** bonakala [ukuthi iqhina li- phum- ile embizeni]
17S- seems that AUG.5steinbok 5S- exit- PFV LOC.AUG.9pot
'It seems like the secret came out.'
- b. **iqhina** li-bonakala [ukuthi li-phum- ile embizeni]
AUG.5steinbok 5S-seems that 5S-exit- PFV LOC.AUG.9pot
'The secret seems to have come out.'

While the idiom data in (53) and (54) above show that the subject originates as an argument of the lower verb, we saw in the previous section that preverbal subjects can appear in dislocated positions, which allows for the possibility that the subject is 'raising' into the matrix clause without undergoing A-movement. In (55), I show that this type of movement does in fact create an A-chain. The raised subjects of *fanele* and *bonakala* create a new antecedent for binding:

¹⁸I have not yet been able to demonstrate interpretive differences between raised and non-raised quantifier expressions, though more work on such constructions is needed.

(55) **Raising-to-subject creates new antecedent for binding**

- a. ku- fanele [ukuthi [ngo-buhlakana bukaSipho_i] pro_i a-
17S- necessary that NGA-AUG.14wisdom 14POSS.1Sipho pro 1SJC-
m- siz- e uThemba]
1O- help- SJC AUG.1Themba
'It's necessary that out of Sipho_i's wisdom, he_i helps Themba.'
- b. *pro_i u- fanele [ukuthi [ngo-buhlakana bukaSipho_i] t_i a-
pro 1S- necessary that NGA-AUG.14wisdom 14POSS.1Sipho 1SJC-
m- siz- e uThemba]
1O- help- SJC AUG.1Themba


In (55a), the R-expression inside the adverbial phrase in the embedded clause is grammatical because the *pro* subject of the embedded clause has not undergone raising. If the *pro* subject does raise, as in (55b), the R expression that it has raised over becomes ungrammatical.

To summarize, raising predicates in Zulu optionally allow the subject to raise out of a tensed, agreeing CP with an overt complementizer. When the subject raises into the matrix clause, it agrees with both the matrix and embedded verbs. These subjects behave as though they are thematically related to the embedded verb, since idiomatic subjects retain their idiomatic reading through raising, but they also seem to involve A-movement in that they create new antecedents for binding.

Raising lookalikes

The raising properties of *fanele* and *bonakala* become even clearer if we compare them to other biclausal constructions where the two verbs 'share' a single subject. Since, as we saw in section 2.3, Zulu allows *pro*-drop with agreeing subjects, we could in principle have two possible syntactic configurations for a biclausal sentence with a single shared subject:

(56) **Possible configurations for shared subject constructions**

- a. SUBJ_i AGR_i-V [_{CP} C^o t_i AGR_i-V]

- b. SUBJ_i AGR_i-V [_{CP} C^o pro_i AGR_i-V]

I have argued that *fanele* and *bonakala* have the syntactic configuration in (56a), where

the subject is only thematically related to the lower predicate. In the construction in (56b), by contrast, the subject is selected by both predicates; this thematic relationship should be detectable in its interpretation. In this subsection, I will briefly show a few contrasts between the properties of the raising verbs discussed above and the behavior of control and copy raising verbs in Zulu.

Like constructions with raised subjects, control and copy raising constructions involve an overt subject in the matrix clause and agreement with that subject in the embedded clause. Unlike the raising construction, I will assume that control verbs involve a null PRO in the embedded clause while copy raising involves a *pro* (see Asudeh, 2002; Asudeh and Toivonen, 2012; Carstens and Diercks, forthcoming; Landau, 2011; Polinsky and Potsdam, 2006; Postal, 1974; Potsdam and Runner, 2001, and others for discussion of copy raising structures):

(57) **(Optional) control**

- a. uMandla u- thanda ukuthi a- cul- e
 AUG.1Mandla 1S- like that 1SJC- sing- SJC
 ‘Mandla likes to sing.’ (also: ‘Mandla likes him to sing.’)
- b. uSipho u- funa ukuthi a- phak- e iqanda
 AUG.1Sipho 1S- want that 1SJC- cook- SJC AUG.5egg
 ‘Sipho wants to cook an egg.’ (also: ‘Sipho wants him to cook an egg.’)

(58) **Copy raising**

- a. uMandla u- zw- akala sengathi u-smugglisha amadrugs
 AUG.1Mandla 1S- perceive- able as.if 1S-smuggle AUG.6drugs
 ‘Mandla sounds like he smuggles drugs.’
- b. uSipho u- buk- eka sengathi u- bema iwunga
 AUG.1Sipho 1S- look- able as.if 1S- smoke AUG.5wunga
 ‘Sipho looks like he smokes *wunga*.’¹⁹

One major difference between these structures and raising-to-subject is that while raising predicates permit an idiomatic readings for the raised nominal, these constructions do

¹⁹Hearsay suggests that *wunga* is the latest local street drug in Durban, a mix of AIDs medication, cleaning powder, and rat poison (though opinions on the ingredients vary). Typically in powder form, it’s mixed into marijuana and smoked.

not. The raising data is repeated in (53b), while the contrasting control and copy raising constructions are in (59) and (60):

- (53b) **iqhina li-** fanele [(ukuthi) **li-** phum- e embizeni]
 5steinbok 5S- necessary that 5SJC- exit- SJC LOC.9pot
 ‘The secret must come out.’
- (59) # **iqhina li-** thanda [(ukuthi) **li-** phum- e embizeni]
 5steinbok 5S- like that 5SJC- exit- SJC LOC.9pot
 ‘The steinbok likes to exit the cooking pot.’
 *‘The secret likes to come out.’
- (60) # **iqhina li-** zwa- akala [(ukuthi) **li-** phum- e embizeni]
 5steinbok 5S- perceive- able that 5S- exit- PFV LOC.9pot
 ‘The steinbok sounds like it came out of the cooking pot.’
 *‘The secret sounds like it came out.’

In addition, the full CP embedded clause in the control constructions in Zulu alternates with an infinitival complement, as shown below in (61):

(61) **Control with infinitival complement**

- a. uMandla u- thanda uku-cula
 AUG.1Mandla 1S- like INF-sing
 ‘Mandla likes to sing.’
- b. uSipho u- funa uku-pheka iqanda
 AUG.1Sipho 1S- want INF-cook AUG.5egg
 ‘Sipho wants to cook an egg.’

This type of alternation is impossible in raising – and copy raising – constructions that otherwise take an indicative complement, as shown in (62) and (63) below:²⁰

²⁰By contrast, some speakers do allow an infinitival complement with the raising predicate *fanele* ‘be necessary,’ which takes a subjunctive complement:

- (1) wena u- fanele uku- bong-wa, ngi- ya- ku- bonga nami
 2SG.DEM 2SG- be.necessary INF- thank-PASS 1SG- YA- 2SG- thank 1SG.DEM
 ‘You need to be thanked, and I thank you.’

(http://www.facebook.com/permalink.php?id=183777405066397story_fbid=254188008025336, accessed July 8, 2012.)

At this time I am unsure of what to make of this distinction.

- (62) * uMandla u- bonakala uku-cula
 AUG.1Mandla 1S- seem INF-sing
 intended: ‘Mandla seems to sing.’
- (63) * uMandla u- bukeka uku-bema iwunga
 AUG.1Mandla 1- look.able INF-smoke AUG.5wunga
 intended: ‘Mandla looks/seems to smoke wunga.’

Speakers consistently report an interpretive contrast between raising and copy raising: while the raised subject of *bonakala* ‘seem’ is judged to be felicitous in contexts based on indirect evidence, the copy raising construction requires direct evidence:

- (64) Context: We go to Siphos apartment and find *wunga*-making paraphernalia and supplies.
- a. ✓ uSipho u- bonakala ukuthi u- bema iwunga
 AUG.1Sipho 1S- seem that 1S- smoke AUG.5wunga
 ‘Sipho seems to smoke *wunga*.’
- b. # uSipho u- bukeka/ zwakala sengathi u- bema iwunga
 AUG.1Sipho 1S- look.able/ perceive.able as.if 1S- smoke AUG.5wunga
 #‘Sipho looks like/ sounds like he smokes *wunga*.’

By contrast, when we do have direct evidence, both constructions are appropriate:

- (65) Context: We see Siphos accept a *wunga* joint or hear him talking about smoking *wunga*.
- a. ✓ uSipho u- bonakala ukuthi u- bema iwunga
 AUG.1Sipho 1S- seem that 1S- smoke AUG.5wunga
 ‘Sipho seems to smoke *wunga*.’
- b. ✓ uSipho u- bukeka/ zwakala sengathi u- bema iwunga
 AUG.1Sipho 1S- look.able/ perceive.able as.if 1S- smoke AUG.5wunga
 ‘Sipho looks like/ sounds like he smokes *wunga*.’

We therefore have multiple ways to distinguish raising from the surface-similar control and copy raising constructions. Though these constructions raise many questions of their own, I set them aside for the remainder of the thesis and simply conclude that these differences help solidify the analysis of constructions like (51b) and (52b) as raising-to-subject.

Theoretical implications

The optional raising constructions in Zulu that I discuss in this section pose problems for our understanding of raising constructions cross-linguistically. In particular, abstract case, in the sense of Vergnaud (2006 [1976]) and Chomsky (1980, 1981), is often invoked to explain the patterns found in raising constructions. When the embedded clause of a raising predicate is finite, the embedded subject can receive nominative case. This case assignment not only satisfies the case needs of the subject, but in fact renders it *inactive* for further A-movement to a cased position. The cased subject's inability to move is what accounts for the requirement that an expletive subject appear in the matrix clause in languages like English. By contrast, when the embedded predicate is nonfinite, the embedded subject cannot receive case and must raise to the matrix clause to get nominative. This type of analysis accounts for the fact that in languages like English, raising is never optional, and always dependent on the finiteness of the embedded clause:

- (66) a. It seems [that **Sipho** will cook an egg.]
b. * **Sipho**_i seems [that t_i will cook an egg.]
c. **Sipho**_i seems [t_i to cook an egg.]
d. * It seems [**Sipho** to cook an egg.]

In a language like Zulu, such an account cannot be adapted straightforwardly. Any account of Zulu raising constructions must capture the optionality of subject raising and the fact that the raising can take place out of finite, agreeing clauses in which subjects are typically grammatical – both subjunctive and indicative.²¹

The fact that the embedded predicates are identical in both the raised and non-raised variants of constructions involving the raising verbs *fanele* and *bonakala* thus presents

²¹The case-driven analysis of the Zulu raising predicate *fanele* by Zeller (2006), who follows Alexiadou and Anagnostopoulou (1998), runs into this problem. Zeller ties the raising to the presence of a defective subjunctive CP, which lacks nominative case, but does not have an independent criterion for distinguishing defective subjunctives from non-defective subjunctives. In addition, this analysis does not have a logical extension to the *indicative* raising facts introduced in this chapter. In chapter 6, I return to this question of what permits the raising and of what Zulu has in common with other unusual cases of raising, such as the one in Greek.

difficulties for a Case-driven theory of raising in Zulu. The optionality suggests that the embedded subject is equally well licensed in either position.

On the basis of similar facts in other Bantu languages, Harford Perez (1985), Diercks (2012), and others simply argue that Bantu languages display no case effects whatsoever. By removing case as a potential factor, the fact that non-raised subjects are grammatical does not mean that they will be rendered inactive, and thus should be able to raise. I return to this influential stance on the lack of case in Bantu in chapter 3 and argue that despite these appearances, Bantu *does* have a system of structural case. In addition, while a theory of Zulu that completely lacks case may account for the lack of activity effects governing the nominals in these raising constructions, it still leaves open the questions of what drives the raising – and of why these nominals are permitted to leave an agreeing finite clause. I return to these questions in chapter 6, where I argue that some novel agreement facts provide the answer to both of these questions.

2.4.2 Raising-to-object

Zulu also allows raising-to-object out of embedded subjunctives with certain verbs.²² In the relevant constructions, an overt DP can appear either before or after the complementizer *ukuthi*²³:

(67) Raising to object (subjunctive complement)

- a. *ngi- funa [ukuthi uSipho a-pheke iqanda]*
1SG- want that AUG.1Sipho 1SJC-cook AUG.5egg
- b. *ngi- funa uSipho [ukuthi a-pheke iqanda]*
1SG- want AUG.1Sipho that 1SJC-cook AUG.5egg
'I want Sipho to cook an egg.'

²²So far, the only raising-to-object verbs I have encountered all require a subjunctive complement. I am unsure at this time whether this reflects a categorical restriction on raising-to-object or merely a gap in the data.

²³The complementizer is optional throughout these examples.

- (68) a. *ngi-funa [ukuthi impi i- gcin- e]*
 1SG-want that AUG.9war 9SJC- finish- SJC
- b. *ngi-funa impi [ukuthi i- gcin- e]*
 1SG-want AUG.9war that 9SJC- finish- SJC
 ‘I want war to end.’

In pre-complementizer position, the DP behaves as though it is inside the matrix *vP*. The nominal in this position can undergo object agreement in the matrix clause as in (69). In the non-agreeing position in the higher clause, it must receive a *vP*-internal information structure interpretation, i.e. new information or focus; it cannot receive a topic interpretation – which we saw in section 2.3 is associated with the left periphery – as illustrated in (70) below.

(69) **Raising-to-object feeds object agreement in the higher clause**

- a. *ngi- ya- m- funa uSipho (ukuthi) a- pheke iqanda*
 1SG- YA- 1O- want AUG.1Sipho (that) 1SJC- cook AUG.5egg
 ‘I want Sipho to cook an egg.’
- b. * *ngi- (ya)- m- funa ukuthi uSipho a- pheke iqanda*
 1SG- YA- 1O- want that AUG.1Sipho 1SJC- cook AUG.5egg
 ‘I want Sipho to cook an egg.’

(70) **Raising-to-object has *vP*-internal information structure**

- A: *yini indaba u- ngi- cela uku- thola uSipho?*
 what AUG.9matter 2SG.S- 1SG.O- ask INF- get AUG.1Sipho
 ‘Why did you ask me to get Sipho?’
- B: # *ngi- funa uSipho ukuthi a- pheke iqanda*
 1SG- want AUG.1Sipho that 1SJC- cook AUG.5egg
 Either (67a) or (69a) would work in this context.

However, while the pre-complementizer DP participates in matrix phenomena, it behaves thematically like a part of the lower clause. We can see this effect most clearly in the behavior of idioms. If we place an idiom like (43) in the complement of a verb like *lindela* ‘expect’, the idiomatic reading in the lower clause is retained even when the idiomatic subject appears in pre-complementizer position, as illustrated by (71) below. The behavior of idioms in (71) contrasts with (optional) object control constructions like (72): with a verb

like *khuthaza* ‘encourage’, the idiomatic reading is lost if the embedded subject appears in pre-complementizer position. The optionality of raising-to-object in (71) again suggests that the DPs involved in the constructions are licensed in either position.

(71) **Raising-to-object: idiomatic reading retained**

- a. Ngi- lindela [(ukuthi) **iqhina** **li**-phume embizeni]
 1SG- expect that AUG.5steinbok 5SJC-exit LOC.AUG.9pot
 ‘I expect the secret to come out.’
- b. Ngi-lindela **iqhina** [(ukuthi) **li**-phume embizeni]
 1SG-expect AUG.5steinbok that 5SJC-exit LOC.AUG.9pot
 ‘I expect the secret to come out.’

(72) **(Optional) object control: idiomatic reading lost**

- a. A- ngi- khuthaz- anga [(ukuthi) iqhina li- phum-
 NEG- 1SG- encourage- NEG.PAST that AUG.5steinbok 5SJC- exit-
 e embizeni]
 SJC LOC.AUG.9pot
 ‘I didn’t encourage that the secret get out.’
- b. # A- ngi- khuthaz- anga iqhina [ukuthi li- phum- e
 NEG- 1SG- encourage- NEG.PAST AUG.5steinbok that 5SJC- exit- SJC
 embizeni]
 LOC.AUG.9pot
 ‘I didn’t encourage the steinbok to leave the pot.’ (literal meaning only)

The behavior of idioms in the raising constructions discussed above suggests that the element that can appear in either the higher or lower clause is always thematically linked to the lower clause. We saw in section 2.3.1 that raising-to-subject creates a new antecedent for binding. This same pattern holds in the raising-to-object construction, as illustrated in (73):

(73) **Raising-to-object creates new antecedent for binding**

- a. ngi-lindele [ukuthi [*ngo-kutatazela kukaSipho*] (**yena**) a-
 1SG-expect that NGA.AUG-17haste 17POSS.1Sipho (1he) 1SJC-
 khohlwe ukupheka idina]
 forget INF.cook AUG.5dinner
 ‘I expect that in Sipho’s haste he forgets to cook dinner.’

- b. *ngi- lindele yena_i [ukuthi [ngo-kutatazela kwakhe_i] t_i a-*
 1SG- expect 1him that NGA.AUG-17haste 17POSS.1his 1SJC-
 khohlwe ukupheka idina]
 forget INF.cook AUG.5dinner
 ‘I expect him to forget to cook dinner in his haste.’
- c. **ngi- lindele yena_i [ukuthi [ngo-kutatazela kukaSipho_i] t_i a-*
 1SG- expect 1him that NGA.AUG-17haste 17POSS.1Sipho 1SJC-
 khohlwe ukupheka idina]
 forget INF.cook AUG.5dinner
 intended: *‘I expect him_i to forget to cook dinner in Sipho_i’s haste.’

In the sentences in (73) above, when the adverbial phrase in the embedded clause contains an R-expression, the embedded subject cannot raise to object if it corefers with the R-expression. It must either remain in the embedded clause, below the R-expression, or the adverbial must contain a pronoun instead. In addition, agreement patterns furnish an additional argument that these raising-to-object involve A-movement: raising-to-object can feed object agreement in the higher clause and displays *v*P-internal interpretative properties, as (74) shows:

- (74) *ngi- ya- m- lindela ukuthi a- khohlwe ukupheka idina*
 1SG- YA- 1O- expect that 1SJC- forget INF.cook AUG.5dinner
 ‘I expect him to forget to cook dinner.’

If the target for this movement operation is an A position, then, we expect the *origin* site for the moved element, in other words, the embedded agreeing subject position, to also be an A position as well, given the apparent ban on improper movement (Chomsky, 1973, 1981; May, 1979).

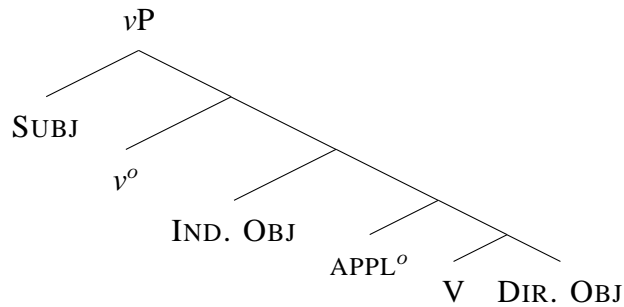
2.5 Argument structure

In this chapter, I have focused on the distribution of subject nominals, and in particular, on their behavior in agreeing, *v*P-external positions. In this final section, I turn to the behavior of nominals in situ and, in particular, the ways in which they are introduced into the structure. I will show that Zulu has both applicative and causative verbal morphology capable of introducing an applied or causer argument into the structure and that these morphemes are

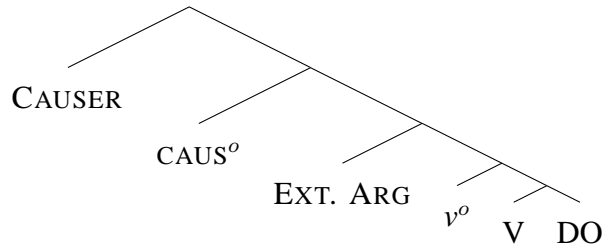
able to combine on a single predicate to produce four-argument structures. Based on the behavior of these constructions, I will argue that the syntax for the causative and applicative supports the structures proposed in (75) and (76). These conclusions concerning the internal organization of ν P will be essential to understanding the relationship of ν P-internal nominals to higher probing heads in the syntax, as we will see in chapter 3.

(75) **Zulu three-argument structures**

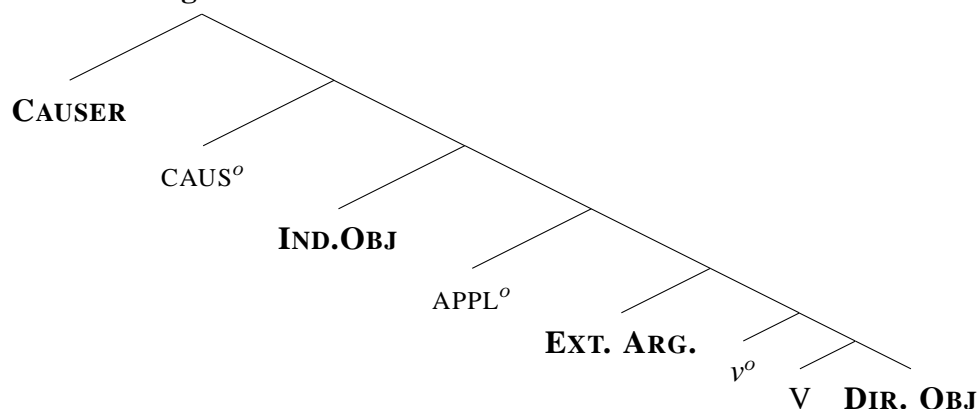
a. **Applicative**



b. **Causative**

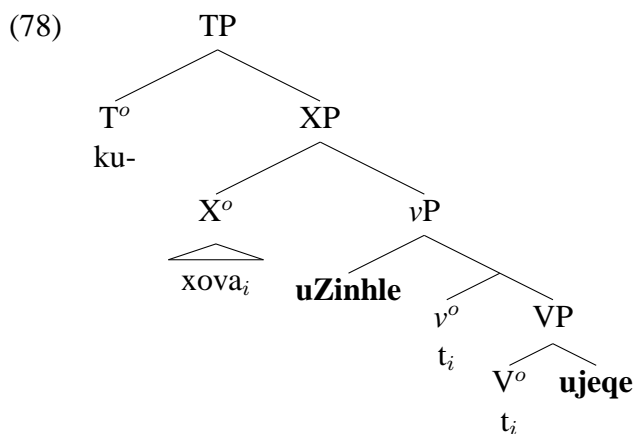


(76) **Zulu four-argument structure**



So far, I have mainly focused on constructions that involve subjects generated in Spec,vP, and objects generated as complements to the verb. As we saw in previous sections, we can observe these arguments in their base positions in a TEC²⁴:

- (77) ku- xova uZinhle ujeqe
 17S- make AUG.1Zinhle AUG.1steamed.bread
 ‘Zinhle makes steamed bread.’



In section 2.2.2, we also saw that Zulu allows more arguments to appear inside vP, as in the *ditransitive* expletive construction in (27a), repeated below:

- (27a) ku- fund- isa **uSipho** abantwana isiZulu
 17S- learn- CAUS AUG.1Sipho AUG.2children AUG.7Zulu
 ‘Sipho teaches the children Zulu.’

²⁴For now, I follow the convention of Cheng and Downing (2012) of marking the position to which the verb raises simply as ‘X.’ For simplicity, though I will assume verb raising of this type throughout the thesis, I will not indicate it in subsequent trees.

Zulu has two suffixes, *-is* (causative) and *-el-* (applicative) that are capable of introducing arguments into the clause:

- (79) a. uMlungisi u- ya- gijima
 AUG.1Mlungisi 1S- YA- run
 ‘Mlungisi is running.’
- b. uMlungisi u- gijim- **is-** a **uSimaku**
 AUG.1Mlungisi 1S- run- CAUS- FV AUG.1Simaku
 ‘Mlungisi is making Simaku run.’ / ‘Mlungisi is chasing Simaku.’
- c. uMlungisi u- gijim- **el-** a **uNtombi** / **kwaNtombi**
 AUG.1Mlungisi 1S- run- APPL- FV AUG.1Ntombi / LOC.1Ntombi
 ‘Mlungisi is running for Ntombi / to Ntombi’s house.’

In (79b), the inclusion of *-is* morphology coincides with the introduction of a causer argument. In (79c), the *-el-* morphology introduces a benefactive or locative argument. These two morphemes can apply in combination to a single verb, with each introducing a separate argument. As we saw with the *vP*-internal arguments in TECs, the order of arguments is rigid here: the benefactive must precede the direct object.

- (80) uMlungisi u- gijim- **is-** **el-** a **uNtombi** **uSimaku**
 AUG.1Mlungisi 1S- run- CAUS- APPL- FV AUG.1Ntombi AUG.1Simaku
 ‘Mlungisi is chasing Simaku for Ntombi.’
 *Mlungisi is chasing Ntombi for Simaku.’

The examples above involve an underlyingly intransitive verb. The causative and applicative can also combine with a transitive verb, yielding four arguments associated with a single predicate, as we can see in the examples in (81) below:

- (81) a. uSipho u- funda isiZulu
 AUG.1Sipho 1S- learn AUG.7Zulu
 ‘Sipho is studying Zulu.’
- b. uSipho u- fund- **is-** a **amantombazane** isiZulu
 AUG.1Sipho 1S- learn- CAUS- FV AUG.6girls AUG.7Zulu
 ‘Sipho is teaching the girls Zulu.’

- c. uSipho u- fund- is- el- a uthisha omkhulu
 AUG.1Sipho 1S- learn- CAUS- APPL- FV AUG.1teacher 1REL.big
 amantombazane isiZulu
 AUG.6girls AUG.7Zulu
 ‘Sipho is teaching the girls Zulu for the principal.’

While we saw earlier that Zulu allows ditransitive expletives, with the subject and two lower arguments all appearing inside ν P, speakers uniformly reject expletive constructions with four ν P-internal arguments:

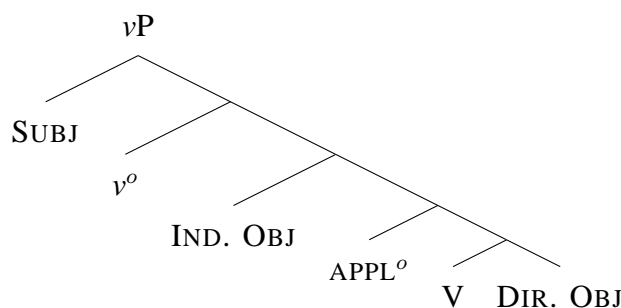
- (82) * ku- fund- is- el- a uSipho uthisha omkhulu
 17S- learn- CAUS- APPL- FV AUG.1Sipho AUG.1teacher 1REL.big
 amantombazane isiZulu
 AUG.6girls AUG.7Zulu
 ‘Sipho is teaching the girls Zulu for the principal.’

Unlike the restrictions on (augmentless) nominals that I discuss in chapter 3, this ban on four ν P-internal arguments is not sensitive to nominal morphology or other any other factor that I have identified. In the absence of evidence that would distinguish between whether the restriction is due to syntactic factors or extrasyntactic concerns (such as processing or pragmatics), I set aside this issue for the remainder of the thesis.

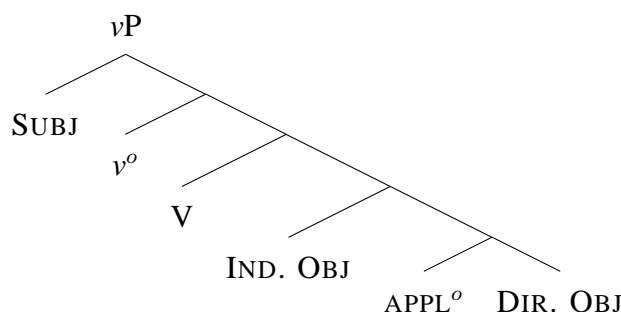
In constructions like (81c), where the the APPL and CAUS morphemes appear together on a single predicate, they always appear in the same order, *-is-* causative followed by *-el-* applicate. This order is common throughout Bantu and, as Hyman (2003) discusses, at least in some languages the morpheme ordering appears to be somewhat independent of syntactic structures.

Following Pytkänen (2008), I will show that the Zulu applicative is a *high applicative*, which introduces the applied argument via an applicative head located above the verb. This type of applicative relates the applied argument to the event described by the VP, as in (83). Low applicatives, by contrast, introduce the applied argument below the verb and thus only relate it to the direct object. The structures for these two types of applicatives are given below:

(83) **High Applicative**



(84) **Low Applicative**



Since low applicative heads combine directly with a direct object, they should only be available in constructions that have an underlying internal argument, and not in unergatives. High applicatives, by contrast, should be able to combine with unergative predicates since they select a VP and are independent of the argument structure of the predicate, as is the case in the Zulu example (79c) above, repeated below:

- (79c) uMlungisi u- gijim- **el-** a **uNtombi** / **kwaNtombi**
 AUG.1Mlungisi 1S- run- APPL- FV AUG.1Ntombi / LOC.1Ntombi
 ‘Mlungisi is running for Ntombi / to Ntombi’s house.’

Furthermore, low applicatives show a semantic restriction not faced by high applicatives: because they directly relate the indirect object to the direct object, they imply a transfer of possession and are thus incompatible with static predicates such as *hold*.²⁵ As example (85) below shows, Zulu allows the applicative to combine with a static predicate:

²⁵Note that Zulu also has telic verbs of transfer such as *pha/nika* ‘give’, which presumably involve low applicatives. Interestingly, these particular verbs do not require transparent APPL morphology in order to function ditransitively, though Adams (2010) argues that they do involve silent applicative structure:

- (1) a. ngi- nik- e umama amaphilisi (*e- gula)
 1SG- give- PFV AUG.1mother AUG.6pills 1PRT- sick
 ‘I gave mother pills (*when she was sick).’

- (85) uMfundo u- phath- el- a umama ingane
 AUG.1Mfundo 1S- hold- APPL- FV AUG.1mother AUG.9child
 ‘Mfundo is holding the baby for mother.’

Pylkkänen (2008) also shows that high applicatives allow for the applied argument to be modified by a depictive, while low applicatives do not. Again, we find that Zulu patterns with the high applicative languages, allowing the applied argument to control a depictive, as in (86) below.

- (86) ngi- phak- el- e umama e- gula
 1SG- cook- APPL- PFV AUG.1mother 1PRT- sick
 ‘I cooked for mother while she was sick.’

In short, a variety of diagnostics indicate that Zulu has high applicatives, which means that the applicative phrase is located above VP.

The causative morpheme in Zulu, *-is-*, can attach to all types of predicates, including unaccusatives, unergatives, and transitives, as the examples in (87)- (89) below show.²⁶

- (87) a. indlu yami i- ya- sha!
 AUG.9building 9.my 9S- YA- burn
 ‘My house is on fire!’
- b. * izigebengu zi- sha indlu yami
 AUG.8criminals 8S- burn AUG.9building 9.my

I am unaware of verbs in which the APPL *-el-* morpheme is used to form a low applicative.

²⁶Note that certain unaccusative verbs in Zulu allow causative morphology without seeming to add a causer agent, such as (1) below:

- (1) indlu yami i- ya- sh- is- a
 AUG.9house 9.my 9S- YA- burn- CAUS- FV
 ‘My house gets warm.’ / ‘My house is well-insulated.’

The existence of these unaccusative causatives is in line with Pylkkänen’s non-voice-bundling construction, where the actual causer argument is introduced in the specifier of a higher Voice head that is separate from the CAUS head. Due to the limited nature of this phenomenon and the fact that this type of predicate seems to involve an idiomatic, rather than transparent, reading, I will set this issue aside here and focus on CAUS as the source of the external causer argument.

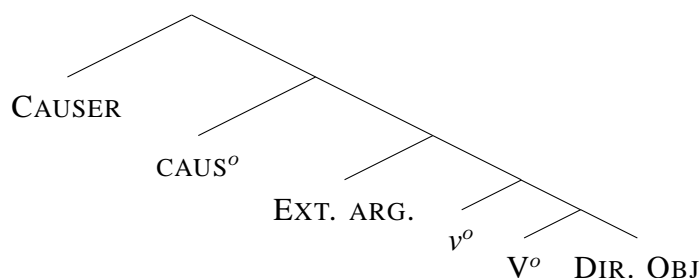
c. izigebengu zi- sh- is- a indlu yami!
 AUG.8criminals 8S- burn- CAUS- FV AUG.9house 9.my
 ‘Criminals are burning down my house!’

(88) uMlungisi u- gijim- is- a uSimaku
 AUG.1Mlungisi 1S- run- CAUS- FV AUG.1Simaku
 ‘Mlungisi is making Simaku run.’ / ‘Mlungisi is chasing Simaku.’

(89) uSipho u- fund- is- a amantombazane isiZulu
 AUG.1Sipho 1S- learn- CAUS- FV AUG.6girls AUG.7Zulu
 ‘Sipho is teaching the girls Zulu.’

From these patterns, we can see that the causative construction introduces a causer agent above the agent of an unergative or transitive predicate:

(90) **Zulu causative**



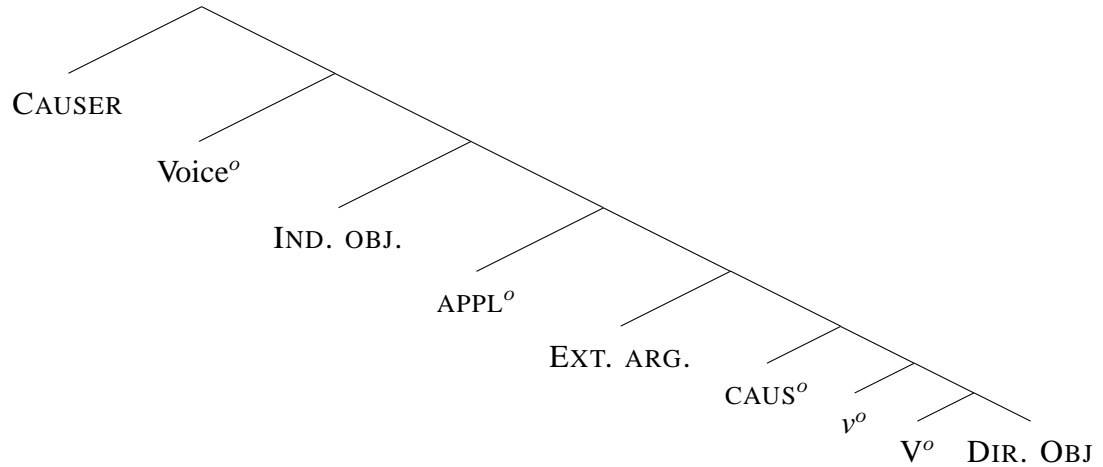
When the causative and applicative combine on a single predicate, the resulting structure always introduces the benefactive applied argument below the causer argument and above the external argument of the initial predicate, yielding the only possible word order of *Causer > Applied argument > External Argument > Direct Object*. The causer is the argument that can raise to vP -external subject position, and the word order of the remaining DPs inside vP always places the benefactive argument above the external argument and the direct object:

(81c) uSipho u- fund- is- el- a **uthisha** **omkhulu** amantombazane
 AUG.1Sipho 1S- learn- CAUS- APPL- FV AUG.1teacher 1REL.big AUG.6girls
 isiZulu
 AUG.7Zulu
 ‘Sipho is teaching the girls Zulu for the principal.’
 *‘Sipho is teaching the principal Zulu for the girls.’

- (91) ubaba u- cul- is- el- a inkosi abantwana i- Nkosi
 AUG.1father 1S- sing- CAUS- APPL- FV AUG.9chief AUG.2children AUG.5- 9lord
Sikelel' iAfrika
 bless AUG.5Africa
 'Father made the children sing the chief the national anthem.'
 *'Father made the chief sing the national anthem for the children.'

As we saw in section 2.3, non-agreeing ν P-internal arguments must appear in their base-generated positions, so I conclude from these word order facts that the final organization of arguments is as follows:

(92) **Zulu argument structure**



In chapter 3, I will discuss the ways in which applicative and causative heads interact with the process of argument licensing that we find in Zulu.

2.6 Summary

In this chapter, I have introduced a number of constructions that are central to the questions investigated in this thesis. In particular, I have focused on the positions available for subjects in Zulu, and the ways in which subject agreement interacts with movement and subject position in the language. While Zulu prohibits agreement with ν P-internal subjects, agreement is required when subjects appear outside of ν P. These agreeing subjects can surface in multiple ν P-external positions, including a preverbal position that I have identified as a Spec,TP argument position, a preverbal A-bar position, and a postverbal A-bar position.

I also showed that Zulu has a selection of predicates that optionally allow an embedded subject to raise to matrix subject or object position out of a finite, agreeing clause with an overt complementizer. In the raising-to-subject constructions, the raised subject agrees both in the embedded and matrix clause. With raising-to-object, the raised subject behaves like a vP-internal argument in the matrix clause.

Finally, I outlined the positions in which arguments are introduced in Zulu, showing that Zulu has a high applicative phrase and a verb-selecting causative. These structures can combine to yield a total of four arguments associated with single verbal predicate, three of which can appear inside vP.

Chapter 3

Argument licensing in Zulu

In chapter 2, I showed that Zulu allows a certain degree of optionality in the position of subjects, both in monoclausal sentences and in biclausal raising constructions. In particular, we saw that the grammaticality of subject nominals was not linked to syntactic position – though certain information structure considerations did influence subject position. In monoclausal sentences subjects may appear in either ν P-internal or ν P-external A positions, and in raising constructions, the subject is equally grammatical in the matrix ν P-external subject position and in the embedded clause.

As I discussed in chapter 2, this type of optionality is notable because it contrasts with common cross-linguistic distributional restrictions on the syntactic position of nominals. In particular, Zulu allows full optionality in raising constructions, with subjects having the possibility to remain inside the embedded complement of a raising predicate *or* to raise out of the finite, agreeing full CP. Many other languages, by contrast, seem to disallow raising out of finite, tensed clauses, but require it out of nonfinite clauses.

Based on this type of difference between languages in the Bantu family and languages with well-studied cases systems like English, researchers on Bantu languages have debated whether *case* is globally relevant in the language family. In this chapter, I argue that despite the distributional freedom we have observed for nouns in Zulu so far, the language does exhibit distributional restrictions on a certain class of nominals that are determined by syntactic configuration. I introduce several novel constructions to show that nouns that appear without their initial *augment* vowel are restricted to specific structural positions

within ν P. These augmentless nominals are structurally licensed either by a licensing head L, which licenses the highest element in ν P, by causative or applicative heads, which can license a direct object.

3.1 Nominal distribution and (irrelevance of) case theory in Bantu

For several decades, researchers have been investigating how nominals are licensed in various Bantu constructions and whether standard “case theory” is at all relevant to the distribution of nominals in these languages. Research on this question has tended to address whether case is *globally* relevant in Bantu languages. Crucially, most of this work has focused on the presence or absence of case-type effects associated with preverbal subjects.

In this section, I present an overview of the debate on the status of case in the Bantu language family and the arguments that case effects are absent in the language. Zulu shares many properties with Bantu languages that have been argued to lack case effects, including the optionality of movement of the embedded subject in the raising constructions discussed in chapter 2. Nonetheless, I argue in this thesis that nominals in Zulu *are* subject to case licensing, just like their counterparts in more familiar case-licensing languages.

In this chapter, I show that Zulu nominals do face syntactic distributional restrictions and argue that these can be understood in terms of case licensing that takes place within ν P. These syntactic restrictions are visible primarily for nominals that lack an *augment* vowel, as discussed in the next section. As I argue in chapter 5, the augment vowel itself signals local licensing for nominals, and thus eliminates the dependency of augmentless nominals on the type of syntactic licensing discussed in this chapter. Crucially, I show that all of the structural case-licensing effects that we find in Zulu occur at the ν P-level. The preverbal subject position (Spec,TP) is not a licensing position for these nominals.

The patterns of nominals distribution in Zulu that I present in this chapter provide counter-evidence to the claim that case is inoperative in Bantu. At the same time, my finding that structural case is associated with particular syntactic positions within ν P, but

not with Spec,TP (or Spec,vP) is in fact in line with the findings of researchers arguing against a standard application of case theory in Bantu (for example Harford Perez, 1985; Ndayiragije, 1999; Alsina, 2001; Baker, 2003a; Carstens and Diercks, forthcoming; Diercks, 2012), who focus only on showing that Bantu lacks case effects associated with these expected positions. Thus Zulu not only gives us new insight on the issue of case in Bantu, but it expands the typology of structural case cross-linguistically.

3.1.1 The profile of abstract case

By this point, we have seen ample evidence that Zulu does not display typical morphological case patterns that reflect the position in which a nominal is licensed: the morphological form of a nominal is independent of where it is merged in the structure – or, as the expletive and raising constructions show, of where it moves. This morphological identity of nominals in different positions is illustrated below in (93).

(93) Lack of structural case morphology in Zulu

- a. **u-mntwana** u- cul- e i-ngoma
AUG-1child 1S- sing- PFV AUG-9song
'The child sang a song.'
- b. u-Mfundo u- nik- e **u-mntwana** u-jeqe
AUG-1Mfundo 1S- give- PFV AUG-1child AUG-11steamed.bread
'Mfundo gave the child steamed bread.'
- c. u-Mfundo u- nik- e u-gogo **u-mntwana**
AUG-1Mfundo 1S- give- PFV AUG-1granny AUG-1child
'Mfundo gave granny the child.'

This pattern of morphological identity contrasts with the pattern found in languages like Icelandic, where the morphological form of a nominal reflects aspects of its syntactic position (and sometimes of its thematic role):

(94) Icelandic NOM-ACC pattern

- a. Við kusum **stelpuna**
We.NOM elected.1PL the.girl.ACC
'We elected the girl.'

b. **Stelpan** var kosin
the.girl.NOM was.3SG elected
'The girl was elected.'

c. ***Stelpuna** var kosin
the.girl.ACC was.3SG elected

(Sigurðsson, 1992)

Though Zulu, and Bantu more broadly, lacks this familiar type of morphological case pattern, the question of whether it displays familiar patterns of *abstract* case (Vergnaud, 2006 [1976]) requires more investigation.

Rules of case assignment, in combination with some form of *Case Filter*, as in (95) below, reflect the claim that the distribution of nominals is determined by whether they are “licensed” in the grammar:

(95) **Case Filter:** *DP without case

That is, there are certain structural configurations in which nominals are grammatical and others in which they are not. While in some languages these positions tend to correlate with particular morphological case morphology on the nominal, it is clear from languages like Icelandic that this system of abstract case operates independently of morphological case (see Zaenen et al., 1985, and others), as I will discuss in chapter 5.

Though there is some variation in which particular structural configurations license nominals across languages, the common signature of abstract case is the fact that there are specific restrictions on the distribution of nominals that can only be described in purely structural/syntactic terms, and are not explained by other factors.

One such pattern, which has been at the center of investigations of case in Bantu, as I discuss in the next subsection, is the relationship between finite Tense and grammatical “nominative” arguments. In many languages, overt arguments in Spec,TP are only grammatical in the presence of finite Tense:

(96) **Finite T as a licenser**

a. It is likely [that *Sipho* **will** win the race].

b. * It is likely [*Sipho* **to** win the race].

The necessity for these nominals to be local to a finite T follows from the theory of abstract case. As I discussed in chapter 2, constructions such as raising-to-subject are often understood as a way to ‘save’ unlicensed nominals by moving them from a nonfinite clause to a finite clause:

(97) **Case-driven raising**

Sipho_i is likely [t_i to win the race].

At the same time, the *inability* of nominals to undergo the same raising operation when their origin is in a *finite* clause has led researchers to assume an *Activity Condition* that prevents a nominal from being the target of further agreement relationships after its case needs have been satisfied (Chomsky, 2000, 2001). As we saw in chapter 2, this view of licensing and raising does not capture the raising patterns found in Zulu. In the next subsection, I turn to the existing literature on the issue of case in Bantu, which addresses this issue and others that concern finite T as a licenser.

3.1.2 Against case in Bantu

Since Harford Perez (1985), there has been work on Bantu suggesting that case is not relevant in Bantu grammar (Ndayiragije, 1999; Alsina, 2001; Baker, 2003a; Carstens and Diercks, forthcoming; Diercks, 2012). As I noted above, these claims stem from the absence in Bantu of effects that we associate with case-licensing in Spec,TP. These unexpected constructions include raising out of finite clauses, as the Zulu examples in (98) show; licit subjects of nonfinite clauses, as in (99), (e.g. Harford Perez, 1985; Diercks, 2012); inversion constructions, as in (100), where a preverbal object or locative phrase controls ‘subject’ agreement while the subject remains after the verb (e.g. Harford Perez 1985; Ndayiragije 1999); and expletive constructions, as in (101), where the subject again remains low and expletive agreement appears on the verb (e.g. Harford Perez 1985).

- (98) a. ku- bonakala [ukuthi **uSipho** **u-** pheka iqanda]
 17S- seems that AUG.1Sipho 1S- cook AUG.5egg
 ‘It seems that Sipho is cooking an egg.’

- b. **uSipho** **u-** bonakala [ukuthi **u-** pheka iqanda]
 AUG.1Sipho 1S- seems that 1S- cook AUG.5egg
 ‘Sipho seems to be cooking an egg.’ *Zulu*

(99) **Licit subjects of nonfinite clauses**

- a. i- na- wezakana (*kwa) Maiko ku- m- pig- i- a Tegani simu
 9S- PRES- possible (*for) Michael INF- 1O- beat- APPL- FV Tegan phone
 ‘It’s possible for Michael to call Tegan.’ (Diercks, 2012) *Swahili*
- b. Sammy khu- khila ku-mw-inyawo o- kwo khu- la- sanga- sya
 1Sammy INF- win 3-3-game DEM- 3 15- FUT- please- CAUS
 mawe
 mother
 ‘For Sammy to win the game will please his mother.’ (Diercks, 2012) *Lubukusu*

(100) **Inversion constructions**

- a. **olukwi** si- **lu-** li- seny- a bakali
 11wood NEG- 11S- PRES- chop- FV 2women
 ‘WOMEN do not chop wood.’ (Baker 2003) *Kinande*
- b. **omo-mulongo mw-** a- hik- a mukali
 18LOC-3village 18S- T- arrive- FV 1woman
 ‘At the village arrived a woman.’ (Baker 2003) *Kinande*

(101) **Expletive constructions¹**

- a. **kw-** á- uray- iw- a mu-rúmé né- shumba ku- ru- kova
 17S- PAST- kill- PASS- FV 1-man by- 9lion 7- 11- river
 ‘There was a man killed by a lion at the river.’ (Harford Perez 1985) *Shona*
- b. **ku-** fund- is- a uSipho izingane isiZulu
 17S- learn- CAUS- FV AUG.1Sipho AUG.10children AUG.7Zulu
 ‘Sipho teaches the children Zulu.’ *Zulu*

One common thread that runs through these proposals is the fact that the case position under investigation is the one associated with finite T, the head usually thought of as the locus for nominative case. Crucially, these studies do not address the issue of whether case

¹The noun class used for expletive/default subject agreement differs across Bantu languages, but is typically a class that is also associated with gerunds or locatives. In Zulu, as we saw in chapter 2, class 17 is the default agreement class.

associated with other structural positions is attested in Bantu. In this chapter, I argue that if the empirical picture is expanded to include other licensing positions, a different set of conclusions follows. Specifically, I examine case/licensing effects in Zulu not only with respect to ν P-external subjects and subject agreement, but also with respect to arguments that appear inside ν P. In looking at the full range of nominal arguments and positions, we do find evidence for case/licensing-driven movement. Because this licensing takes place only at the ν P level, this proposal does not contradict the narrower conclusion of previous research that there is no effect of (‘nominative’) case associated with finite T^o in Bantu – though it does present a challenge to the broader conclusion that has often been drawn in this research, that Bantu lacks the effects of case-licensing altogether.

The structural restrictions that I will discuss that govern the distribution of nominals in Zulu are limited to a subclass of nominals: those without the *augment* vowel. While these augmentless nominals are subject to particular distributional restrictions related to their interpretation, I will show that in addition to these semantic restrictions, there are further purely syntactic restrictions on their distribution that should be analyzed as abstract case effects just like those discussed in the previous subsection. In the section 3.2, I outline the full distribution of augmentless nominals in Zulu. In section 3.3, I develop an analysis of this distribution in terms of structural licensing.

3.2 Augmentless Nominals

In this section, I return to a distinction between two categories of nominal in Zulu that I introduced in chapter 2. Specifically, I will focus here on the difference between nominals that bear an *augment* vowel and those that lack the vowel. While there are a variety of contexts that require a nominal to appear without the augment vowel in Zulu, we will see that when augmentless nominals appear as arguments of a predicate, they are limited to a subset of the environments in which augmented nominals may appear as arguments. Specifically, I will show that augmentless nominal arguments are restricted to ν P-internal positions:

- (102) **Augmentless nominal generalization** (preliminary): An augmentless nominal argument must appear in a *vP*-internal position.

We saw in chapter 2 that every Zulu noun stem is marked with prefixal morphology that indicates the noun class of the nominal. This prefixal morphology includes both the noun class prefix itself, a *C/CV/CVC/Ø* morpheme that attaches to the stem, and the preceding *augment* vowel. I repeat the full paradigm of noun class prefixes and augments from the previous chapter here in table 3.1.

NOUN CLASS	AUGMENT	PREFIX	EXAMPLE	TRANSLATION
1	u-	m(u)-	umuntu	‘person’
1a	u-	Ø	ugogo	‘grandmother’
2	a-	ba-	abantu	‘people’
2a	o-	Ø	ogogo	‘grandmothers’
3	u-	m(u)-	umunwe	‘finger’
4	i-	mi-	iminwe	‘fingers’
5	i-	(li-)	iqanda	‘egg’
6	a-	ma-	amaqanda	‘eggs’
7	i-	si-	isipho	‘gift’
8	i-	zi-	izipho	‘gifts’
9	i-	N-	indawo	‘place’
10	i-	ziN-	izindawo	‘places’
11	u-	(lu-)	uthando	‘love’
14	u-	(bu-)	ubuntu	‘humanity’
15	u-	ku-	ukudla	‘food’
17	u-	ku-	ukwindla	‘autumn’

Table 3.1: Noun class prefixal morphology

Nouns appear without an augment in several different environments (Mzolo, 1968; von Staden, 1973; de Dreu, 2008; Taraldsen, 2010; Buell, 2011). In this section I give a brief overview of the cases where a nominal can appear without the augment vowel. As I discuss in detail in the appendix to this chapter, in most of these environments, the use of the augment is not permitted. The constructions that are the focus of this chapter are those that contain *argument* nominals. These argument-containing constructions sometimes permit both augmented and augmentless nominals, as shown below in (103):

- (103) ni- bona (**u**)- **bani**?
 2PL- see (AUG)- 1who
 ‘Who do you see?’

In the example in (103), the *wh*-word (*u*)*bani* ‘who’ may appear either with or without its initial augment vowel *u*-. As I will show, augmentless nominals in argument positions are restricted to a subset of environments in which augmented arguments are permitted.

3.2.1 The distribution of augmentless nominals

As Mzolo (1968), von Staden (1973), and subsequent researchers describe, there are several environments in Zulu that require a nominal to be augmentless. The full range of environments reported in these earlier works does not completely match the judgments of the speakers of Durban Zulu with whom I worked, however. In general, my consultants were less willing to omit the augment vowel. Consequently, a number of contexts in which the augment is reported to be prohibited, particularly by von Staden (1973), were judged as allowing – or even requiring – an augment. In addition, many younger speakers describe the use of augmentless nominals in argument positions as marked and “rude”; this type of register distinction has not, to my knowledge, been noted in earlier descriptions of augmentless nominals. Table 3.2 compares the environments that have been described previously as permitting augmentless nominals, as collected in Buell (2011), with the recent judgments I have collected from speakers of Durban Zulu.

The focus of this chapter, and of subsequent discussion in the following chapters, is the distribution and behavior of augmentless nominals that function as arguments. Specifically, I am concerned with configurations at the clausal level that license augmentless nominals. I focus my attention, therefore, on the final two categories in Table 3.2: NPIs and *wh*-words, which I will show are licensed only in particular syntactic configurations. Discussion and examples of the preceding categories can be found in the appendix to this chapter.

Clause-level licensing of augmentless nominals

The nominals that I discuss in this chapter are arguments whose lack of augment is not accounted for by the NP- or DP-internal processes listed in table 3.2 and described in the

ENVIRONMENT		AUGMENT STATUS	
		Reported in Buell (2011)	Durban Zulu
NP-level:	2nd member of compound	omitted (157)	omitted
	noun class transposition	omitted (159)	omitted
	denominal adjectives	omitted (160a)	omitted
	denominal adverbs	omitted (160b)	omitted
DP-level:	following a demonstrative pronoun	omitted (161)	omitted
	following an ‘absolute’ pronoun	optional (163)	optional/ preferred (164), (165)
	proper names after titles	strongly dispreferred (166)	strongly dispreferred
	before <i>-ni</i> ‘what kind/ amount’	omitted (167a), (168a)	dispreferred (167), (168)
	before <i>-phi</i> ‘which’	omitted (169)	preferred (construction dispreferred) (170)
	before numeral quantifiers and ‘all’	optional (171), (172)	required (173), (174)
Vocatives:		omitted (175)	omitted
Clause-level:	<i>wh</i> -words	no discussion	optional
	Negative Polarity Items	omitted	omitted (within <i>vP</i>) / optional

Table 3.2: Comparative distribution of augmentless nominals

appendix. Instead, in these cases the broader syntactic environment determines whether a nominal can appear without an augment. Subsequent sections are devoted to the details of their distribution and analysis; in this subsection I overview the basics of their distribution and the interpretive factors involved.

Nominal arguments that can appear without an augment have a limited set of interpretations: these nominals are typically either *wh*-words or *negative polarity items* (NPIs). We can see an example of both of these uses of augmentless arguments in (104) below:

- (104) a. u- bona **bani**?
 2SG- see 1who
 ‘Who do you see?’

- b. a- ngi- bon- i **muntu**
 NEG- 1SG- see- NEG 1person
 ‘I don’t see anyone.’

In (104a), the *wh*-object *bani* ‘who’ appears without its augment vowel. As *vP*-internal elements, *wh*-words in Zulu optionally bear an augment, both as subjects and as objects:

(105) **Optional augments on *vP*-internal *wh*-**

- a. ku- fik- e **bani?**
 17S- arrive- PFV 1who
 ‘Who came?’
- b. ku- fik- e **u- bani?**
 17S- arrive- PFV AUG- 1who
 ‘Who came?’
- c. u- funa- **ni?**
 2SG- want- 9what
- d. u- funa **i- ni?**
 2SG- want AUG- 9what
 ‘What do you want?’

The examples in (105a,b) show that a *vP*-internal subject *wh*-word may optionally bear an augment, while (105c,d) show the same for an object *wh*-word. The object *wh*-word (*i*)*ni* ‘what’ cliticizes to the verb when it appears without the augment vowel.

Crucially, this optionality of the augment with *wh*-words is only observable inside *vP*. We saw with (16), repeated with slight modifications below, from chapter 2 that *wh*-words cannot appear in a *vP*-external subject position (regardless of augment status). When *wh*-words appear in a cleft, as in (16c’), the augment is required:

- (16’) a. * **(u)bani** **u-** fik- ile?
 AUG.1who 1S- arrive- PFV
- b. ku- fik- e **(u) bani?**
 17S- arrive- PFV AUG.1who
- c. ng- ***(u)bani** o- fik- ile?
 COP- AUG.1who 1REL- arrive- PFV
 ‘Who came?’ (cf. Sabel and Zeller, 2006, ex. (5))

As we have already seen, *wh*-words in Zulu, including those with an augment vowel, have a more limited distribution than other types of nominals. As Buell (2009) and Adams (2010) point out, *wh*-words also display restrictions within *vP* that appear to be related to their focal properties. While these authors imply that the distribution of *wh*-words – including those with an augment – matches the distribution of the augmentless NPIs that I discuss below, I will show in this chapter while both (augmented) *wh*-words and augmentless nominals have a more restricted distribution than augmented nominals, they do not in fact have the same profile. There are some systematic differences between the distribution of (augmented) *wh*-words in general and that of augmentless nominals, including the difference illustrated in (16') above and differences in the distribution of multiple *vP*-internal arguments that I will discuss in section 3.3.2 – see footnote 6 for comparison.

The other use of augmentless arguments, as illustrated by (104b) above, is as NPIs. It has been claimed in the literature, as summarized recently, for example, by de Dreu (2008), that under negation, augmented nominals are interpreted as definite or specific, while augmentless nominals are interpreted as indefinite/NPIs:

(106) **Reported meaning contrast with augment**

- a. a- ka- limaza **a-** **bantwana**
 NEG- 1S- hurt AUG- 2children
 'He doesn't hurt (some particular) children.'
- b. a- ka- limaza **bantwana**
 NEG- 1S- hurt 2children
 'He doesn't hurt any children.' (de Dreu, 2008, ex (2b), (3b))

Before I discuss the distributional details of these augmentless NPIs, I will note here that though the existing literature on Zulu describes the omission of an augment vowel as a general NPI strategy in the language, for the majority of speakers of Durban Zulu with whom I have worked, augmentless NPIs are possible only in a marked register. These speakers describe augmentless NPIs as being informal to the point of rudeness, and thus can be reluctant to use or consider this construction in more formal settings.² The judgments

²This register distinction seems to be particularly pronounced for younger speakers.

that I report in this thesis come from speakers who are accessing an informal register or from those who seem to have less of a register distinction for augmentless NPIs.

While most discussions of augmentless NPI nominals focus on sentential negation as the relevant licensing environment, as illustrated in (107), it is clear that these elements are licensed by a variety of other downward entailing environments as well.

- (107) a. **A-** **ngi-** **bon- i** **muntu**
 NEG- 1SG- see- NEG 1person
 ‘I don’t see anybody.’/ *‘I don’t see the person.’
- b. * **ngi-** **bona muntu**
 1SG- see 1person

The example in (107a) illustrates that the augment may be omitted under sentential negation, forcing an NPI interpretation. It may not be omitted in an affirmative sentence, as (107b) shows. In (108), we can see that a negative adverb, *ngeke* ‘never’ will also license an augmentless NPI:

- (108) **Ngeke** **ngi-** **sho lutho**
 never 1SGSJC- say 13thing
 ‘I’ll never say anything.’

The example in (109) shows that a minimizing preposition, *ngaphambi* ‘before’ licenses an augmentless NPI as well:

- (109) ... **ngaphambi** **ko-ku-ba** **ba- sho lutho...**
 before LOC-INF-be 2s- say 13thing
 ‘...before they said anything...’³

Finally, the example in (110) shows that polar questions also license augmentless NPIs:

- (110) **u- ke** **w- a- funda ncwadi ku-le-mpelasonto?**
 1S-occasionally.do 1S- PST- read 9book LOC-DEM-9weekend
 ‘Did you read any book on the weekend?’

As is often the case for NPIs cross-linguistically, not all downward-entailing environments license augmentless nominals in Zulu (c.f. Giannakidou, 2011), as the ungrammatical example with *few* in (111) below shows. Nevertheless, the examples above indicate that a range of downward-entailing contexts do serve to license augmentless nominals.

³<http://vcnstatic.sabc.co.za>; accessed May 19, 2009.

- (111) * abantu abambalwa ba- bon- e muntu
 AUG.2people 2REL.few 2S- see- PFV 1person
 intended: ‘Few people saw anyone.’

While the examples in (108) - (110) show augmentless NPI licensing in monoclausal sentences, the constructions in (112) show that there is no clausemate restriction on the licenser: negation in the higher clause can license an NPI in the embedded clause (as discussed in Giannakidou, 2000). This ability of higher negation to license an augmentless nominal in the embedded clause will be crucial in our understanding of the syntactic restrictions on nominals, as we will see in section 2.3.⁴

(112) **Cross-clausal licensing of augmentless nominals**

- a. A- ngi- fun- i [ukuthi uSipho a- phek- e **qanda**]
 NEG- 1SG- want- NEG that AUG.1Sipho 1SJC. cook- SJC 5egg
 ‘I don’t want Sipho to cook any egg.’
- b. A- ngi- cabang- i [ukuthi uSipho u- bon- e **muntu/lutho**]
 NEG- 1SG- think- NEG that AUG.1Sipho 1S- see- PFV 1person/13thing
 ‘I don’t think Sipho saw anyone/anything.’

The restriction of augmentless nominals to downward-entailing contexts limits their distribution considerably. Previous discussions of their distribution have assumed that this semantic restriction fully accounts for the distribution of augmentless nominals (e.g. Adams, 2008; Cheng and Downing, 2009). I argue in this chapter that this conclusion is incorrect, and that the distribution of augmentless nominals is also restricted by additional syntactic licensing principles – in particular by principles that mirror the effects of the Case Filter in languages like English and Icelandic. To show that this conclusion is correct, I first outline the system of structural licensing and then demonstrate how it accounts for the full picture of augmentless nominal distribution in Zulu.

⁴In chapter 6, I show that not all speakers accept constructions like those in (112b), where an NPI in an indicative clause is licensed by matrix negation. As I will show in that chapter, a certain group of speakers have a set of related restrictions involving indicative complement clauses. For now, I follow the judgments of speakers who display no contrast between embedded subjunctives and embedded indicatives.

3.3 Augmentless nominal licensing

In this section, I will show that there are syntactic restrictions on the placement of augmentless nominals. We will first see that augmentless nominals must appear inside νP , as stated above in (102), repeated below:

- (102) **Augmentless nominal generalization** (preliminary): An augmentless nominal must appear in a νP -internal position.

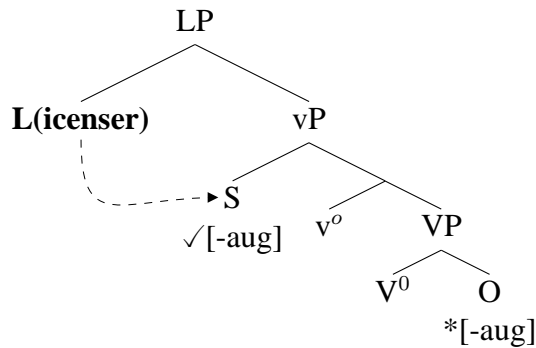
Beyond this restriction to νP -internal positions, I will show that there are further distributional limitations on augmentless nominals and that these additional restrictions point to case licensing as a factor in Zulu grammar. While we will not see case licensing associated with the familiar finite T^o and transitive ν^o in Zulu, we will find that nominals are licensed through particular structural relationships within νP . Inside νP , only one nominal may appear without the augment in an intransitive or transitive construction – constructions with zero or one external argument. When a construction involves causative or applicative arguments, an additional augmentless nominal may appear. To capture these generalizations, I propose that licensing of augmentless nominals takes place within νP via two structural relationships. First, a $L(\text{icensing})$ head immediately above νP can license the most local nominal in its c-command domain. Second, when an *additional* specifier-taking head beyond ν^o , such as APPL or CAUS, is introduced into the structure, the direct object is also licensed. I will suggest in section 3.3.2 that this pattern may be a special case of the broader pattern that includes Burzio’s Generalization (Burzio, 1986).⁵

- (113) **Augmentless nominal generalization** (final): An augmentless nominal argument must be local to a nominal-licensing head.

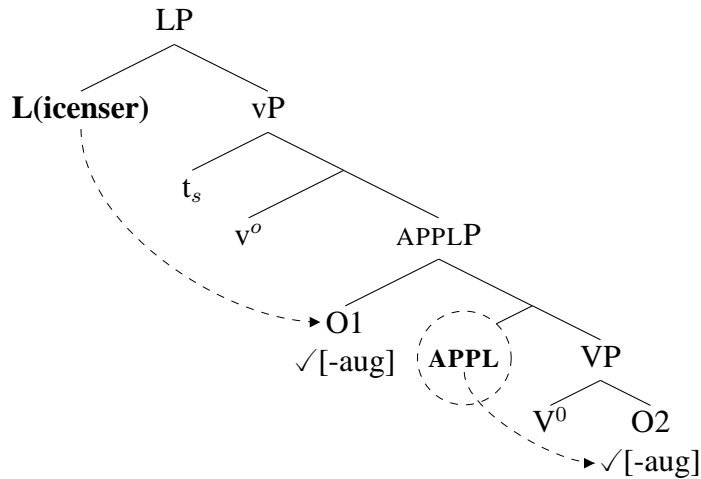
⁵In (115) I represent this type of licensing as coming directly from the applicative head. As I will address in section 3.3.2, there are some complications with this approach, particularly with respect to causative constructions and constructions that contain both causative and applicative morphology. I will suggest that we can understand these patterns in terms of the causative/applicative heads assigning case *in conjunction with* the lexical verb.

These licensing processes are schematized in (114) and (115) below:

(114) **Licensing via L**



(115) **Licensing via extra ‘external’ arguments**



The schema in (114) and (115) capture the fact that at most one augmentless nominal can be licensed in transitive and intransitive constructions, while two augmentless nominals can be licensed in the presence of CAUS or APPL – “external argument” introducing heads. As we have seen so far throughout this chapter, nominals that bear an augment vowel are not subject to any of these restrictions. At the same time, as we shall see, they act as intervenors for the licensing heads, and can therefore block lower augmentless nominals from being licensed (along the lines of Chomsky, 2000). As I will show in the following sections, this licensing mechanism accounts for the aspects of the distribution of augmentless nominals that cannot be attributed to the more general licensing conditions discussed above, and that are not faced by their augmented counterparts.

3.3.1 The ν P-internal restriction on augmentless nominals

In this section, I examine the restriction of augmentless nominals to ν P-internal positions. In addition to seeing evidence of this restriction, we will also see evidence that the licensing head L is located above ν P in (114). To investigate these issues, we will need to look beyond the grammatical instances of augmentless nominals in preceding sections, which all involved non-agreeing, in situ objects, as in (116) below:

(116) Augmentless ν P-internal objects

- a. a- ngi- bon- anga **muntu**
 NEG- 1SG- see- NEG.PAST 1person
 ‘I didn’t see anybody.’
- b. ngeke ngi- bon- e **muntu**
 never 1SG.SJC- see- SJC 1person
 ‘I’ll never see anyone.’

Zulu also permits postverbal ν P-internal augmentless *subjects*, as (117) below shows.

(117) Augmentless ν P-internal subjects

- a. a- ku- fundis- anga **muntu**
 NEG- 17S- teach- NEG.PAST 1person
 ‘Nobody taught.’
- b. ngeke ku- fundise **muntu**
 never 17S.SJC- teach.SJC 1person
 ‘Nobody will ever teach.’

Note that the grammaticality of augmentless external arguments in ν P-internal position means that nominals in this position are accessible for licensing. With the downward-looking licensing mechanism introduced in (114), this fact motivates the placement of the Licensing head *above* ν P, where it can access both internal and external arguments. Further evidence in support of this type of licensing mechanism comes in section 2.3.2, where I show that the subject can behave as an intervenor for object licensing.

Once we move from non-agreeing ν P-internal positions to ν P-external positions, the behavior of augmentless nominals ceases to be a predictable by-product of their NPI/*wh*-properties. Contrary to what is assumed by Adams (2008), Cheng and Downing (2009),

and others, I show here that the interpretive factors governing augmentless nominals are insufficient to account for their restriction to ν P-internal positions.

First I will show that we cannot understand the prohibition on augmentless nominals in agreeing object positions in as a result of their NPI interpretation (contra Adams, 2008). The examples in (118) show that augmentless nominals cannot appear in agreeing object position.⁶

(118) **Augmentless nominals ungrammatical as agreeing objects**

- a. *A- ngi- m- bon- i ν P] **muntu**
 NEG- 1SG- 1O- see- NEG 1person
 intended: ‘I don’t see anybody.’
- b. *A- ngi- yi- fun- i ν P] **mali**
 NEG- 1SG- 9O- want- NEG 9money
 intended: ‘I don’t want any money.’

Even though these nominals are located in a right-peripheral position, outside of ν P, the examples in (119) show that elements in this position still scope under negation – and thus that the constructions in (118) meet the requirement for a downward entailing environment. As Buell (2008) demonstrates, right-dislocated material in Zulu appears within the scope of sentential negation realized on the verb:

(119) **Negation scopes over right-dislocated elements**

- a. Izingane a- zi- thand- i amaswidi ν P] zonke.
 AUG.10child NEG- 10S- like- NEG AUG.6sweets 10all
 ‘Not all children like sweets.’ $\neg > \forall, * \forall > \neg$
- b. A- ngi- yi- bon- anga ν P] le ndoda **nakanye**.
 NEG- 1SG- 9O- see- NEG.PAST DEM9. 9man even-once(NPI)
 ‘I didn’t see this man even once.’ (Buell, 2008, ex. (12), (17))

In (119a), a right dislocated quantifier *zonke* ‘all’ must be interpreted as taking low scope with respect to negation. In (119b), the adverbial NPI *nakanye* ‘even once’ is gram-

⁶Though I do not focus on the properties of agreeing and non-agreeing objects in this thesis, I will follow Buell (2005) in treating agreed-with objects – like agreed-with subjects – as ν P-external. Buell shows that on a variety of measures, the agreed-with object behaves like a dislocated element. In chapter 4, we will see evidence of this type with respect to the *conjoint/disjoint* morphological alternation.

matical in a right-dislocated, *vP*-external position. This NPI attaches to the right of an agreeing, dislocated object *le ndoda* ‘this man,’ which suggests that the agreeing object is also in the scope of negation.

Adams (2008) suggests that the inability of augmentless objects to appear in these dislocated agreeing positions is due to the fact that an NPI interpretation is incompatible with the interpretive properties of a right-dislocated object position. Speakers of Durban Zulu, however, have no problem interpreting an *augmented* agreeing object in a right-dislocated position as a low scope indefinite NPI, as illustrated in (120) below:

(120) **Right-dislocated augmented objects: NPI interpretation possible**

- Q: u- bon- e izindlovu ezingaki eBoston?
 2SG- see- PFV AUG.10elephant REL.10.how.many LOC.Boston
 ‘How many elephants did you see in Boston?’
- A: a- ngi- zi- bon- anga *vP*] **izindlovu.** A- zi- kho
 NEG- 1SG- 10O- see- NEG.PAST AUG.10elephant. NEG- 10S- exist
 laphaya.
 over.there
 ‘I didn’t see any elephants. There aren’t any over there.’

We can observe a similarly unexplained restriction for augmentless nominals in preverbal subject position. As we saw in the previous section, matrix negation can license an augmentless nominal in the embedded clause. In (121), we see that *muntu* in (121a) is in the same domain as the licit augmentless objects in (112), an embedded clause under negation, yet is ungrammatical. Grammatical counterparts to (121a) involve either adding an augment to the agreeing subject, as in (121b), or placing the augmentless subject in non-agreeing, postverbal position, as in (121c).

(121) **Augmentless preverbal subjects ungrammatical**

- a. *A- ngi- sho- ngo [ukuthi **muntu u-** fik-ile]
 NEG- 1SG- say- NEG.PAST that 1person 1S- arrive-PFV
 ‘I didn’t say that anyone came.’
- b. A- ngi- sho- ngo [ukuthi **umuntu u-** fik-ile]
 NEG- 1SG- say- NEG.PAST that 1person 1S- arrive-PFV
 ‘I didn’t say that a/the person/anyone came.’

- c. A- ngi- sho- ngo [ukuthi **ku-** fik-e **muntu**]
 NEG- 1SG- say- NEG.PAST that 17S- arrive-PFV 1person
 ‘I didn’t say that anyone came.’

Note that the ungrammaticality of (121a) is not predicted by the downward-entailing requirement on augmentless nominal licensing, since the embedded subject is in the scope of the matrix negation. Rather, it appears that the ungrammaticality must stem from the fact that the subject is preverbal and agreeing. We can further narrow down the diagnosis of the problem to the *position* of the subject in (121a). As I will show below, it’s not the case that agreement with an NPI is always ruled out. Augmentless nominals may control subject agreement just in case they further raise to a *vP*-internal, non-agreeing position:

- (122) **Augmentless nominal generalization:** An augmentless nominal must appear in one of the *vP*-internal positions specified in (114) and (115).

So far, we have only examined cases in which licit augmentless nominals remain in situ in *vP*. In (123) below, we see an augmentless nominal undergoing raising-to-object through an agreeing position in the lower clause:

- (123) A- ngi- lindel- i **muntu a-** phek- e iqanda
 NEG- 1SG- expect- NEG 1person 1SJC- cook- SJC 5egg
 ‘I don’t expect anyone to cook an egg.’

In section 2.4.2, we saw that raising-to-object was optional for augmented nominals, as in (67), repeated below:

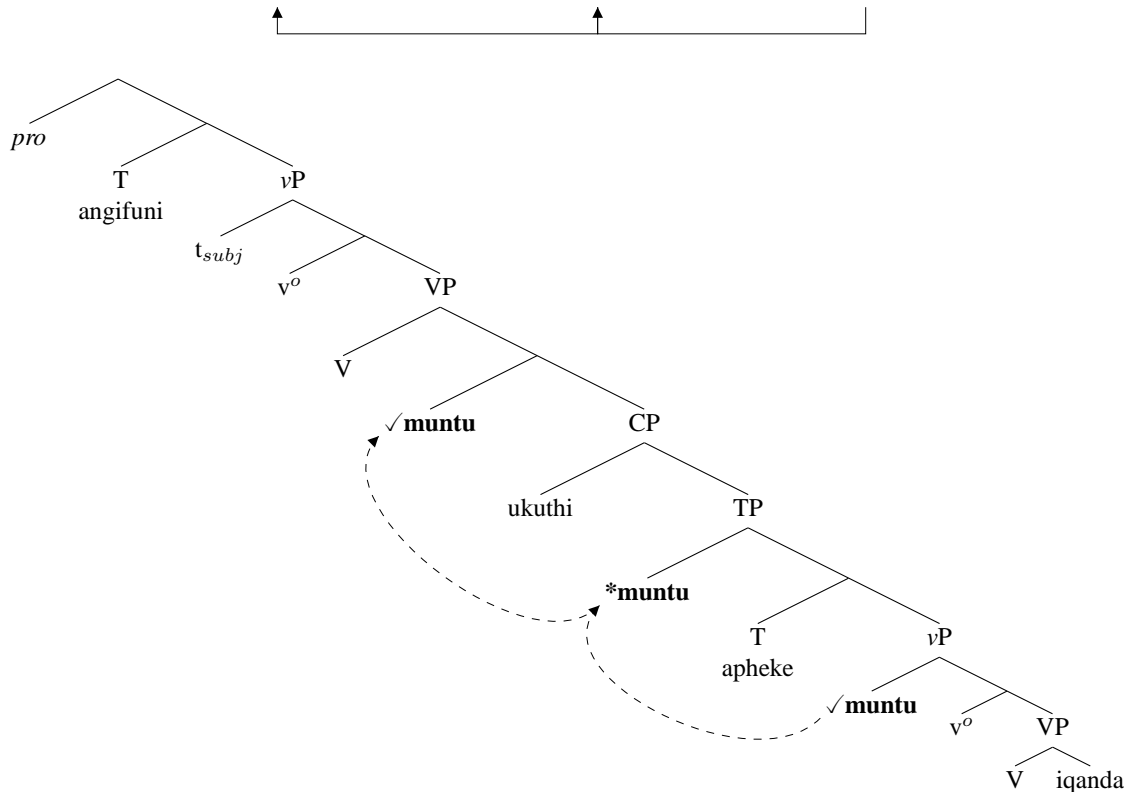
- (67) a. ngi- funa [ukuthi uSipho a- phek- e iqanda]
 1SG- want that 1Sipho 1SJC- cook- SJC AUG.5egg
 ‘I want Sipho to cook an egg.’
 b. ngi- funa uSipho [ukuthi a- phek- e iqanda]
 1SG- want 1Sipho that 1SJC- cook- SJC AUG.5egg
 ‘I want Sipho to cook an egg.’

In contrast, the raised variant is *required* with an augmentless nominal, as shown below in (124): If an overt complementizer is present, it *must* follow the augmentless noun.

- (124) a. a- ngi- fun- i **muntu** [ukuthi a- phek- e (i)qanda]
 NEG- 1SG- want- NEG 1person that 1SJC- cook- SJC (AUG).5egg
 'I don't want anyone to cook an egg.'
- b. *a- ngi- fun- i [ukuthi **muntu** a- phek- e (i)qanda]
 NEG- 1SG- want- NEG that 1person 1SJC- cook- SJC (AUG).5egg

These facts yield the surprising conclusion that augmentless nominals face purely structural restrictions on their distribution. The distribution of augmentless nominals is schematized in (125) below. In a raising-to-object structure with an augmentless embedded subject, the augmentless nominal can either remain in situ (inside embedded vP) or can raise to the matrix vP *through* the position of lower subject agreement, but it cannot surface in the agreeing subject position. In essence, augmentless nominals in Zulu behave the way *every* nominal behaves in English in raising-to-object environments: they cannot remain in the embedded subject position and must raise to matrix object position. However, unlike subjects in English raising constructions, Zulu augmentless nominals have a second licit structural position, inside the embedded vP.

- (125) angifuni ✓**muntu** [_{CP} ukuthi [_{TP} ***muntu** apheke [_{vP} ✓**muntu** iqanda



3.3.2 Augmentless nominals within ν P

In addition to the restriction that augmentless nominals surface in ν P-internal position, augmentless nominals face further restrictions *within* ν P. These ν P-internal restrictions on augmentless nominals provide evidence that the distribution of augmentless nominals is governed by syntactic locality relationships, rather than linearity or mere restriction to a specific domain. In particular, we will see both that higher nominals serve as intervenors to lower licensing and that the licensing of more than one augmentless nominal correlates with the introduction of applicative or causative heads in the syntactic structure.

In this section, I will show we find restrictions on the distribution of augmentless nominals inside ν P when the number of nominals in ν P outnumbers the number of licensors, where L serves as a licensing head and the addition of APPL or CAUS allows the verb to license the direct object. When such a situation arises, only the nominals that are most locally c-commanded by a licenser can appear without an augment. Nominals that are not most local to a licenser must bear an augment.

In chapter 2, we saw several constructions that can in principle yield more nominals within ν P than licensing heads. First, we saw that Zulu allows TECs, as in (126) below:

- (126) ku- phek- e uSiphokazi amaqanda
17s- cook- PFV AUG.1Siphokazi AUG.6eggs
'Siphokazi cooked eggs.'

In these constructions, there are two ν P-internal nominals, the subject and the object, but only a single licensing head, L, on the theory proposed here.

In ditransitive constructions, APPL/CAUS adds a second licensing head. As we saw in chapter 2, repeated in (27), Zulu also allows ditransitive expletives, with three ν P-internal elements:

- (27) a. ku- fund- isa **uSipho** abantwana isiZulu
17s- learn- CAUS AUG.1Sipho AUG.2children AUG.7Zulu
'Sipho teaches the children Zulu.'

In the acceptable examples in (126) and (27) above, all of the nominals bear augments, as expected for non-NPI contexts. As I will show in this section, augmentless nominals

are restricted in just such situations – even when the rest of their licensing requirements are met. These restrictions are explained if augmentless nominals must be licensed under the conditions described above, via proximity to L or as the direct object of an applied or causative construction.

L as a licensing head

We have seen that both postverbal ν P-internal subjects and ν P-internal objects can be augmentless, as in (127a-b) below. The fact that augmentless subjects in Spec, ν P, can be licensed suggested that the structural licenser L can access nominals anywhere in ν P. When the subject is postverbal in a TEC, however, there are two ν P-internal arguments and only one licenser, as discussed above. A one-to-one relationship between licensers and augmentless nominals predicts that only one nominal in a TEC may appear without its augment. In particular, since L is located above ν P, we expect it to be most local to, and thus to license, the subject in such a construction. In (127), we see that this prediction is borne out. As mentioned earlier, the examples in (127a-b) confirm that either an external or an internal argument of the predicate *pheka* ‘cook’ may be augmentless when they are alone in ν P. By contrast, when these two arguments both remain in ν P, the only grammatical position for an augmentless nominal is as the external argument, as (127d) shows.⁷

⁷Note that *wh*-words, if they retain the augment, are subject to looser restrictions than augmentless nominals. In (1), for example, an augmented *wh*-in-situ object can be separated from the verb by an intervening subject, in contrast to the augmentless nominal object in (127d) above.

- (1) ku- phek- e bani ini?
 17S- cook- PFV 1who 9what
 ‘Who cooked what?’

(127) **Mono-/intransitives: one augmentless argument licensed**

a. ✓ **VS with augmentless subject**

a- ku- phek- anga muntu
 NEG- 17S- cook- NEG.PAST 1person
 ‘Nobody cooked.’

b. ✓ **SVO with augmentless object**

umuntu a- ka- phek- anga qanda
 AUG.1person NEG- 1S- cook- NEG.PAST 5egg
 ‘A/the person didn’t cook any egg.’

c. * **VSO augmentless–augmentless**

* a- ku- phek- anga muntu qanda
 NEG- 17S- cook- NEG.PAST 1person 5egg

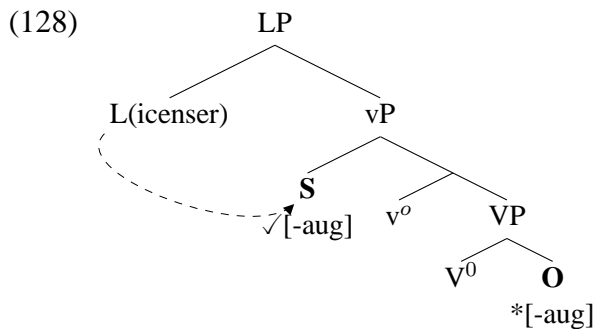
d. ✓ **VSO augmentless–augmented**

a- ku- phek- anga muntu iqanda
 NEG- 17S- cook- NEG.PAST 1person AUG.5egg
 ‘Nobody cooked the/an/any egg.’

e. * **VSO augmented–augmentless**

* a- ku- phek- anga umuntu qanda
 NEG- 17S- cook NEG.PAST AUG.1person 5egg

In both of the ungrammatical sentences above, (127c) and (127e), the object is augmentless and ungrammaticality results regardless of whether the subject bears an augment. The pattern that emerges is that the *highest* nominal inside *vP* is licensed, as schematized in the tree in (128) below:



As (128) illustrates, the L head can license a single argument inside *vP*. A *vP*-internal subject will always be closest to L and will thus block L from licensing an augmentless object.

Additional licensing: “Burzio plus”

In a double object structure, a more complicated pattern emerges. In TECs in the previous subsection, we observed that only the highest nominal in ν P is licensed as an augmentless nominal. In constructions that contain causative or applicative morphology, we are no longer limited to a single augmentless nominal inside ν P. As the constructions in (129) below illustrate, in double object constructions with an APPL head, *any* combination of augmented and augmentless nominals is permitted within ν P, including two augmentless objects as in (129a):

(129) **Applicative double object: two augmentless arguments licensed**

a. **DOC: Augmentless–Augmentless**

uThemba a- ka- phek- el- i muntu nyama
AUG.1Themba NEG- 1S- cook- APPL- NEG 1person 9meat
‘Themba doesn’t cook anyone any meat.’

b. **DOC: Augmented–Augmentless**

uThemba a- ka- phek- el- i uSipho nyama
AUG.1Themba NEG- 1S- cook- APPL- NEG AUG.1Sipho 9meat
‘Themba doesn’t cook Sipho any meat.’

c. **DOC: Augmentless–Augmented**

uThemba a- ka- phek- el- i muntu inyama
AUG.1Themba NEG- 1S- cook- APPL- NEG 1person 9meat
‘Themba doesn’t cook anyone meat/the meat.’

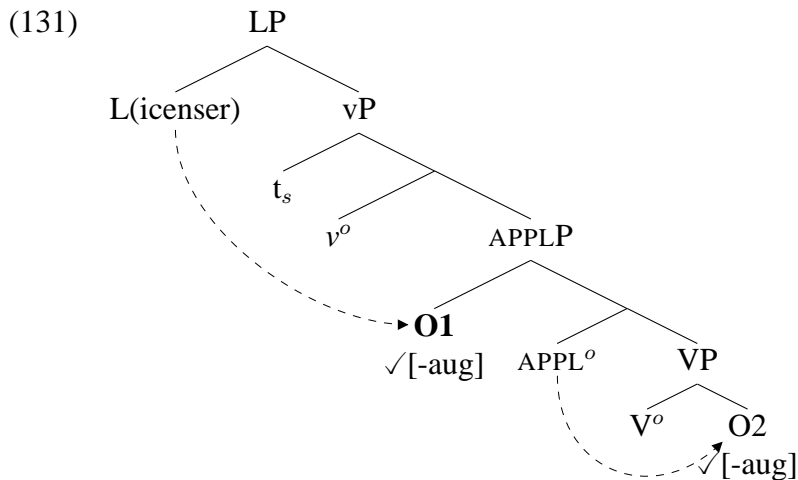
As (129a) suggests, the extra licensing directly correlates with the addition of CAUS and APPL heads into the structure. The examples in (130) show the same unrestricted distribution of augmentless nominals in a causative structure:

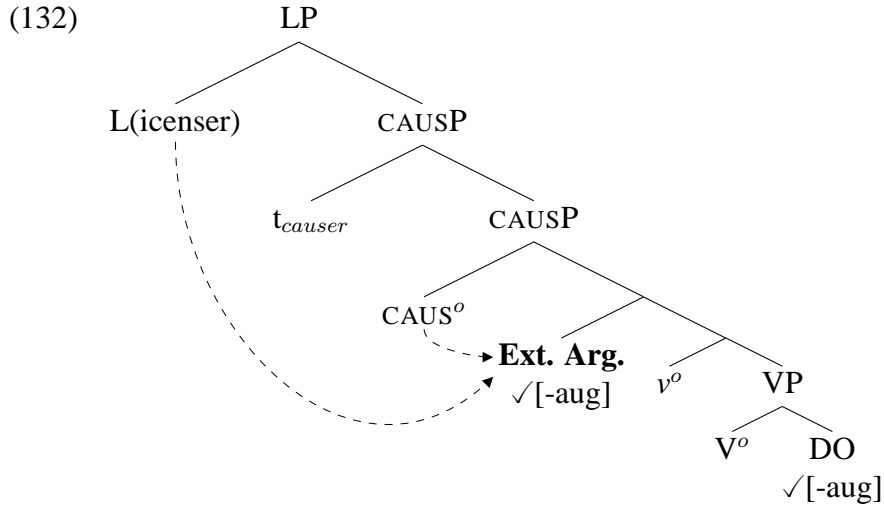
(130) **Causative double object: two augmentless nominals licensed**

a. uSipho a- ka- fund- is- anga muntu lutho
AUG.1Sipho NEG- 1S- learn- CAUS- NEG.PAST 1person 16thing
‘Sipho didn’t teach anyone anything.’

- b. uSipho a- ka- fund- is- anga abafana lutho
 AUG.1Sipho NEG- 1S- learn- CAUS- NEG.PAST AUG.1boys 16thing
 ‘Sipho didn’t teach the boys anything.’
- c. uSipho a- ka- fund- is- anga muntu isiZulu
 AUG.1Sipho NEG- 1S- learn- CAUS- NEG.PAST 1person AUG.7Zulu
 ‘Sipho didn’t teach anyone Zulu.’

While the presence of a CAUS or APPL seems directly related to the grammaticality of an additional augmentless nominal, it is difficult to see how the licensing could be coming directly from these heads. If licensing by CAUS/APPL worked just like licensing by L, the pattern that we see with the causative construction would be unexpected. In an applicative construction the applied argument would be local to L and the direct object would be local to $APPL^o$, as illustrated in (131). In the causative construction, by contrast, the $CAUS^o$ is located above *both* the external argument and direct object, which would mean that the direct object is not local to a licensing head, as shown in (132):





While tweaking the licensing mechanism to allow for the lower argument to be licensed in causative structures (perhaps by rendering the higher argument invisible after it is licensed) would account for the patterns in (130), it would fail to explain the broader pattern of constructions involving either CAUS or APPL. When we examine a wider variety of configurations – including those that involve both APPL *and* CAUS, the following generalization emerges: in these constructions, only the highest argument and the *direct object* can be licensed, but nothing else.

A striking example of this generalization comes from TECs. While in the previous subsection we saw that TECs without APPL/CAUS morphology only permit a single augmentless nominal (the subject), the picture is different for TECs that do involve APPL/CAUS. For example, a verb like *fundisa* ‘teach’, which contains transparent causative morphology, can optionally drop either the external argument or the direct object:

- (133) a. uSipho u- fund- isa amantombazane
 1Sipho 1S- learn- CAUS 6girl
 ‘Sipho teaches girls.’
 b. uSipho u- fund- isa isiZulu
 1Sipho 1S- learn- CAUS 7Zulu
 ‘Sipho teaches Zulu.’

In TEC constructions, however, verbs like *fundisa* ‘teach’ show different licensing patterns for each type of argument: specifically, augmentless *causee* arguments cannot be licensed, as in (134a), while augmentless *direct objects* can, as in (134b).

- (134) a. * a- ku- fund- is- anga muntu mantombazane
 NEG- 17S- learn- CAUS- NEG.PAST 1person 6girl
 intended: ‘Nobody taught any girls.’
- b. a- ku- fund- is- anga muntu lutho
 NEG- 17S- learn- CAUS- NEG.PAST 1person 16thing
 ‘Nobody taught anything.’

If the ungrammaticality of augmentless objects in TECs like (127) were due to a general ban on augmentless objects in VSO configurations, then the grammaticality of (134b) would be unexpected. If the licensing of an additional augmentless nominal came directly from CAUS, the contrast in (134) would be unexpected. It seems that instead, CAUS is licensing the direct object in these constructions.

In a ditransitive expletive, this licensing pattern is even clearer. By adding all three arguments, we can see this generalization made explicit. Two arguments can be licensed, presumably by L and the addition of APPL/CAUS, and those arguments are the subject and the direct object – and not the middle argument, which must bear an augment.

(135) **Ditransitive expletive applicative: two augmentless arguments licensed**

a. ✓ **Augmentless–Augmented–Augmentless**

A- ku- thum- el- anga muntu izingane mali
 NEG- 17S- send- APPL- NEG.PAST 1person AUG.10child 9money
 ‘Nobody sent the children any money.’

b. * **Augmentless–Augmentless–Augmentless**

* A- ku- thum- el- anga muntu zingane mali
 NEG- 17S- send- APPL- NEG.PAST 1person 10child 9money

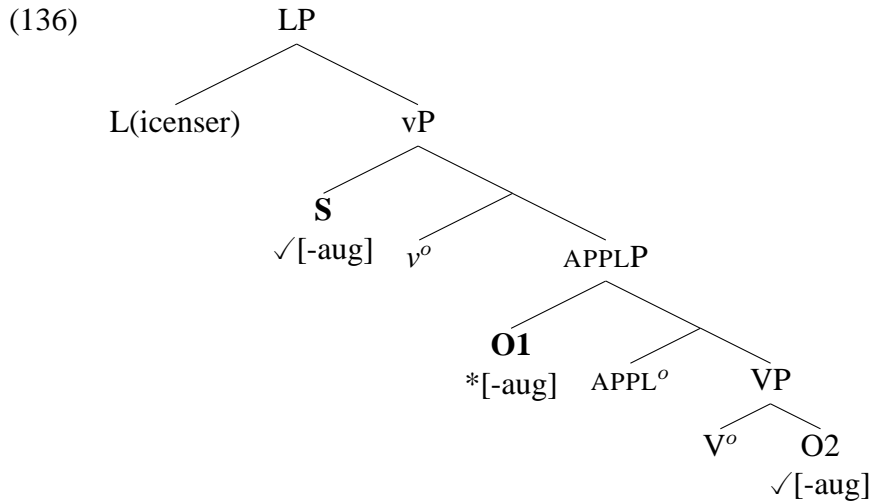
c. * **Augmented–Augmentless–Augmentless**

* A- ku- thum- el- anga **umuntu** zingane mali
 NEG- 17S- send- APPL- NEG.PAST AUG.1person 10child 9money

d. * **Augmentless–Augmentless–Augmented**

* A- ku- thum- el- anga muntu zingane **imali**
 NEG- 17S- send- APPL- NEG.PAST 1person 10child AUG.9money

This construction is schematized illustrated in (136):



We find the same pattern with causatives: in a ditransitive expletive, only the causer and direct object may be augmentless, just as with the TEC versions of causative predicates in (134) above:

(137) a. ✓ **Augmentless–Augmented–Augmentless**

a- ku- fund- is- anga muntu amantombazane lutho
 NEG- 17S- learn- CAUS- NEG.PAST 1person AUG.6girl 16thing
 ‘Nobody taught (any) girls anything.’

b. * **Augmentless–Augmentless–Augmentless**

* a- ku- fund- is- anga muntu mantombazane lutho
 NEG- 17S- learn- CAUS- NEG.PAST 1person 6girl 16thing

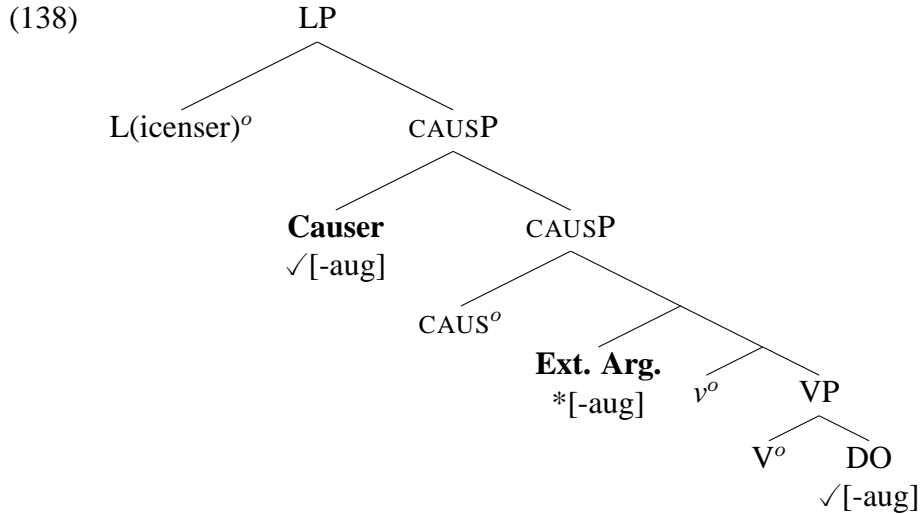
c. * **Augmented–Augmentless–Augmentless**

* a- ku- fund- is- anga umuntu mantombazane lutho
 NEG- 17S- learn- CAUS- NEG.PAST AUG.1person 6girl 16thing

d. * **Augmentless–Augmentless–Augmented**

* a- ku- fund- is- anga muntu mantombazane isiZulu
 NEG- 17S- learn- CAUS- NEG.PAST 1person 6girl aug.7Zulu

The tree in (138) illustrates this pattern:



What all of these applicative and causative constructions show is that while the addition of APPL and CAUS morphology appears to allow a second augmentless nominal, the nominal that it licenses is not the nominal that it introduces, or necessarily the most local argument, but rather the direct object. When the subject remains in situ, the nominal introduced by the CAUS/APPL head itself competes with the subject for licensing by L, just as in the transitive constructions we saw in (127).

This pattern holds even when APPL and CAUS are combined on the same predicate, yielding a four-argument structure. We saw in chapter 2 that Zulu permits these constructions with CAUS+APPL, with a maximum of three ν P-internal arguments:

- (139) uSipho u- fund- is- el- a uthisha omkhulu amantombazane
 AUG.1Sipho 1S- learn- CAUS- APPL- FV AUG.1teacher 1REL.big AUG.6girls
 isiZulu
 AUG.7Zulu
 ‘Sipho is teaching the girls Zulu for the principal.’

If each CAUS and APPL head could license an additional augmentless nominal, we might expect that since there are three licensing heads in (139) – L, CAUS, and APPL – all three arguments should be able to appear without their augment. In fact, however, we do not find this pattern, as (140) illustrates:

- (140) *uSipho a- ka- fundis- el- i muntu mantombazane zilimi
 AUG.1Sipho NEG- 1S- teach- APPL- NEG 1person 6girls 8language
 intended: ‘Sipho doesn’t teach any kids any languages for anyone.’

Instead, the pattern in these triple object constructions mirrors that of the ditransitive expletives in (135): only the highest out of the first two arguments may be augmentless, as (141a) and (141b) show, while the status of the direct object appears to have no impact on grammaticality (141c).

(141) **Triple-object: two augmentless arguments licensed**

a. ✓ **Augmentless–Augmented–Augmentless**

uSipho a- ka- fundis- el- i muntu **abantwana** lutho
 AUG.1Sipho NEG- 1S- teach- APPL- NEG 1person AUG.2children 13thing
 Sipho doesn't teach (any) kids anything for anyone.

b. * **Augmented–Augmentless–Augmentless**⁸

* uSipho a-ka- fundis- el- i **uThemba** bantwana lutho
 AUG.1Sipho NEG-1S- teach- APPL- NEG AUG.1Themba 2children 13thing

c. * **Augmentless–Augmentless–Augmented**

* uSipho a- ka- fundis- el- i muntu bantwana
 AUG.1Sipho NEG- 1S- teach- APPL- NEG 1person 2children
 izilimi
 AUG.8language

It is important to note that for sentences like (141a), speakers will accept an NPI translation for the augmented nominal – despite the presence of the augment. By contrast, the presence of the augment under negation typically forces a specific/definite reading for the nominal; the same speakers will only accept NPI translations for *augmentless* nominals in all contexts where the number of nominals does not exceed the number of licensors. The ambiguity of the augmented nominal in (141a) shows that the interpretive correlation with the augment is severed just under these specific structural conditions. In other words, the augment must be absent *when structurally possible* to yield an NPI reading, but when the structure requires the augment, the NPI reading is not ruled out. I return to this issue in section 3.4.3, and again in chapter 5.

How can we make sense of the licensing patterns in this section? While the first licensing head L behaves in a predictable syntactic fashion, licensing the structurally closest

⁸For some speakers, this construction was judged to be marginally acceptable. The majority of speakers, however, found it to be ungrammatical. Here I focus only on the ungrammatical judgment.

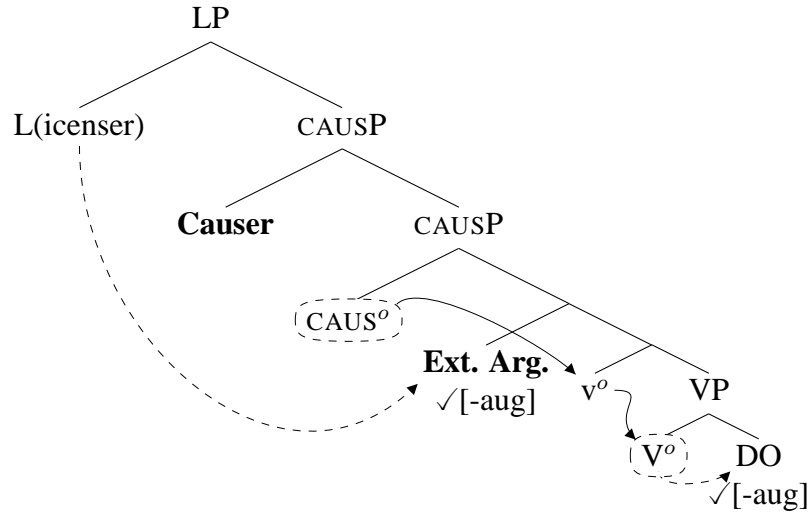
nominal, the behavior of applicative and causative constructions is more mysterious. Regardless of where the APPL/CAUS appears in the structure relative to the direct object – and regardless of what other arguments are present – the appearance of these heads seems to *only* license the direct object. In addition, while either a CAUS or an APPL head alone is able to license a second augmentless nominal, we saw in (141) that when both of these heads appear on a single predicate, they still only license one additional augmentless nominal. We can frame this problem in terms of two specific questions. First, what is the precise licensing configuration involved with CAUS and APPL heads? Second, why do CAUS and APPL together still only license one additional augmentless argument?

In all of the constructions discussed in this subsection, the one element that is both common to every construction and always local to the direct object is the lexical verb itself. If V^o is involved in licensing augmentless nominals, then we also gain an understanding of the non-cumulativity of CAUS and APPL: because V^o is the limiting factor in licensing the (second) augmentless nominal and there is a single V^o in all of these constructions, the appearance of both CAUS and APPL is irrelevant. The notion of multiple heads working in conjunction to yield a single Agree relation is not novel; multiple recent proposals have argued in favor of such a configuration, either arising as a result of a head shifting its features downward in the tree to lower heads as with *feature inheritance* (Chomsky, 2008), or as a result of upwards head-movement that allows two heads to combine and probe as a unit (Asarina, 2011, whose proposal I discuss in chapter 5). For my purposes here, I will assume something along the lines of feature inheritance, with APPL and CAUS coming into the structure with case features that can only be implemented by a lexical verb. The features are therefore passed down all the way to V^o , which can then probe for the direct object.

(142) **Case inheritance in Zulu**

- a. Case introduced by APPL or CAUS heads must be checked via V^o .
- b. This case is passed down to the main verb, which will probe elements in its c-command domain.

(143)



A secondary question that we can ask is why heads like CAUS and APPL should be involved in structural licensing at all. While this type of licensing may seem novel, the pattern that we see in Zulu is reminiscent of Burzio’s Generalization, that only constructions that contain an external argument structurally license the direct object (Burzio, 1986). That is, transitive predicates in languages like English license accusative case, but unaccusatives and passives do not – the licensing of *internal arguments* is thus directly linked to the introduction of *external arguments* in the structure. Just as in English, Zulu seems to have a form of structural licensing that is entirely dependent on the appearance of certain heads that take a specifier argument – APPL and CAUS. Unlike the familiar instantiation of Burzio’s Generalization in languages like English, however, in Zulu it appears that v^o itself is not involved in licensing, only the introduction of an *additional* “external argument” – via APPL or CAUS – yields the familiar licensing pattern. Thus while the particulars of Zulu are perhaps novel, the signature of this type of structural licensing is in fact familiar. Moreover, as I will return to in chapter 7, this licensing is in line with the fact that while Zulu exhibits familiar types of licensing, none of the expected heads seem to be licensors in Zulu (for example, we saw licensing by L^o instead of T^o in the previous subsection).

3.3.3 Summary

In this section we have seen various structural restrictions on augmentless nominals in Zulu that don't apply to augmented nominals. Augmentless nominals are only licit inside ν P, though they may pass through ν P-external agreeing positions if they further move to a ν P-internal position, as in raising-to-object constructions. Within ν P there are further restrictions on augmentless nominals: when no applicative morphology is present, only the highest ν P-internal argument may be augmentless. With applicative morphology, both the highest and lowest arguments may be augmentless, but any intermediate arguments cannot. We can understand this distribution if we posit one structural licenser, L, for augmentless nominals above ν P and further licensing that is "inherited" by the lexical verb from a CAUS or APPL head. As I showed in this section, L is capable of licensing only the closest argument; while augmented nominals do not require structural licensing, they function as intervenors, blocking the licensing of lower augmentless nominals. As I will discuss more in chapter 7, the licensing mechanisms that play a role in Zulu, while being novel in their specifics, display all of the elements of familiar licensing systems from other languages. Licensing by L is dependent only on local structural relationship, just as licensing by finite T is. Licensing via APPL/CAUS is akin to accusative licensing, in that it is dependent of the argument structure of non-local heads. While it is notable that the heads responsible are not the usual suspects, we can nevertheless recognize the nature of these heads and the processes involved as being in line with other attested systems of licensing.

Beyond the specifics of the licensing processes, the patterns of augmentless nominal distribution that I have presented in this section, and my analysis of them, raise several other issues. A few of these issues, including the nature of the licensing head L and the fact that movement out of ν P must precede licensing on my analysis, I will set aside for the remainder of the chapter but will address in detail in chapter 4. In the next section, I will examine some of the other issues raised by this analysis and discuss how some alternative accounts fare with the patterns described here.

3.4 Taking stock of the proposal

In the previous sections I have shown that while augmented nominals do not appear to face distributional restrictions in Zulu, augmentless nominals do have a restricted distribution. In section 3.3 I presented an analysis of nominal distribution in Zulu in terms of structural licensing, arguing that nominals in Zulu require abstract case licensing. While I argue that the distributional restrictions on augmentless nominals require a structural case-based analysis, one might alternatively assume that no structural licensing is required for Zulu nominals and seek a separate explanation for the restricted distribution of augmentless nominals. As discussed in section 3.3, much recent work has pursued non-case-based approaches to the distribution of Bantu nominals (Ndayiragije, 1999; Alsina, 2001; Baker, 2003a; Carstens and Diercks, forthcoming; Diercks, 2012). In this section I explore how some alternative approaches fare with the Zulu facts presented above. I first discuss differences between the empirical domain considered by other approaches to Bantu and the domain of facts I analyze. Then I turn to potential alternative accounts for Zulu nominal distribution to show that while they provide a straightforward way to account for the apparent surface-oriented nature of the distribution of augmentless nominals, they fail to encompass the full range of facts. Finally, I turn to alternative approaches to the augment morphology itself and discuss advantages to my analysis in terms of accounting for the messy interpretive properties that are associated with the augment. Despite the advantages of my analysis that I outline in this chapter, it raises several questions about the nature of the syntactic derivations that I propose. In particular, I have left open issues involving the nature of the licensing head *L*, the unusual timing of the proposed derivations – such that moved nominals are not licensed in base positions – and the precise role of the augment. I return to these issues in more detail in chapters 4 and 5.

3.4.1 Domain of evidence

Many researchers of Bantu languages have focused on the surprising behavior of Bantu nominals in preverbal subject positions. Harford Perez (1985), for example, examined properties of subjects in three Bantu languages, Shona, Kikuyu, and Kirundi, that are sur-

prising from a classic understanding of case-licensing. Many of these properties mirror the Zulu patterns that we have seen. For example, as with Zulu, Harford Perez notes that these languages allow raising out of tensed, finite clauses, and that this raising is optional:

- (144) a. mbavhá í- no- fungir- w- a kuti y- áka- vánd- á mú- bako
 9thief 9s- PRES- suspect- PASS- FV that 9s- REM.PST- hide- FV 18- cave
 ‘The thief is suspected to be hidden in the cave.’

- b. zvi- no- fungir- w- a kuti mbavhá y- akak- vánd- á mú-
 8s- PRES- suspect- PASS- FV that 9thief 9s- REM.PAST- hide- FV 18-
 bako
 cave

‘It is suspected that the thief is hidden in the cave.’

Shona

(Harford Perez, 1985)

- (145) a. inzovu z- aa- menyeekan- ye kó z- iish- e báa- ba- antu
 10elephants 10s- PAST- be.known PF that 10S- kill- PF 2those- 2- people
 ‘Elephants are renowned for having killed those people.’

- b. vy- aa- menyeekan- ye kó inzovu z- iish- e báa- ba- antu
 8S- PAST- be.known- PF that 10elephants 10S- kill- PF 2those- 2- people
 ‘Elephants are renowned for having killed those people.’

Kirundi

(Harford Perez, 1985)

She also shows that these languages allow for postverbal subject constructions, in which expletive agreement appears on the verb, a configuration she interprets as incompatible with case-licensing of the subject by finite Tense:

- (146) a. kw- á- uray- iw- a murúmé né- shumba ku- ru- kova
 17s- PAST- kill- PASS- FV 1man by- 9lion 17- 11- river
 ‘There was a man killed by a lion at the river.’

- b. murúmé á- uray- iw- a né- shumba ku- ru- kova
 1man 1S.PAST- kill- PASS- FV by- 9lion 17- 11- river

‘A man was killed by a lion at the river.’

Shona (Harford Perez, 1985)

Finally, Harford Perez points out that nominals can be licit subjects of infinitival clauses in these languages, again seemingly licensed in a non-case position:

- (147) a- rutwo gũ- thooma ũũrú kũ- ráákáragi- a mũ- rutani
 2- students INF- read badly 15s- anger.CONT- FV 1- teacher

‘Students reading badly angers the teacher.’

Kikuyu (Harford Perez, 1985)

- (148) va- nhu ku- rwa daka u- ku- ha= kú- ná- kú- naka
 2- people INF- fight 5grudge this- 15 NEG- 15s- be INF- be.good
 ‘This fighting grudges on the part of people is no good.’ *Shona* (Fortune, 1977)

From these facts, Harford Perez concludes that abstract case is simply inoperative in the Bantu languages she discusses, and that therefore case is a parameter rather than a linguistic universal. This line of argument has been taken in recent work by Diercks (2012), who proposes a case parameter that renders case inactive in Bantu.

As we have seen in previous sections, Zulu exhibits many of these same constructions. While these grammatical properties have led researchers to posit an absence of case effects in Bantu, I argue that they really provide evidence only for a lack of *nominative* case in Spec,TP. Zulu presents still more evidence against nominative case in Bantu, but at the same time it provides evidence in favor of a system of case licensing more generally. Though Zulu is thus not incompatible with these previous observations, the Zulu facts suggest that we cannot dismiss the notion of case altogether in Bantu. Reexamining these languages in terms of nominal distribution lower in the clause will shed more light on the Bantu picture.

3.4.2 Licensing processes

While Harford Perez (1985) and Diercks (2012) advocate for an analysis of Bantu grammar in which case is simply absent, other researchers have proposed explanations for the absence of classic case effects without eliminating the notion of a case- or licensing-type mechanism. I first discuss these modified approaches to case-licensing with respect to the Zulu facts. I then turn to alternative ways to account for the restriction of nominals to certain positions to show that these approaches fail to capture all of the Zulu facts.

Alternative approaches to case licensing

While not rejecting the relevance of case licensing altogether for Bantu languages, a recent family of proposals suggests that the mismatch between case positions and Bantu nominals stems from a one-sided relationship between the case-assigning head and the nominal. Ndayiragije (1999) proposes that case is active in Bantu, but that in these languages only the features of functional heads, and not of lexical items (which includes nominals on this

theory), need to be checked for the derivation to converge. Specifically, uninterpretable features like case on nouns do not have to be checked, which leads to a relatively free distribution of nominals in non-case positions in Bantu. He claims that case does not appear to drive the distribution of nominals since case assignment depends purely on the requirements of functional heads. Ndayiragije applies this approach to OVS inversion constructions in Kirundi. In particular, Ndayiragije argues that the inverted object receives nominative case and the subject, which he claims undergoes A-bar movement to a focus position in the postverbal field, receives no case at all. When the subject moves to the focus position, raising of the object to canonical subject position is obligatory. He concludes from this pattern that case checking is only a necessity for functional heads: as long as T can assign nominative to the object, it doesn't matter that the focused subject receives no case.

Carstens (2005, 2011) and Carstens and Diercks (forthcoming) argue for a different type of probe-goal mismatch. For them, case is not only active in Bantu, but is in fact 'hyperactive'. Carstens (2005) claims that only feature *valuation*, and not feature checking, renders goal inactive and that because Bantu nominals enter the derivation with an already-valued gender feature, the nominals will thus always be 'active' (since gender will never be valued during the derivation). Consequently, Bantu nominals can enter case-checking relationships multiple times over the course of the derivation, which is why they appear to be equally-well licensed in a number of positions. In chapters 4 and 5, I return to the issue of Activity and suggest that case assignment in Zulu *does* in fact render a nominal inactive, yielding the unusual timing patterns I noted at the beginning of this section.

Baker (2003a) and Henderson (2006b) both argue that while in language families like Indo-European, case assignment is tied directly to agreement, such a link does not exist in Bantu. Baker argues that in Bantu, agreement is linked to the EPP and the agreement process absorbs case. Baker does not do away with the Case Filter altogether, however; he claims that the apparent absence of case-related effects on agreeing nominals is due to the fact that they are in dislocated positions, which he proposes do not require case for independent reasons.

All of these proposals aim to account for the unrestricted distribution of augmented

nominals. The Zulu facts discussed here also require an explanation for the unrestricted distribution of augmented nominals. The data in this chapter suggest that the augment itself is directly linked to the grammaticality of nominals in non-licensed structural positions. In chapter 5 I return to this issue in more detail and propose that the augment morphology functions as an intrinsic case-licensing mechanism. By contrast, I proposed in this chapter that augmentless nominals *do* require structural case, but that augmented nominals can function as defective intervenors for case-licensing heads. The fact that augmented nominals can appear in positions where structural case is assigned suggests that while inherently cased nominals in Zulu do not require structural case, they are not incompatible with structural case, along the lines of Legate's account of inherent ergatives in Warlpiri (Legate, 2005). In this sense, my view on augmented nominals is similar to Ndayiragije's (1999): while these nominals can occupy case-licensed positions, they are essentially indifferent to any case-licensing processes. In chapter 4, I provide independent morphological evidence that augmented nominals inside *vP* can be targets of the licensing head.

Alternative approaches to nominal restrictions

I showed in section 3.3 that Zulu augmentless nominals must *surface* in a *vP*-internal position. As mentioned above, the surface-oriented nature of this description is at odds with the general cross-linguistic pattern of case-assignment. The empirical generalization that emerges from the data is that augmentless nominals are licensed only in their final position. In chapter 4, I return to this issue and argue that this apparent surface-oriented pattern is in fact a predictable outcome of the syntactic derivation. An alternative to this late case-licensing approach, however, might construe this pattern in terms of a more surface-oriented process, such as incorporation, clitic-attachment, or mere linear adjacency to a verb – mechanisms which require transparent adjacency between two elements. In this section, I show that adjacency-based analyses fail to account for all of the Zulu data.

A number of proposals concerning double object constructions in Bantu languages claim that word order restrictions in double object constructions arise from the need for a nominal to be adjacent to the element that assigns it a grammatical function or theta role (Alsina, 2001; Alsina and Mchombo, 1993; Bresnan and Moshi, 1990, among others).

While these accounts focus on augmented nominals in the Bantu languages they discuss, we could imagine this logic determining the distribution of *augmentless* nominals in Zulu.

If augmentless nominals were forced to remain local to their theta role assigners, then the restriction of these nominals to *v*P-internal positions is expected: maintaining the local relationship between the argument and its introducer would essentially force arguments to remain in situ. Such an approach faces two different problems with empirical coverage, however. First, though the augmentless nominals in a monoclausal construction always maintain proximity to the theta-assigner, this locality is lost in a raising construction. As the evidence from raising-to-object constructions shows, augmentless nominals are grammatical if they raise out of the clause where they receive their theta role and into a *higher* *v*P, where they do not receive a theta role. On an account where theta assignment determines licensing, this type of grammatical movement is unexplained.⁹ Second, this type of analysis cannot account for the restrictions on augmentless nominals *within* *v*P. While we saw that a single augmentless nominal – in any argument position – is grammatical in *v*P, and that certain combinations of augmentless nominals are grammatical, other combinations are ruled out but can be ‘rescued’ by adding augment vowels. Since the same theta role relationships are at play in all of these constructions, theta role assignment alone cannot account for these contrasts.

Another semantically-driven adjacency approach to the restrictions on augmentless nominals might be to analyze Zulu augmentless nominals as incorporated nouns (Baker, 1988; Farkas and de Swart, 2003; van Geenhoven, 1998; Massam, 2001; Mithun, 1984, among others). Under this type of approach, the restriction of augmentless nominals to *v*P-internal position would be a result of incorporation: these nominals are *v*P-internal because incorporation results in adjacency to the verb. Though I have so far focused on simple augmentless nominals with no modifiers, augmentless nominals in Zulu are capable of the same levels of complexity as their augmented counterparts, including modification by adjectives and relative clauses, as illustrated below:

⁹It is perhaps possible, however, to rework this type of account in terms of the relationship ‘argument of’, rather than as a direct link to theta assignment.

- (149) a. a- ngi- bon- i [**muntu** o- gqoka isigqoko]
 NEG- 1SG- see- NEG 1person 1REL- wear AUG.7hat
 ‘I don’t see anyone wearing a hat.’
- b. a- ngi- bon- i [**muntu** o- mu- bi]
 NEG- 1SG- see- NEG 1person 1REL- 1- ugly
 ‘I don’t see anyone ugly.’

An incorporation-style account of the distribution of augmentless nominals would therefore be more in line with the “pseudo-incorporation” analysis developed in Massam (2001) to account for incorporation-like processes in Niuean that involve complex nominals. Even a pseudo-incorporation account of augmentless nominals cannot capture their full distribution within *vP*, however. As we saw in this chapter, augmentless nominals need not be immediately adjacent to the verb: in constructions with applied or causative arguments, multiple augmentless nominals may appear inside *vP*, and augmentless nominals may be separated from the verb by multiple other arguments, including augmented nominals, as *mali* ‘money’ is in (150).

- (150) A- ku- thum- el- anga mama izingane **mali**
 NEG- 17S- send- APPL- NEG.PAST 1mother 10child 9money
 ‘Mother didn’t send the children any money.’

In addition, typological surveys of incorporation note that incorporated elements are scopally inert (e.g. Farkas and de Swart, 2003; Geenhoven, 2002; Mithun, 1984). Though NPIs do indeed take low scope, recall that *wh-* words, which do scope out of *vP*, may also be augmentless when *vP*-internal:

- (151) uMfundo u- cabanga ukuthi ni- bon- e **bani?**
 AUG.1Mfundo 1S- think that 2PL- see- PFV 1who
 ‘Who does Mfundo think that you saw?’

To set aside any semantic issues involved in an incorporation approach to the *vP*-internal restriction on augmentless nominals, we could instead pursue a clitic analysis of these elements, where they must appear adjacent to verbs for morpho-phonological reasons. This type of account faces some of the same empirical issues discussed above. First, the same non-adjacency pattern seen in (150) remains a problem for a clitic account of augmentless

nominals. Second, if phonological adjacency to a verb (or a [verb + clitic] unit) were the only relevant factor in licensing, we might expect to find constructions in which an augmentless embedded subject would be adjacent to a matrix verb and thus licensed by the matrix verb. In fact, Zulu rules out such constructions:

- (152) a. *ngi- fisa (ukuthi) uSipho a- pheke iqanda*
 1SG- wish (that) 1Sipho 1SJC- cook 5egg
 ‘I wish that Sipho would could an egg.’
- b. **ngi- fisa uSipho ukuthi a- pheke iqanda*
 1SG- wish 1Sipho that 1SJC- cook 5egg
- c. **a- ngi- fis- i muntu a- pheke iqanda*
 NEG- 1SG- wish- NEG 1person 1SJC- cook 5egg

While the verb *fisa* ‘wish’ takes a subjunctive complement with an optional complementizer, the ungrammaticality of (152b) shows that it does not have the option for object control or raising-to-object,¹⁰ which means that nominals that appear between the matrix and embedded verbs must be in subject position in the lower clause. In (152c), we see that the augmentless nominal, in subject position in the lower clause, is ungrammatical, despite being adjacent to the higher verb.

Another potential means of accounting for the distribution of augmentless nominals without resorting to syntactic licensing would be in terms of information structure. While we already saw in section 3.2 that we cannot understand the ban on augmentless nominals in post-*vP* agreeing positions in terms of the information structure properties of NPIs, it is possible that the distribution of augmentless nominals *within vP* could be understood in these terms. In particular, Buell (2009) and Cheng and Downing (2009) have shown that focused nominals are restricted to certain positions within *vP*. There is a strong preference for focused elements to be adjacent to the verb, a fact which Cheng and Downing (2009) link directly to the prosodic structure of Zulu, which captures the surface-oriented distribution of focus – and potentially of augmentless nominals. Certain circumstances, however,

¹⁰While *fisa* ‘wish’ does not behave as a raising verb for the majority of Zulu speakers with whom I have worked, for a few speakers, it does allow raising-to-object under certain circumstances. Here I report the judgements of non-raising speakers. In chapter 4, I examine some constructions in which raising-to-object in a *fisa* clause is permitted.

are exceptional in that they allow a focused element to appear elsewhere in *vP* (Buell, 2009; Adams, 2011; Halpert, 2011).¹¹ There are few problems with a focused-based approach. First, as we've already seen in section 3.2, an NPI interpretation does not necessitate a focus reading. This fact is perhaps clearest in cases where an agreeing element in a right-dislocated (old information) position is understood as an NPI:

(120) **Right-dislocated augmented objects: NPI interpretation possible**

- Q: u- bon- e izindlovu ezingaki eBoston?
 2SG- see- PAST AUG.10elephant REL.10.how.many LOC.Boston
 'How many elephants did you see in Boston?'
- A: a- ngi- zi- bon- anga _{vP}] **izindlovu.** A- zi- kho
 NEG- 1SG- 10O- see- NEG.PAST AUG.10elephant. NEG- 10S- exist
 laphaya.
 over.there
 'I didn't see any elephants. There aren't any over there.'

Second, even if we were to assume that all *vP*-internal augmentless NPIs are necessarily focused, they do not in fact have the same distribution as other focused elements. Buell (2009) shows that in a double object construction with two *wh*-elements, the second *wh*-, which receives a focus interpretation, is grammatical in a *vP*-internal position following the focused *wh*-indirect object:

- (153) u- zo- nika bani ini?
 2SG- FUT- give 1who 9what
 'Who will you give what? (Buell, 2009, ex. (18))

While the account I presented in this chapter distinguishes between a construction like (153), which involves a double-object structure and is thus predicted to be grammatical, and a VSO construction, a focus account would not straightforwardly make such a distinction, since multiple foci are in fact grammatical in Zulu. If we look at the result of a multiple

¹¹These circumstances tend to involve a configuration where the syntax independently prevents a focused element from being adjacent to the verb, as I argue in Halpert (2011) for constructions with focused objects and postverbal subjects. Many of these constructions simply involve multiple focused elements inside of *vP*, not all of which can be adjacent to the verb.

wh-question with VSO structure, we find that such a construction is grammatical (with an augment on the second argument):

- (154) ku- phek- e bani ini?
17S- cook- PFV 1who 9what
'Who cooked what?'

As (154) shows, focus alone cannot account for the ungrammaticality of a VSO construction with two augmentless nominals, since Zulu allows two foci to follow the verb in VSO constructions more generally.

To summarize, this section examined some alternative accounts of Zulu based on adjacency or information structure as a means of deriving the apparent surface-oriented nature of the licensing requirement on augmentless nominals. While such accounts would not face problems with respect to the surface-oriented timing of the licensing process, they nevertheless fail to encompass the full range of Zulu facts. Instead, it appears that (surface) syntactic position remains the only reliable correlate of licensing for augmentless nominals. I show how even these apparent surface properties stem from the syntactic derivation in chapter 4.

3.4.3 The role of the augment

Throughout this chapter, we have seen that the structural restrictions on nominals are limited to those without the augment vowel. The precise differences between nominals with an augment vowel and those without is thus at the heart of any understanding of the distributional patterns discussed here. In chapter 5 I turn specifically to the role of the augment and other nominal morphology in the grammar of Zulu and argue that the augment signals that a nominal has received *intrinsic* case, or licensing independent of the clausal structure (cf. Schütze, 1997). In this section, I briefly overview some of the background issues relating to the augment in Bantu and discuss some previous treatments of its syntax.

Not all Bantu languages exhibit augment morphology on nominals. Of those that do, the circumstances in which augmentless nominals may appear vary (Katamba, 2003). Much recent work on the augment, particularly on Zulu and related Nguni languages, has argued

that it is a D° head (Buell and de Dreu, 2011; de Dreu, 2008; Taraldsen, 2010; Visser, 2008). Research on the function of the augment in Bantu languages has noted that multiple factors seem to govern its distribution: semantic and pragmatic factors such as definiteness, specificity, and focus seem to play a role as well as syntactic factors, including position within the clause and presence of c-commanding negation (Hyman and Katamba, 1991, 1993; Buell and de Dreu, 2011; de Dreu, 2008). These disparate factors have made it difficult for researchers to pinpoint a precise meaning for the augment morpheme. In chapter 5, I argue that the augment functions as an intrinsic case marker in Zulu. My proposal takes the syntactic restrictions on the distribution of the augment to be primary: the absence of an augment is only permitted in constructions where structural case is assigned. In these constructions, the presence or absence of the augment can have interpretive consequences (as in determining whether the nominal receives an NPI interpretation), but outside of case-assigning environments, such distinctions are neutralized and only the augmented version is permitted. I show in chapter 5 that this type of pattern is not uncommon cross-linguistically.

Most accounts of case and nominal distribution in Bantu, as discussed in the preceding sections, do not examine the distribution of augmentless nominals, either alone or in comparison to their augmented counterparts. Baker (2003a), however, does address the issue of the augment in his analysis of case in Kinande. Baker's focus in the paper is the apparent lack of nominative case effects in Kinande, which he analyzes as a result of the agreement process. He argues that agreed-with augmented nominals always occupy dislocated, A-bar positions and thus do not require case at all. While Baker does not directly address whether accusative case is effected by his analysis, his discussion of augmentless nominals assumes that no accusative case is assigned either. He claims that augmentless nominals in Kinande are inherently cased as a way to explain why these nominals can appear in vP-internal non-agreeing A positions. However, while Baker notes that vP-internal nominals in Kinande are often augmentless, his explanation does not provide an account for the appearance of augmented nominals in vP-internal A positions, as in (155b) below¹²:

¹²All unattributed Kinande data is from Pierre Mujomba, p.c.

- (155) a. mo- nga- langira simba
 PAST- 1SG- see 9lion
 ‘I saw a lion.’ (nonspecific)
- b. mo- nga- langira esimba
 PAST- 1SG- see AUG.9lion
 ‘I saw a/the lion.’ (specific)

In *v*P-internal position, the contrast between augmented and augmentless nominals appears to be one of specificity. However, just as in Zulu, augmentless nominals do not surface outside of *v*P in Kinande; nominals in *v*P-external positions can be ambiguous for specificity, as the contrast between pre- and post-verbal subject constructions in (156) below illustrates:

- (156) a. omundu a- ma- gonga
 1person 1S- PRES- knock
 ‘Someone’s knocking.’ (specific or nonspecific)
 or ‘The person is knocking.’
- b. * mundu a- ma- gonga
 1person 1S- PRES- knock
 intended: ‘Someone’s knocking.’
- c. ha- ma- gonga mundu
 16S- PRES- knock 1person
 ‘Someone’s knocking.’ (nonspecific)
- d. ha- ma- gonga omundu
 16S- PRES- knock AUG.1person
 ‘A/the person is knocking.’ (specific)

While more investigation of these Kinande facts is needed, the structural restrictions placed on augmentless nominals, but not on nominals with augments, appear similar to those found in Zulu. Regardless of the status of agreeing nominals in the language, the ability of both types of nominals to appear in *v*P-internal A positions is beyond the scope of Baker’s (2003) account, but in line with the analysis of Zulu proposed here. In chapter 7, I return to the issue of cross-Bantu variation in the distribution of the augment to discuss some avenues for future research.

3.5 Summary

In this chapter, I examined the distribution of augmentless nominals in Zulu. In particular, I focused on the restrictions these nominals face in argument positions. I showed that augmentless nominals are restricted to certain positions within vP and argued that we can understand this distribution in terms of case licensing via local licensing heads L , $APPL$, and $CAUS$.

In proposing such a system, I depart from work on Bantu that argues against the existence of case effects in the language family (Ndayiragije, 1999; Alsina, 2001; Baker, 2003; Carstens and Diercks, to appear; Diercks, 2012). While my analysis illustrates a familiar mechanism at work in Zulu, Zulu conspires to camouflage the presence of the Case Filter throughout most of the grammar. As I have shown, structural case licensing effects only emerge for the class of augmentless nominals, whose distribution is also subject to independent grammatical restrictions. The class of augmented nominals, which I argue to bear inherent case, do not exhibit structural restrictions. In the case of augmentless nominals, it is only when the independent grammatical requirements are met that we can see the role that structural licensing plays. Once we consider the right environments, we see that these nominals are only licensed in specific syntactic configurations, and will undergo A movement from a non-licensed to a licensed position, just as in more familiar languages like English. I presented evidence from raising-to-object constructions and from the behavior of vP -internal arguments to show that all structural licensing in Zulu occurs within vP , mediated by a licensing head (L) directly above vP and by $APPL/CAUS$ heads.

In the following chapters, I address two major outstanding questions raised by these data and my analysis of them. The first concerns the licensing process itself. I have proposed that a syntactic head, L , is located above vP and licenses the highest nominal within vP , but I have not addressed the question of what L is doing in the structure and what type of relationship holds between L and its target. In chapter 4, I focus on the nature of licensing by L and examine an independent morphological process that shares the syntactic distribution of augmentless nominals, the *conjoint/disjoint* alternation. I argue that this process is also mediated by L and specifically propose that the *disjoint* morpheme is an overt instance

of L. With this extra information about the licensing head, I return to the issue of timing and propose that the unusual timing effects of the licensing process proposed in this chapter are a result of the Activity Condition.

In chapter 5, I examine the role of the augment and other nominal morphology in Zulu to shed light on the question of why only augmentless nominals are subject to structural restrictions. I argue that the augment is one element in a larger system of morphological case in Bantu, and that augmented nominals are exempt from structural licensing because they receive case in a more local relationship, signaled by the augment itself.

3.A APPENDIX: Augmentless nominal overview

In this chapter, I presented evidence for structural restrictions on the distribution of augmentless nominals in argument positions. As I mentioned in section 3.2, there are a variety of other environments in which nominals can or must appear without an augment vowel. In this appendix, I present these other environments in more detail. The full summary of augmentless nominal distribution, as reported by Mzolo (1968), von Staden (1973), and Buell (2011), is given in table 3.3, repeated here. The table compares the previously described distributions of the augment in particular environments with my own findings for Durban Zulu.

ENVIRONMENT		AUGMENT STATUS	
		Reported in Buell (2011)	Durban Zulu
NP-level:	2nd member of compound	omitted (157)	omitted
	noun class transposition	omitted (159)	omitted
	denominal adjectives	omitted (160a)	omitted
	denominal adverbs	omitted (160b)	omitted
DP-level:	following a demonstrative pronoun	omitted (161)	omitted*
	following an ‘absolute’ pronoun	optional (163)	optional/ preferred (164), (165)
	proper names after titles	strongly dispreferred (166)	strongly dispreferred
	before <i>-ni</i> ‘what kind/ amount’	omitted (167a), (168a)	dispreferred (167), (168)
	before <i>-phi</i> ‘which’	omitted (169)	preferred (construction dispreferred) (170)
	before numeral quantifiers and ‘all’	optional (171), (172)	required (173), (174)
Vocatives:		omitted (175)	omitted
Clause-level:	<i>wh</i> -words	no discussion	optional
	Negative Polarity Items	omitted	omitted (within <i>vP</i>) / optional

Table 3.3: Comparative distribution of augmentless nominals

3.A.1 Augmentless nominals at the NP level

As Table 3.3 shows, augment vowels are omitted from nouns in a variety of derivational processes. These derivational patterns appear to be robust: the judgments reported in the literature were replicated by the speakers of Durban Zulu with whom I worked.

First, when a noun is the second member of a compound, it will appear in the compound without its augment vowel, regardless of the category of the first member of the compound, as in (157) below:

(157) **Compounds: second member loses augment**

- a. -veza + **indlebe** → ivez**andlebe**
reveal AUG.9ear AUG.5illegitimate.child
'illegitimate child.'
- b. imbuzi + **amawa** → imbuzi**mawa**
AUG.9goat AUG.6cliff AUG.9baboon
'baboon.'

In (157), we can see that the second member of the compound is not merely a noun stem: the *n* of *indlebe* 'ear' and the *ma* of *amawa* 'cliffs' are noun class prefixes, and not part of the stem. The fact that these morphemes remain through compounding shows that only the augment is omitted, while the other noun class morphology remains. In addition, while Zulu often deletes one vowel in a V + V sequence to resolve hiatus (Doke, 1997 [1927]), it is not the case that the second vowel is routinely deleted in compounding. Compare the compounds in (157) above with the [verb + locative] compound in (158) below:

- (158) -bhonga + e- ndl- ini → ibhong**endlini**
roar LOC- 9home- LOC AUG.9coward
'coward'

In addition to compounding, nominals also lose their augment through noun class 'transposition,' where a noun is shifted from one noun class to another, typically as a way of making proper names (class 1a) out of nouns from other classes.¹³ In (159), we can see

¹³This process is distinct from the process through which a single noun stem may be realized in several different noun classes, as with the stem *-ntu*: *umuntu* (class 1) 'person', *isintu* (class 7) 'mankind', *ubuntu*

that the class 7 prefix *si* remains on the stem while class 1a augment morphology is added on top:¹⁴

- (159) isimaku → u**Simaku**
 AUG.7small.white.fluffy.dog AUG1.7small.white.fluffy.dog
 ‘small, white, fluffy dog’ name appropriate for a small, white, fluffy dog

We find the same process when adjectives and adverbs are derived from nouns: the noun class prefix remains as part of the adjectival or adverbial stem, but the augment is omitted:

(160) **Denominal derivations: augment omitted**

- a. amanzi → -**manzi**
 AUG.6water wet
 b. ubuhlungu → **kabuhlungu**
 AUG.14pain painfully

(Buell, 2011, ex. (10) & (11))

In summary, several derivational processes that involve nominals in Zulu require that the augment be omitted, while the noun class prefix itself is preserved. The description of these patterns in the literature match the judgments of current speakers of Durban Zulu.

3.A.2 DP-level processes

At the DP-level, previous literature reports a number of constructions in which a nominal can or must omit its augment. While my Durban Zulu consultants agreed with some of these reported judgments, as with the demonstratives discussed below, they differed more from the reported judgments in these these constructions than in other categories.

Nominals that follow demonstrative pronouns must omit the augment, as in (161) below, though those that precede the demonstrative require the augment, as in (162):

(class 14) ‘humanity/ human nature’. While these cases place the morphology for each different noun class directly on the stem, the transposition cases put the morphology on top of the noun class prefix of the base word.

¹⁴The most common noun classes that result from this type of transposition are class 1a/2a, which do not have an overt noun class prefix – only an augment. It is difficult, therefore, to determine whether this process involves the noun class prefix of the resulting nominal or only its augment.

(161) **Prenominal demonstrative: augment omitted**

lo **mntwana** u- ya- ganga
1DEM 1child 1S- YA- misbehave
'This child is misbehaving.'

(162) **Postnominal demonstrative: augment required**

u- **mntwana** lo u- ya- ganga
AUG- 1child 1DEM 1S- YA- misbehave
'This child is misbehaving.'

While Durban Zulu speakers generally share the judgments reported in the literature as shown above, Tarald Taraldsen (p.c.) reports that nominals that follow the demonstrative pronoun in Zulu *can* bear an augment if there is a clear prosodic break between the pronoun and the following noun. Similarly, Visser (2008) reports that the augment on nouns following demonstratives is optional in Xhosa.¹⁵

With nominals that follow full pronouns, the judgments begin to differ. The reported pattern is that nominals that follow pronouns retain the augment when the nominal functions as an appositive but omit it when the nominal functions as an 'extension' of the pronoun:

(163) **Contrast in augment following absolute pronoun**

- a. na- mi, **umfundi**, be- ngi- bona
and- me AUG.1student PAST.IMP- 1SG- see
'I, a student, was also seeing.'
- b. na- mi **mfundi** be- ngi- bona
and- me 1student PAST.IMP- 1SG- see
'I (in my capacity as) a student was also seeing.' (von Staden, 1973, p. 168)

The contrast that von Staden (1973) describes is not one of definiteness; rather, he seems to be proposing that specificity is the distinguishing factor between the examples in (163) above, with (163a) yielding a specific reading of *umfundi* 'student', while (163b) implies that the subject is acting generically in the manner of a student.

¹⁵It is unclear to me whether these reported constructions involve the same structure as the constructions in (161) and (162), or if they are in fact appositive constructions.

For some speakers of Durban Zulu, the augmentless nominal in these constructions is completely ruled out, even when it would yield the type of generic reading that von Staden describes. For these speakers, the augmented version is required regardless of interpretation:

(164) **Variation: augmentless nominal dispreferred after pronoun**

- a. thina **amadoda** si- thanda inyama
 we AUG.6men 1PL- like AUG.9meat
 ‘We men like meat.’ / ‘We, the men, like meat.’
- b. % thina **madoda** si- thanda inyama
 we 6men 1PL- like AUG.9meat
 ‘We men like meat.’

A number of speakers do allow augmentless nominals to appear after pronouns in these constructions. For these speakers, the interpretation of these constructions is clearly as a generic:

(165) **Augmentless nominals with generic interpretation**

iNdebe yo- Mhlaba a- yi- si- siz- anga nga-
 AUG.9cup 9POSS.AUG- 3world NEG- 9S- 1PL.O- help- PAST.NEG NGA-
 lutho [thina **bantu** abampofu na- ba- hlala emijondolo] eNingizimu
 11thing we 2people REL2.poor and- REL2- live LOC-4slum LOC.5South
 Afrikha
 5Africa
 ‘The world cup didn’t help us poor slum dwellers of South Africa at all.’
 (Magagula, 2010)

While there is some variation between the reported judgments and those of Durban Zulu speakers, with Durban Zulu speakers generally more resistant to the augmentless form in the constructions given above, many of these speakers do accept the augmentless form as a way to convey that the predicate holds generically of the group described.

The final circumstance in which nominals appear without their augment when following another element inside DP is the case of proper names following titles. Buell (2011) reports an overwhelming preference for for augmentless forms in this context, as in (166a) and

(166c) below. Durban Zulu speakers show such a preference as well, though they also accept the augmented form, with no discernible difference in meaning:

(166) **Augmentless nouns preferred after titles**

- a. uMongameli **Zuma** ‘President Zuma’ (preferred)
- b. uMongameli **uZuma** ‘President Zuma’
- c. uNkosikazi **Sibiya** ‘Mrs. Sibiya’ (preferred)
- d. uNkosikazi **uSibiya** ‘Mrs. Sibiya’

While in the constructions above, the presence of the augmentless nominal within the DP was dependent on it *following* some other particular element, the remaining DP-internal environments where a nominal can appear without the augment are all cases where the nominal *precedes* a particular element. In these constructions, we find the greatest amount of variation between the judgments in the literature and those of Durban Zulu speakers.

First, in some cases the *wh*-clitic *-ni* ‘what’ can cliticize directly onto a nominal, typically yielding a meaning like ‘how much’ or ‘what kind’. Buell (2011) describes these constructions as involving an augmentless nominal, as in (167a) and (168a). Durban Zulu speakers duplicate this judgment, though they also accept the augmented version of these nominals as well:

(167) **Augmentless nominal preferred with clitic *-ni***

- a. ku- biza **mali-** ni?
17S- cost 9money- what
- b. (?) ku- biza **imali-** ni?
17S- cost AUG.9money- what
‘How much does it cost?’

- (168) a. u- zo- fika nga- **sikhathi** si- ni?
1S- FUT- arrive NGA- 8time 8- what
- b. (?) u- zo- fika **nge-** **sikhathi** si- ni?
1S- FUT- arrive NGA.AUG- 8time 8- what
‘What time will you arrive?’

Next, as Buell (2011) notes, nominals that precede agreeing *-phi* ‘which’ have been reported to omit the augment, as shown in (169a), while those that follow *-phi* retain the augment, as in (169c):

(169) **Literature: nominals preceding ‘which’ omit augment**

- a. w- a- bona **muntu** mu- phi?
 1S- PAST- see 1person 1- which
 ‘Which person did you see?’ (Buell, 2011, ex. (28), citing Poulos and Msimang (1998))
- b. * w- a- bona muphi **muntu**?
 1S- PAST- see 1.which 1person
- c. w- a- bona muphi **umuntu**?
 1S- PAST- see 1.which AUG.1person
 ‘Which person did you see?’

For speakers of Durban Zulu, however, the construction in (169a) is largely ungrammatical. While some speakers will marginally accept the construction, most reject it. For these speakers, adding an augment to the nominal improves the construction slightly, though all speakers have a strong preference for the construction in (169c), where the nominal follows *-phi* and bears the augment:

(170) **Variation: Durban Zulu use of ‘which’**

- a. */?? w- a- bona **muntu** mu- phi?
 1S- PAST- see 1person 1- which
- b. */?? w- a- bona **umuntu** mu- phi?
 1S- PAST- see AUG.1person 1- which
 ‘Which person do you see?’
- c. * w- a- bona muphi **muntu**?
 1S- PAST- see 1.which 1person
- d. w- a- bona muphi **umuntu**?
 1S- PAST- see 1.which AUG.1person
 ‘Which person did you see?’

Finally, the literature on augmentless nominals claims that the augment can be omitted on nominals that precede certain quantifiers, including *-nke* ‘all’ and *-nye* ‘one, another’.

As we saw earlier, von Staden (1973) claims that the presence or absence of the augment in these constructions affects the meaning, as reflected in the translations in (171) and (172) below:

(171) **Literature: Augmentless nominals permitted before -nke**

- a. Ng- a- qala uku- qalaza **izindawo** zonke
 1SG- PAST- start INF- look.around AUG.10places 10.all
 ‘I started to watch all the (particular, individual) places.’
- b. Ng- a- qala uku- qalaza **zindawo** zonke
 1SG- PAST- start INF- look.around 10places 10.all
 ‘I started to watch all places (every place).’ (von Staden, 1973, p. 168)

(172) **Literature: Augmentless nominals permitted before -nye**

- a. zi- bik- e **izwi** linye
 10S- report- PFV AUG.5statement 5.one
 ‘They have reported one (particular, individual) *message*.’
- b. zi- bik- e **zwi** linye
 10S- report- PFV 5statement 5.one
 ‘They have reported *one* (particular, individual) message.’ (von Staden, 1973, p. 169-70)

In (171), von Staden (1973) seems to be describing the difference in terms of specificity: the augmented nominal in (171a) receives a specific interpretation, while the augmented version in (171b) is nonspecific. In (172), the glosses suggest that while both versions are interpreted as specific, the augmented version in (172a) puts focus on the nominal, while the augmentless version in (172b) focuses the quantifier.

Durban Zulu speakers, by contrast, reject the augmentless versions of these constructions in (171a) and (172a) above. For these speakers, only the augmented version of the nominal is grammatical, whether it precedes or follows the nominal:

(173) **Variation: Durban Zulu requires augment with *-nke***

- a. * ng- a- vakasha **zindawo** zonke
1SG- PAST- visit 10places 10.all
- b. * ng- a- vakasha **izindawo** zonke
1SG- PAST- visit AUG.10places 10.all
'I visited all of the places / every place.'
- c. * ng- a- vakasha zonke **zindawo**
1SG- PAST- visit 10.all 10places
- d. * ng- a- vakasha zonke **izindawo**
1SG- PAST- visit 10.all AUG.10places
'I visited all of the places / every place.'

(174) **Variation: Durban Zulu requires augment with *-nye***

- a. * ng- a- bona **muntu** (o)munye
1SG- PAST- see 1person 1REL.one
- b. ng- a- bona **umuntu** omunye
1SG- PAST- see AUG.1person 1REL.one
'I saw a (specific) person / I saw another person.'
- c. * ng- a- bona (o)munye **muntu**
1SG- PAST- see 1REL.one 1person
- d. ng- a- bona omunye **umuntu**
1SG- PAST- see 1REL.one AUG.1person
'I saw another person / I saw a (specific) person.'

As (173) and (174) show, the augment is required in these constructions for Durban Zulu speakers. The different meanings that von Staden (1973) ascribed to the augmented and augmentless constructions involving *-nke* are both available for the augmented construction. Durban Zulu speakers interpret phrases with *-nye* somewhat differently from von Staden, so it is difficult to directly compare the range of interpretations, but they do not seem to attribute any particular focus structure to the constructions in (174).¹⁶

¹⁶While von Staden (1973) reports the use of *-nye* simply as an enumerative, meaning 'one,' Durban Zulu speakers do not typically use it in this sense. For these speakers, *-nye* as a modifier either means 'a specific' or 'another.' Speakers use the stem *-dwa* 'alone' to convey 'one' as a numeral quantifier:

To summarize this subsection, there are a number of environments in which a particular DP-internal element can condition the loss of the augment. While some of these elements have a flexible word order with respect to the nominal, the relative word order is crucial for augment distribution: some elements condition augment loss on a following nominal, while others condition it on a preceding nominal. Though Durban Zulu speakers share some judgments with those reported in the literature, there are also a number of constructions where Durban Zulu speakers diverge, requiring or preferring the augment in cases where it is reportedly omissible.

3.A.3 Vocatives

When nominals are used as vocatives, the augment is omitted:

(175) **Vocative nominals lack the augment**

- a. *ngi- ya- ku- bona (*u)- mntwana*
 1SG- YA- 2SG.O- see (*AUG)- 1child
 ‘I see you, child.’
- b. *ngi- ya- ni- bona (*a)- bantwana*
 1SG- YA- 2PL.O- see (*AUG)- 2child
 ‘I see you, children.’

When the nominals *mntwana* ‘child’ and *bantwana* ‘children’ are vocatives, as in (175) above, the augment vowel must be omitted. By contrast, when they appear as arguments in a similar construction, as in (176) below, the augment is required:

- (176) a. *ngi- ya- m- bona *(u)- mntwana*
 1SG- 1O- see *(AUG)- 1child
 ‘I see the child.’
- b. *ngi- ya- ba- bona *(a)- bantwana*
 1SG- YA- 2O- see *(AUG)- 2child
 ‘I see the children.’

(1) *ng- a- bona umuntu oyedwa*
 1SG- PAST- see AUG.1person 1REL.alone
 ‘I saw one person.’

In the case of these augmentless vocatives, the judgments of Durban Zulu speakers match those reported in the literature.

3.A.4 Summary

In this appendix I have presented the full range of environments in which a noun may appear without an augment at the NP- and DP- level. Some of these environments may related to the clause-level licensing properties I presented in the body of this chapter, but I do not pursue a unified account of these environments here and I leave this question to future research.

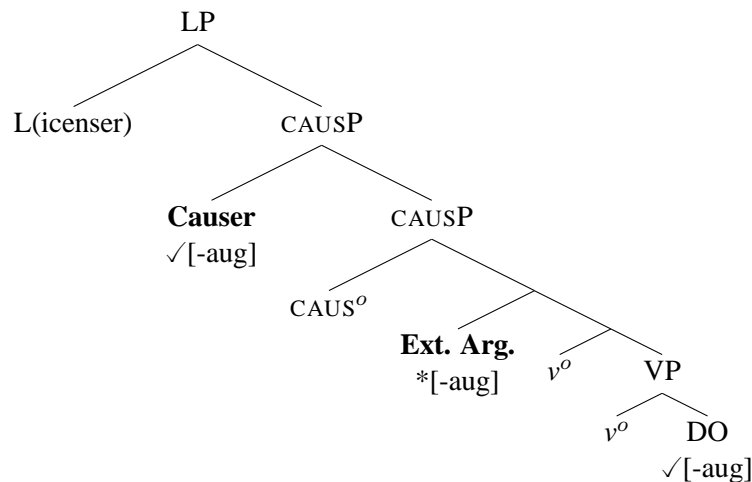
Chapter 4

Conjoint/disjoint and licensing in ν P

4.1 Introduction

In chapter 3, I showed that augmentless nominals in Zulu are subject to syntactic licensing conditions. Specifically, augmentless nominals are licensed either as the highest element within ν P or as the direct object in the presence of CAUS or APPL. To account for this distribution, I argued that the higher licensing occurred by means of a licensing head that is outside of ν P and can therefore license even an in situ external argument.

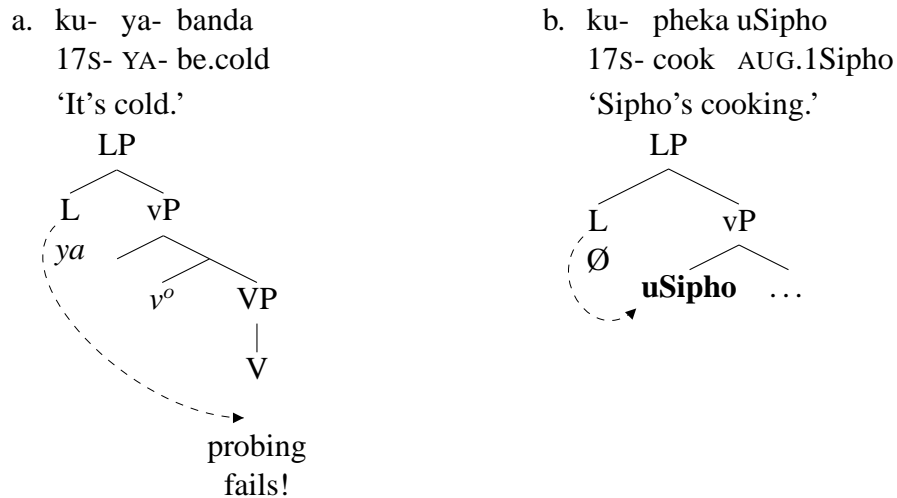
(177) Licensing of augmentless nominals



In this chapter, I focus on the higher licensing process. I argue that there is independent motivation to posit a syntactic category above ν P that is involved in probing ν P. This

evidence comes from the so-called conjoint/disjoint (or ‘long/short’) alternation on verbal predicates (Doke, 1997 [1927]; Van der Spuy, 1993; Buell, 2005, a.o.). As we will see, not only is the conjoint/disjoint alternation sensitive to the contents of ν P, which is the basic licensing domain for augmentless nominals, but this process is also sensitive to movement, just like the licensing of augmentless nominals. I propose that the common syntactic signature of these two phenomena can be understood in terms of the licensing head L that I introduced in chapter 3, as illustrated above. L probes the derivation in every construction in search of ν P-internal material, and can structurally license its goal – the highest element inside ν P.

(178) **Conjoint/disjoint: basic proposal**



In section 4.2 I present an overview of the conjoint/disjoint alternation. First I review the evidence that the conjoint/disjoint alternation is sensitive to syntactic configuration. I focus on constructions involving argument nominals, locatives, and adverbs discussed in Van der Spuy (1993) and Buell (2005) and review their diagnostics for the relevant constituencies. These diagnostics all suggest that the conjoint form occurs in the presence of ν P-internal material, while the disjoint occurs when the ν P is empty.

As I illustrate, this distribution shares with the distribution of augmentless nominals a sensitivity to movement: material that moves out of ν P during the derivation does not count as ν P-internal for the conjoint/disjoint alternation. As I discussed for the distribution of augmentless nominals in the previous chapter, this sensitivity to movement has been taken

as evidence that the conjoint/disjoint alternation is a reflection of surface configuration (Buell, 2005, 2006). I present new evidence, however, that the conjoint/disjoint alternation is *not* merely sensitive to the surface syntax and argue that it should instead be treated as the result of a syntactic agreement process. On the basis of the parallels in distribution between the conjoint/disjoint alternation and the licensing of augmentless nominals, I argue in section 4.3 that the licensing head L accounts for the distribution of both phenomena.

The remainder of the chapter is devoted to addressing outstanding issues related to the conjoint/disjoint alternation and to the nature of the agreement process that the head L undergoes. Section 4.4 is devoted to the nature of the L probe. I show that the participation of non-nominal categories in the conjoint/disjoint alternation follows from independent evidence that these categories all contain accessible nominal elements. In section 4.5, I return to the question of sensitivity to movement that we saw with augmentless nominals in the previous chapter, and propose that we can understand this sensitivity in terms of the Activity Condition. I present new evidence about the distribution of the conjoint/disjoint alternation in environments with clausal complements and adjuncts and discuss how this data helps us understand how to characterize the agreement process that L undergoes.

4.2 The conjoint/disjoint alternation: basic distribution

In certain tenses, Zulu verbal predicates display a morphological alternation between a so-called ‘conjoint’ (short) form and a ‘disjoint’ (long) form¹ (Van der Spuy, 1993; Güldemann, 2003; Buell, 2005, 2006). We can see this morphological difference on the verb *pheka* ‘cook’ in (179) below, which is marked with the morpheme *ya* in the present tense intransitive construction in (179b), but with \emptyset in the present tense transitive construction in (179a):²

¹The use of the terms *conjoint* and *disjoint* date to Meeussen (1959). The terms *short* and *long* first appear in Doke’s 1927 grammar of Zulu and are also frequently used to describe this alternation in the literature on Nguni.

²In this chapter I focus on this alternation in the present tense. While not all tense and aspect combinations have a conjoint/disjoint alternation, we do find the alternation in the ‘near past’ (perfective), where the suffix *-e* appears in conjoint environments and *-ile* in disjoint environments. We also find a similar contrast in

(179) **Conjoint/disjoint: present tense alternation**

- a. uMlungisi u- pheka iqanda
AUG.1Mlungisi 1S- cook 5egg
'Mlungisi is cooking an egg.'
- b. uMlungisi u- **ya-** pheka
AUG.1Mlungisi 1S- YA- cook
'Mlungisi is cooking.'

In this section I show, following Buell (2005) and Van der Spuy (1993), that the disjoint *ya* morpheme appears when the *vP* is empty *after* any A-movement has taken place, while the conjoint \emptyset appears if *vP* contains material after A-movement. I will argue that this alternation is a reflection of probing by L: the disjoint appears when L fails to find a goal inside *vP*, while the conjoint appears when L does find a goal.

(180) **Conjoint-disjoint generalization:**

Conjoint (\emptyset): appears when *vP* contains material (after A movement)

Disjoint (*ya*): appears when *vP* does not contain material (after A movement)

While this morphological alternation has been analyzed as a means of encoding focus, both in Zulu and in related Bantu languages (Creissels, 1996; Güldemann, 2003; Ndayiragije, 1999; Voeltz, 2004; Van der Wal, 2010), Van der Spuy (1993) and Buell (2005, 2006) show that the choice between conjoint and disjoint forms is predictable from the syntactic configuration and is independent of focus. Specifically, Buell (2005, 2006) argues that the alternation encodes the surface contents of a particular syntactic domain: the conjoint (\emptyset in present tense) appears when the verb is *not* final in the relevant syntactic domain (for van der Spuy, IP; for Buell, AgrSP), while the disjoint (*ya* in present tense) appears when the verb *is* final in this domain.

This section discusses the evidence that the conjoint/disjoint alternation is sensitive to syntactic constituency, along the lines proposed by van der Spuy (1993) and Buell (2005, 2006). While Buell characterizes this constituent as one containing the verb itself and relativized predicates, where a disjoint environment triggers a *-yo* suffix. These alternations are discussed in Buell (2005), but I set them aside here for simplicity.

argues that the alternation depends on whether the verb is final in this constituent, I will argue that we can capture the facts in terms of whether *vP* is ‘empty’ or not, as stated in (180).

In addition, previous accounts of the conjoint/disjoint alternation identify it as being sensitive only to the surface structure. I present novel evidence that shows that while the alternation does seem to be sensitive to most instances of movement, it is not the case that it merely reflects surface structure. While Buell (2005, 2006) suggests that there is a perfect correspondence between disjoint verb forms and phrase-final prosody on the verb, the evidence in this section suggests that the disjoint does not reflect verb finality, and is in fact deeply syntactic in nature. In particular, I show that in certain coordination constructions with a shared object the verb in the first conjunct receives phrase-final prosody and is not followed by any overt element in the relevant syntactic domain, yet requires the conjoint form.

To return to the example in (179), we saw that the conjoint (\emptyset) form is used when an object follows the transitive verb in (179a), while the disjoint is used when nothing follows the intransitive verb in (179b). Van der Spuy (1993) and Buell (2005, 2006) show that the conjoint/disjoint alternation does not simply reflect on whether the verb is sentence final. Instead, as they discuss, the alternation is sensitive to the syntactic position of elements following the verb. Specifically, we find the conjoint form in the presence of in situ post-verbal arguments and low adjuncts. We find the disjoint form in the absence of such elements, even when the verb is sentence medial and followed by high adjuncts or dislocated arguments.

4.2.1 The conjoint/disjoint alternation and argument position

In constructions where the verb presumably takes no thematic arguments, such as the weather predicate in (181) below, the disjoint form is required. In this construction, the verb bears class 17 expletive agreement.

(181) **Weather predicate: disjoint required**

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

When the verb does take thematic arguments, the conjoint/disjoint alternation correlates with the syntactic position of those arguments. Recall from chapter 2 that non-agreeing arguments are always inside *vP*, while agreed-with arguments occupy *vP*-external positions, either to the left or the right of the verb. The generalization in (180) predicts that the choice between conjoint and disjoint forms should reflect this difference between *vP*-internal and *vP*-external postverbal arguments. Given the correlation between agreement and syntactic position, we therefore expect the conjoint/disjoint alternation to be sensitive to whether arguments are agreed with. As we see in examples (182) and (183) below, this expectation is met. In intransitive and monotransitive constructions, the conjoint form is required whenever there are non-agreeing arguments:

(182) **Non-agreeing subject: conjoint required**

- a. ku- pheka uSipho
17S- cook AUG.1Sipho
'Sipho's cooking.'
- b. *ku- **ya-** pheka uSipho
17S- YA- cook AUG.1Sipho

(183) **Non-agreeing object: conjoint required**

- a. uSipho u- pheka iqanda
AUG.1Sipho 1S- cook AUG.5egg
'Sipho is cooking an egg.'
- b. *uSipho u- **ya-** pheka iqanda
AUG.1Sipho 1S- YA- cook AUG.5egg

By contrast, when the verb agrees with *both* arguments, the disjoint form is always required, regardless of whether the overt DPs are preverbal, postverbal, or pro-dropped:

(184) **Intransitive agreeing subject: disjoint required**

- a. (uSipho) u- **ya-** pheka
AUG.1Sipho 1S- YA- cook
'Sipho is cooking.'
- b. *uSipho u- pheka
AUG.1Sipho 1S- cook
- c. u- **ya-** pheka uSipho
1S- YA- cook AUG.uSipho
'Sipho is cooking.'
- d. *u- pheka uSipho
1S- cook AUG.1Sipho

(185) **Monotransitive agreeing object: disjoint required**

- a. (iqanda) (uSipho) u- **ya-** li- pheka
AUG.5egg AUG.1Sipho 1S- YA- 5O- cook
'(As for) the egg, Sipho is cooking it.'
- b. *iqanda uSipho u- li- pheka
AUG.5egg AUG.1Sipho 1S- 5O- cook
- c. uSipho u- **ya-** li- pheka iqanda
AUG.1Sipho 1S- YA- 5O- cook AUG.5egg
'Sipho is cooking the egg.'
- d. *uSipho u- li- pheka iqanda
AUG.1Sipho 1S- 5O- cook AUG.5egg

In double object constructions, since only one object may agree with the verb, at least one object must remain in situ. As (180) would predict, for these cases, the conjoint form must appear.

(186) **Double object construction: conjoint required**

- a. uSipho u- phek- ela uMfundo iqanda
AUG.1Sipho 1S- cook- APPL AUG.1Mfundo AUG.5egg
'Sipho is cooking Mfundo an egg.'
- b. **uMfundo** uSipho u- **m-** phek- ela iqanda
AUG.1Mfundo AUG.1Sipho 1S- 1O- cook- APPL AUG.5egg
'(As for) Mfundo, Sipho is cooking an egg for him.'

- c. * uMfundo uSipho u- **ya-** m phekel*a* iqanda
 AUG.1Mfundo AUG.1Sipho 1S- YA- 1O- cook- APPL AUG.5egg
- d. **iqanda** uSipho u- **li-** phe*k*- ela uMfundo
 AUG.5egg AUG.1Sipho 1S- 5O- cook- APPL AUG.1Mfundo
 ‘As for the egg, Sipho is cooking it for Mfundo.’
- e. * iqanda uSipho u- **ya-** li phe*k*- ela uMfundo
 AUG.5egg AUG.1Sipho 1S- YA- 5O- cook- APPL AUG.1Mfundo

These double object constructions in (186) help rule out a theory in which the disjoint form simply correlates with the existence of movement out of *v*P. As long as even one object is left inside *v*P, the conjoint form is still required, even though movement and agreement of the other arguments has occurred.³ In all of the cases above, the disjoint morphology appears precisely when *all* of the arguments of the verb have moved out of *v*P, leaving it empty after A-movement has occurred. When any argument stays inside the *v*P, conjoint morphology is required. The examples in this section thus illustrate that the alternation is dependent on the syntactic position of the arguments: the conjoint is used in the presence of *v*P-internal arguments while the disjoint is used in the absence of *v*P-internal arguments. These examples also illustrate that the relevant syntactic position for arguments is the one that they occupy *after* movement. Throughout the section, we will see how the data and my analysis of them compare to the previous analyses of the alternation (e.g. Van der Spuy, 1993; Güldemann, 2003; Buell, 2005, 2006). While my observations on and characterization of the phenomenon largely follow Buell (2005, 2006), some crucial data that I introduce will lead me to favor an account based on syntactic agreement, rather than surface configuration.

³While maximally one object may agree with the verb, Voeltz (2004) and Adams (2010) note that if the verb agrees with the indirect object and the underlying IO > DO word order is maintained, the disjoint form may be used. While it is unclear to me at this time why the IO > DO word order must be retained in these constructions, both objects in these ‘double dislocation’ constructions otherwise behave like right-dislocated elements in single dislocations, requiring an old information interpretation (Jochen Zeller, p.c.).

- (1) uSipho u- **ya-** m- phe*k*- ela] uMfundo iqanda
 AUG.1Sipho 1S- YA- 1O- cook- APPL] AUG.1Mfundo AUG.5egg
 ‘Sipho (did) cook Mfundo an egg.’

4.2.2 The conjoint/disjoint alternation with locatives and adverbs

In addition to its sensitivity to nominal argument position, as discussed in section 4.2.1, the conjoint/disjoint alternation is also sensitive to the position of elements that one might assume are non-nominals, including adverbs and locatives. Just as with the nominals, we can see that when these elements attach inside *vP*, they trigger the conjoint form, even in the absence of *vP*-internal arguments. When these elements have a higher attachment site, by contrast, they trigger the disjoint form.

First, we can see that VP-modifying adverbs with a uniformly low attachment site, such as the adverb *kahle* ‘well’ that we saw in chapter 2, typically require the conjoint form of the verb:

(187) Low adverb: conjoint required

- a. uSipho u- gijima **kahle**
AUG.1Sipho 1S- run well
‘Sipho runs well.’
- b. *uSipho u- **ya-** gijima **kahle**
AUG.1Sipho 1S- YA- run well

Despite the strong tendency for such low adverbs to trigger the conjoint, the disjoint form is also permitted, so long as the adverb itself is old information and the predicate receives verum focus:

(188) Old information low adverb: disjoint permitted

- Q: uMfundo a- ka- bhukud- i kahle, a- ngi- thi?
AUG.1Mfundo NEG- 1S- swim- NEG well NEG- 1SG- say
‘Mfundo doesn’t swim well, does he?’
- A: cha, u- ya- bhukuda kahle, kodwa uMthuli u- ya- m- hlula
no 1S- YA- swim well but AUG.1Mthuli 1S- YA- 1O- surpass
‘No, he does swim well, but Mthuli is better.’

Other adverbs, such as *kakhulu* ‘a lot’ can appear with either form of the verb:

(189) **Conjoint/disjoint optionality with adverb**

- a. uSipho u- gijima **kakhulu**
AUG.1Sipho 1S- run a.lot.
'Sipho runs a lot.'
- b. uSipho u- **ya-** gijima **kakhulu**
AUG.1Sipho 1S- YA- run a.lot
'Sipho runs a lot.'

With this set of adverbs, speakers report that the conjoint and disjoint forms are equally good in many contexts, though there is a tendency to prefer the conjoint when the adverb is in focus, as in the question in (190) below, and the disjoint for verum focus (with an old information adverb), as illustrated by the possible responses:

- (190) Q: uNokukhanya u- bhukuda kakhulu yini?
AUG.1Nokukhanya 1S- swim a.lot what
'Does Nokukhanya swim a lot?'
- A1: u- (ya)- bhukuda kakhulu uma e- seThekwini
1S- (YA)- swim a.lot when 1PRT- be.at.AUG5Durban
'She swims a lot when she's in Durban.'
- A2: u- ya- bhukuda kakhulu uma e- seThekwini, kodwa hayi uma
1S- YA- swim a.lot when 1PRT- be.at.AUG5Durban but not when
e- seMelika
1PRT- be.at.AUG5America
She does swim a lot when she's in Durban, but not when she's in America.

With locative phrases, there is a strong contrast between goal readings and location readings. Goal readings require a conjoint form (and typically co-occur with an applicative marker on the verb), as in (191):

(191) **Goal reading: conjoint required**

- a. uMfundo u- gijim- ela **esitolo**
AUG.1Mfundo 1S- run- APPL LOC.AUG.7store
'Mfundo is running to the store.'
- b. *uMfundo u- **ya-** gijim- ela **esitolo**
AUG.1Mfundo 1S- YA- run- APPL LOC.AUG.7store

Location readings can co-occur with either the conjoint or the disjoint form of the verb – and show the same context-sensitivity to old information and focus as the adverbs above. In (192), the locative is new information and triggers a conjoint verb; in (193), the old information locative in the response triggers disjoint morphology:

(192) **Location reading: conjoint**

Q: uMfundo w- enza- ni?
 AUG.1Mfundo 1S- do- what?
 ‘What is Mfundo doing?’

A: uMfundo u- gijima esitolo
 AUG.1Mfundo 1S- run LOC.AUG.7store
 ‘Mfundo is running in the store.’

(193) **Location reading: disjoint**

Q: uMfundo u- gijima esitolo yini?
 AUG.1Mfundo 1S- run LOC.AUG.7store what
 ‘Is Mfundo running in the store?’

A: Yebo, u- ya- gijima esitolo!
 yes 1S- YA- run LOC.AUG.7store
 ‘Yes, he is running in the store!’

In these examples, we can see that while a goal reading requires a conjoint form, location readings for locative phrases are context sensitive: focus on the locative phrase correlates with a conjoint form, as in (192), while an old information locative phrase yields a disjoint form, as in (193). If the generalization in (180) is correct, these patterns suggest that goals and new or focused locations appear inside *vP*, while old information locations appear outside *vP*. As we saw in chapter 2, this type of positional distinction based on information structure seems to hold independently in Zulu, and in section 4.2.3, we will see some additional ways to confirm these predicted structures.

4.2.3 Diagnostics for ν P edge

The pattern that emerges from the data in the previous subsections is that, as described by van der Spuy (1993) and Buell (2005, 2006), the conjoint/disjoint alternation tracks the contents of ν P:⁴

(180) **Conjoint-disjoint generalization:**

Conjoint (\emptyset): appears when ν P contains material (after A-movement)

Disjoint (*ya*): appears when ν P does not contain material (after A-movement)

An empty ν P triggers disjoint marking (*-ya-*) while material inside ν P, including both arguments and adjuncts, triggers conjoint (\emptyset) marking. As we saw from the subject and object data, this generalization appears to hold *on the surface*: elements that start out inside ν P but move during the course of the derivation, such as the subjects and objects in (184) and (185) trigger disjoint, rather than conjoint, marking.

It is crucial that the relevant domain for the conjoint/disjoint alternation is not defined linearly – for example, as the entirety of the postverbal field including everything that follows the verb until the end of the sentence. Rather, as we have seen, the alternation is sensitive to different *syntactic* positions following the verb. We can observe the relevance of the ν P domain to the conjoint/disjoint alternation by examining how the alternation lines up with independent diagnostics for the right edge of ν P.

Van der Spuy (1993) and Buell (2006) develop syntactic and prosodic diagnostics for the syntactic boundary that the conjoint/disjoint alternation is sensitive to. The syntactic evidence comes from the possibility of inserting elements such as vocative phrases or question particles in sentence medial position, as well as from the behavior of agreed-with, dislocated DPs. The prosodic evidence involves processes such as penultimate lengthening and high tone shift that target particular syntactic constituents.

⁴More precisely, we should say that the alternation tracks the contents of the complement to L, since as we saw in the previous chapter, CAUSPs introduce a causer argument above ν P that participates in the conjoint/disjoint alternation as well. Since I do not focus on this type of construction in this chapter, I will use ν P as a shorthand for the relevant category.

(194) **Syntactic evidence for vP boundary**

- a. Vocative insertion: must occur to the right of a vP boundary.
- b. Question particle insertion: must occur to the right of a vP boundary.

(195) **Prosodic evidence for vP boundary**

- a. Penultimate lengthening: occurs on the penultimate syllable of vP.
- b. High tone shift: shifts to antepenult at a vP boundary, penult otherwise.

Syntactic evidence

Van der Spuy (1993) notes that a vocative phrase, in addition to appearing sentence initially or finally, may also appear sentence medially. When it follows a sentence medial verb, however, the disjoint form is required:

(196) **Zulu vocative: sentence-initial and sentence-final**

- a. **Mama** uSipho u- gijima phandle
1mother AUG.1Sipho 1S- run outside
'Mom, Sipho is running outside.'
- b. uSipho u- gijima phandle **Mama**
AUG.1Sipho 1S- run outside 1mother
'Sipho is running outside, Mom.'

(197) **Sentence-medial vocative: must follow disjoint form**

- a. uSipho u- **ya-** gijima **Mama** phandle
AUG.1Sipho 1S- YA- run 1mother outside
'Sipho is running, Mom, outside.'
- b. * uSipho u- gijima **Mama** phandle
AUG.1Sipho 1S- run 1mother outside

With a direct object, the vocative can either follow the non-agreeing direct object (which follows a conjoint form of the verb) or precede the agreeing object, in which case it follows a disjoint verb form.⁵ The vocative cannot appear between a conjoint form of the verb and the object:

⁵The vocative can also follow an agreeing, dislocated object, in which case the verb must appear in the disjoint form, as expected for dislocated objects. I do not discuss this construction here because it does not add to our understanding of the conjoint/disjoint alternation.

(198) **Sentence-medial vocative with object**

- a. uSipho u- (*ya-) dlala ibhola **Mama** (phandle)
AUG.1Sipho 1S- (*YA-) play AUG.5soccer 1mother (outside)
'Sipho is playing soccer, Mom, outside.'
- b. uSipho u- **ya-** li- dlala **Mama** ibhola
AUG.1Sipho 1S- YA- 5O- play 1mother 5soccer
'Sipho is playing, Mom, soccer.'
- c. * uSipho u- (li-) dlala **Mama** ibhola
AUG.1Sipho 1S- (5O-) play 1mother 5soccer

Buell (2005) shows a similar pattern with the question particles *na/yini*, which typically appear sentence finally to mark a yes/no question⁶:

(199) **Zulu question particle *na***

- a. uSipho u- ya- yi- thanda lo- mculo
AUG.1Sipho 1S- YA- 9O- love DEM3- 3song
'Sipho likes this song.'
- b. uSipho u- ya- yi- thanda lo- mculo **na?**
AUG.1Sipho 1S- YA- 9O- love DEM3- 3song Q
'Does Sipho like this song?' (Buell, 2005, ex. (123))

(200) **Zulu question particle *yini***

- a. uSipho u- pheka iqanda
AUG.1Sipho 1s- cook AUG.5egg
'Sipho is cooking an egg.'
- b. uSipho u- pheka iqanda **yini?**
AUG.1Sipho 1s- cook AUG.5egg what
'Is Sipho cooking an egg?'

Like the vocative, the question particle can never be inserted directly after the conjoint form of the verb. Instead, it must appear either after the disjoint form of the verb, or after the conjoint verb and a following object or low adjunct. In (201a-b), we can see that in an

⁶While Buell (2005) only addresses the use of *na*, the speakers of Durban Zulu with whom I have worked prefer *yini* 'what' over *na* to mark yes/no questions. To my knowledge, the distribution of *yini* in this use mirrors the distribution of *na* described by Buell (2005). My original examples of question particle distribution will use *yini*.

intransitive construction with no other elements, *yini* must follow the disjoint form of the verb. The sentences in (201c-e) show that when the adjunct *phandle* appears to the left of *yini*, the conjoint form is grammatical, but when it appears to the right, only the disjoint is allowed.

(201) **Question particle (with adjunct): cannot immediately follow conjoint verb**

- a. uSipho u- **ya-** gijima **yini**?
AUG.1Sipho 1S- YA- run what
'Is Sipho running?'
- b. *uSipho u- gijima **yini**?
AUG.1Sipho 1S- run what
- c. uSipho u- **ya-** gijima **yini** phandle?
AUG.1Sipho 1S- YA- run what outside
'Is Sipho running outside?'
- d. uSipho u- gijima phandle **yini**?
AUG.1Sipho 1S- run outside what
'Is Sipho running outside?'
- e. *uSipho u- gijima **yini** phandle?
AUG.1Sipho 1S- run what outside

In (202), we see a similar pattern with objects. When the (non-agreeing) object appears to the left of *yini*, the verb takes the conjoint form. When the object agrees and appears to the right of *yini*, the disjoint is required.

(202) **Question particle (with object): cannot immediately follow conjoint verb**

- a. uSipho u- pheka iqanda **yini**?
AUG.1Sipho 1S- cook AUG.5egg what
'Is Sipho cooking an egg?'
- b. *uSipho u- pheka **yini** iqanda?
AUG.1Sipho 1S- cook what AUG.5egg
- c. uSipho u- **ya-** li- pheka **yini** iqanda?
AUG.1Sipho 1S- YA- 5O- cook what AUG.5egg
'Is Sipho cooking the egg?'

Van der Spuy (1993) and Buell (2005, 2006) argue that the vocative and the question particle attach outside of *vP*. When these elements immediately follow the verb, therefore,

nothing else that follows the verb can be *inside* vP. On a view of the conjoint/disjoint alternation that tracks constituency (or vP contents), the obligatoriness of the disjoint form in this configuration is expected, since the vP is empty.

Prosodic evidence

In addition to the syntactic markers of phrase edges discussed above, Van der Spuy (1993) and Buell (2005, 2006) also discuss some prosodic diagnostics for determining syntactic boundaries. One such diagnostic is *penultimate lengthening*, or *prepausal lengthening*, a process that lengthens the penultimate syllable of a word (and inserts a subsequent pause) at the right edge of a syntactic phrase boundary. I will discuss this process and subsequent research on it in more detail in section 4.2.4, but for now I will simply note the observations that bear on the conjoint/disjoint alternation. Since penultimate lengthening applies at the right edge of a syntactic phrase, Van der Spuy (1993) uses it to demonstrate that conjoint forms in Zulu have a different syntactic constituency from disjoint forms.

In a sentence where the verb appears in the conjoint, Van der Spuy (1993) shows that the verb itself cannot bear penultimate lengthening, suggesting that there is no right edge of any syntactic phrase intervening between the verb and what follows:

(203) Conjoint verb: no penultimate lengthening

- a. uSipho u- gijima **pha:ndle**)
AUG.1Sipho 1S- run outside
'Sipho is running outside.'
- b. *uSipho u- **giji:ma**) phandle
AUG.1Sipho 1S- run outside

By contrast, when the verb appears in the disjoint form, penultimate lengthening *must* apply to the verb:

(204) Disjoint verb: penultimate lengthening required

- a. uSipho u- ya- **giji:ma**) phandle
AUG.1Sipho 1S- YA- run outside
'Sipho is running outside.'
- b. *uSipho u- ya- gijima **pha:ndle**)
AUG.1Sipho 1S- YA- run outside

Van der Spuy (1993) takes this pattern as additional evidence that the disjoint verb does not form a syntactic constituent with following material.

Buell (2005) highlights a second prosodic process, *high tone shift*, that also targets the right edge of syntactic phrases. In a construction with an underlyingly toneless verb, when a preverbal morpheme introduces a high tone, the high tone shifts to the right, surfacing either on the penult or the antepenult of the verb. When the verb is phrase-final, the high tone shifts to the antepenult, but when the verb is phrase-medial, the high tone shifts all the way to the penult. This shift correlates with the conjoint/disjoint alternation: conjoint forms allow the shift to the penult, while disjoint forms require the high tone to surface on the antepenult. In the following examples, the noun class 2 subject agreement morpheme *bá-* has an underlying high tone, in contrast to the first person singular *ngi-*. With the low-tone verb *gijima* ‘run’, the high tone of *bá-* shifts to the antepenult of a disjoint verb, but all the way to the penult of a conjoint verb:

- (205) a. /ngi- ya- gijima/ → ngì- yà- gìjì:mà
 1SG- YA- run
 ‘I run.’
- b. /bá- ya- gijima/ → bà- yà- gíji:ma
 2S- YA- run
 ‘They run.’ (Buell, 2005, ex. (117))
- (206) /bá- gijima nge- jubane/ → bà- gìjímà ngejuba:ne
 2S- run with.AUG 5speed
 ‘They run fast.’ (Buell, 2005, ex. (119))

As with the penultimate lengthening evidence, this tonal evidence indicates that Zulu has a systematic means of marking the right edge of certain prosodic constituents. When these prosodic boundaries fall on the verb itself, the disjoint morpheme typically appears; the conjoint form is used when the verb is not at the edge of a prosodic constituent. In the next subsection, I examine the strength of this prosodic correlation.

4.2.4 Against a prosodic account of the conjoint/disjoint alternation

The evidence in section 4.2.3 shows a strong correlation between the conjoint/disjoint alternation and prosodic markers of the ν P edge. The disjoint appears when the verb is the final element in a prosodic phrase, while the conjoint appears when the verb is not at the edge of a prosodic phrase. Given this correlation, it is tempting to consider the conjoint/disjoint alternation as merely another marker of the prosodic phrase. In this subsection, I present novel data to show that we can in fact distinguish the conjoint/disjoint alternation from purely prosodic processes.

Cheng and Downing (2009) argue specifically that prosodic phrase boundaries in Zulu occur at the right edges of ν Ps and CPs. They identify the prosodic boundary that the conjoint/disjoint alternation seems to align with as the right edge of ν P. They tie this observed correlation between prosodic and syntactic phrases in Zulu into the cross-linguistic tendency for prosodic phrases to align with syntactic phase boundaries (An, 2007; Ishihara, 2007; Kahnemuyipour, 2004; Kratzer and Selkirk, 2007, a.o.). If the conjoint/disjoint alternation is merely another expression of the prosodic boundary of ν P, we would expect it to consistently pattern with prosodic processes. Here I discuss two processes that allow us to separate the conjoint/disjoint alternation from the processes outlined in section 4.2.3: the behavior of clitics and the behavior of shared objects in coordination.

First, as Buell (2005) points out, there are certain *wh*- enclitics in Zulu that form a single prosodic word with the verb. As Buell (2005) and Cheng and Downing (2009) describe, the prosodic phrase markers discussed above typically fall on the final prosodic word in a particular prosodic phrase. If the disjoint morpheme is merely another prosodic phrase marker that appears on the verb when it is final in the prosodic phrase, we would expect it to appear in constructions where the verb and its *wh*- clitic are not followed by other material. Buell (2005) shows that contrary to this expectation, the *conjoint* is required in these cases:

(207) *wh*-clitics: final prosody, conjoint verb

- a. ba- dlala:- phi?
2S- play- where
'Where are they playing?'
- b. *ba- ya- dlala- phi?
2S- YA- play- where
- c. u- fundisa:- ni?
2SG- teach- what
'What do you teach?'
- d. *u- ya- fundisa- ni?
2SG- YA- teach- what

Buell (2005, adapted from ex. (255))

In (207), the *wh*-clitics form part of the same prosodic word as the verb, as indicated by penultimate lengthening, but the conjoint form is required. The data in (207) show that the disjoint does not uniformly appear on the verb when it is the final *prosodic* word in the phrase, but they do not rule out an account in which the disjoint morpheme appears on the verb when it is the final *lexical* word in the phrase. If we look beyond the *wh*-clitics that Buell considers, however, we find more striking evidence against a simple prosodic or lexical finality account. We can observe the relevant contrast if we compare the behavior of the *wh*-clitics to the behavior of another clitic, *-ke* 'so, then'. While *-ke* also forms a prosodic word with the verb, again illustrated by the penultimate lengthening in (208), and acts as a unit for the purpose of phrase-final prosodic markers, in these constructions, it is the *disjoint* – and not the *conjoint* – that is required:

(208) non-*wh* clitics: final prosody, disjoint required

- a. ngi- ya- hamba:- ke
1SG- YA- go- KE
'So I'm going.'
- b. *ngi- hamba- ke
1SG- go- KE

We can conclude from these differences between *wh*-clitics and *-ke* with respect to the conjoint/disjoint alternation that we cannot predict the choice of conjoint or disjoint form

simply from whether the verb is the final prosodic (or lexical) word or not. By contrast, markers of prosodic boundaries such as penultimate lengthening or high tone shift *do* simply seem to care about the final prosodic word and are insensitive to the appearance and type of a clitic that may appear in the prosodic word that contains the verb stem.

I return to the differing behavior of the two clitic types later in section 4.4.3, but for now I simply highlight the fact that both clitic types trigger identical prosodic behavior but different behavior with respect to the conjoint/disjoint alternation.

A second way in which the behavior of the disjoint morpheme differs from the behavior of markers of prosodic phrase finality emerges from the behavior of certain coordination constructions in Zulu. Typically, the first member of a pair of coordinated verb phrases in Zulu has a prosodic boundary at its right edge:

(209) **Coordination: first member has prosodic boundary at right edge**

- a. *ngi- ya- cu:la) futhi ngi- ya- da:nsa)*
 1SG- YA- sing and 1SG- YA- dance
 ‘I sing and I dance.’
- b. * *ngi- cula futhi ngi- ya- dansa*
 1SG- sing and 1SG- YA- dance

- (210) *bà- yà- gíjì:mà) futhi ba- dlala ibhola*
 2S- YA- run and 2S- play AUG.5ball
 ‘They run and they play soccer.’

The first verb in the coordination constructions in (209) and (210) behaves as though it were final in a prosodic constituent: it receives penultimate lengthening, which is consistent with the right edge of a prosodic boundary, and in (210), the underlying high tone of the subject marker shifts to the antepenult, as expected for a prosodic phrase-final verb. The verb is also required to appear with disjoint morphology, which, as we’ve seen, correlates with a verb that is final in *vP*.

With a transitive verb in the first conjunct, we still see a prosodic phrase boundary at the end of the first conjunct – on the *object*, which is the final prosodic word in the phrase. As expected, the conjoint form of the verb is required here:

- (211) a. ba- dlala **ibho:la**) futhi ba- ya- gijima
 2S- play AUG.5ball and 2S- YA- run
 ‘They play soccer and they run.’
- b. *ba- ya- dlala ibhola futhi ba- ya- gijima
 2S- YA- play AUG.5soccer and 2S- YA- run

To summarize, so far we have seen that the first conjunct in coordinated structures in Zulu behaves as though there is a prosodic boundary at its right edge: the final prosodic word in the conjunct receives a prosodic phrase boundary and the verb requires the conjoint form if it is not final in the first conjunct, but disjoint form if it is.

Zulu also allows coordinated verb phrases to share a single object, which is realized inside the second conjunct. In these constructions, the verb in the first conjunct still receives a prosodic phrase boundary, but appears in the *conjoint* form, despite being the final prosodic word in the phrase:

(212) **Shared object: prosodic boundary in first conjunct, conjoint required**

- ngi-buk-**e:la**) futhi (ngi-phinde) ngi-dlale **ibho:la**)
 1SG-watch-APPL) and 1SG-again 1SG-play.SJC AUG.5soccer
 ‘I watch and I (also) play soccer.’

In (212), the shared object *ibhola* ‘soccer’ appears in the second conjunct, where it receives a prosodic phrase boundary. In the first conjunct, the verb still behaves as though it is at the edge of a prosodic phrase, but it must appear in the *conjoint* form, which is typically only allowed if the verb is phrase medial. I return to the analysis of this construction and its implications in section 4.5.2 to argue that in contrast to agreeing vP-external objects, the shared object in the coordination construction is available as a goal throughout the entire syntactic derivation.

To summarize, in this subsection, we have seen two ways in which the distribution of the conjoint/disjoint alternation differs from that of prosodic phrase markers such as penultimate lengthening or high tone shift. Both the clitic data and the coordination data show that even when the verb behaves prosodically as though it is the final prosodic word in the phrase, there are cases where the conjoint form, rather than the disjoint form, is required.

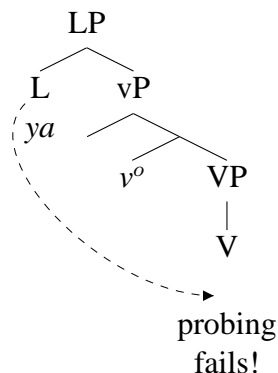
4.2.5 The conjoint/disjoint alternation as a marker of syntactic constituency

In the previous subsection, we saw evidence that despite the close correlation between disjoint morphology and prosodic markers that correlate with the vP edge, the disjoint morpheme does not have the same distribution as prosodic phrase boundaries. Instead, it seems that as Buell (2005, 2006) has argued, the conjoint/disjoint alternation is simply a reflection of *syntactic* structure.

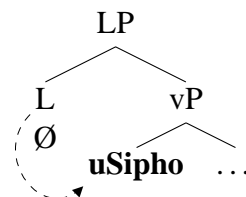
Buell (2005, 2006) characterizes the conjoint/disjoint alternation as a reflection of the syntactic constituent that contains the verb. The conjoint form appears when the verb is phrase-medial in its constituent, while the disjoint appears when the verb is final in its constituent, as we will see shortly. In this chapter, I instead model this distribution in terms of a syntactic agreement relationship – exactly like the licensing mechanism that I proposed in chapter 3. The head responsible for the conjoint/disjoint alternation, again L , has vP as its syntactic search domain. When it finds phrasal material to agree with in vP , it spells out as \emptyset (the conjoint). When it fails to find phrasal material, the derivation converges (Preminger, 2010, 2011), but the head L spells out as $-ya-$ to mark the failure.

(178) Conjoint/disjoint: basic proposal

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



- b. ku- pheka uSipho
17S- cook AUG.1Sipho
'Sipho's cooking.'



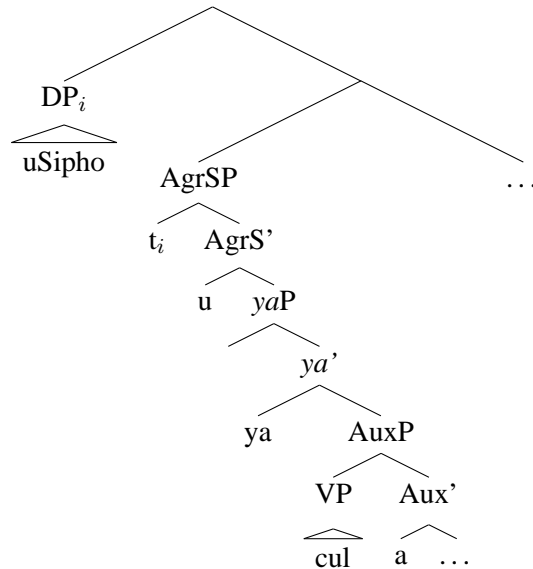
We can contrast this approach with Buell's own approach. As I will show below, when we take into account some new prosodic evidence, we are forced to conclude that the conjoint/disjoint alternation can not simply be modeled in terms of surface constituency.

The syntactic analysis that Buell (2005, 2006) adopts is based on the claim that a certain syntactic constituent in Zulu, which he calls AuxP (and identifies as the syntactic phrase headed by the final vowel),⁷ is required to contain “heavy (phrasal) overt material”. This AuxP is dominated by the phrase that houses the conjoint/disjoint morphology, which Buell calls *yaP*. Buell claims that the macrostem of the verb always raises to Spec,*yaP* *unless* such movement would leave the lower AuxP empty. When the VP raises into Spec,*yaP*, the head of *yaP* remains null, due to the Doubly Filled Spec Filter (Koopman, 1996), which yields the conjoint form. When the VP remains inside AuxP, the head of *yaP* is able to be overtly realized, yielding the disjoint form. Buell’s proposed structure is illustrated in the trees below:

- (213) a. uSipho u- ya- cul- a
 AUG.1Sipho 1S- YA- sing- FV
 ‘Sipho is singing.’
 b. uSipho u- cul- a ingoma
 AUG.1Sipho 1S- sing- FV AUG.9song
 ‘Sipho is singing a song.’

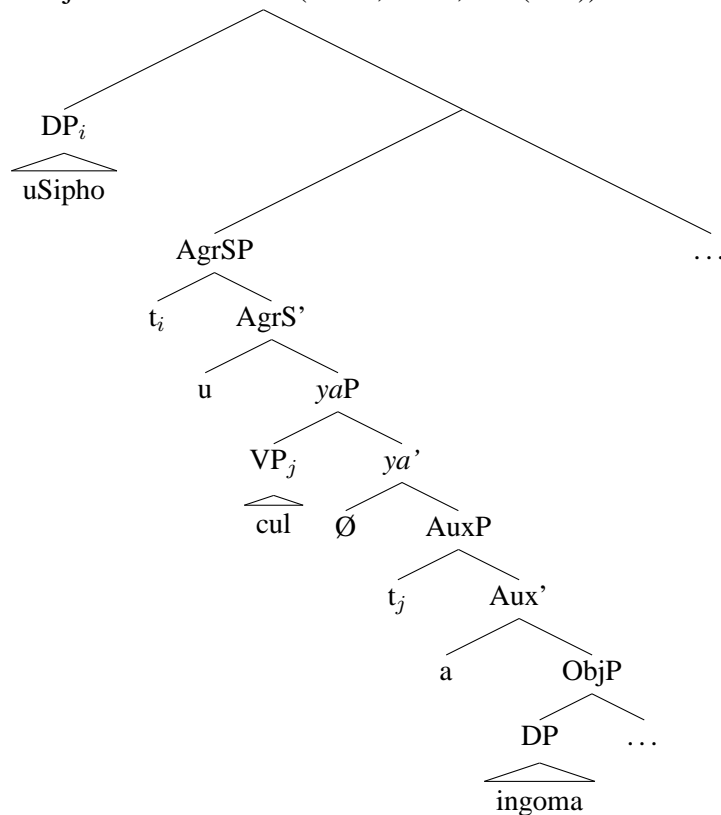
(214) **Conjoint/disjoint analysis: Buell (2005)**

- a. Disjoint construction (Buell, 2005, ex. (310a))



⁷Recall from chapter 2 the discussion of the position of the verb. Because it always precedes all *vP*-internal elements and shows evidence of head movement under other diagnostics, it has clearly itself evacuated the *vP* to a higher position. For Buell, that position is (minimally) a phrase above *vP* he identifies as AuxP.

b. Conjoint construction (Buell, 2005, ex. (311))



Though Buell (2005) explicitly argues against a prosodic account of the conjoint/disjoint alternation, his analysis is in fact phonological in nature. The contrast between conjoint and disjoint boils down to a requirement that the AuxP in the structures above be realized with overt (phrasal) phonological content. It is not immediately clear how this requirement should treat the *wh*-clitic data that Buell himself introduces, illustrated above in (207). In these examples, despite the fact that the clitic is part of the same phonological word as the stem, the verb nevertheless takes the conjoint form, which on Buell's analysis is consistent with it raising into *yaP*. On his analysis, then the *wh*-clitic must therefore both “count” as heavy phonological content inside AuxP but also be part of the phonological word formed by the verb.

Perhaps more problematic for this analysis is the coordination data discussed above in (212). In these constructions, the conjoint form is used in the first conjunct of the two coordinated verb phrases, even though the shared object is *overtly* realized only in the second conjunct, as repeated below:

(212) **Shared object: prosodic boundary in first conjunct, conjoint required**

ngi-buk-e:la) futhi (ngi-phinde) ngi-dlale ibho:la)
1SG-watch-APPL) and 1SG-again 1SG-play.SJC AUG.5soccer
'I watch and I (also) play soccer.'

Based on these facts, I conclude that the conjoint/disjoint alternation cannot be directly tied to the phonological realization of a construction – in particular, to whether an element is ‘overt’ – and argue instead that it should be understood purely in terms of syntactic relationships, as I discussed above. In the remainder of this chapter, I discuss the details of this analysis. In particular, I focus on how the conjoint/disjoint alternation shares numerous syntactic properties with the distribution of augmentless nominals discussed in the previous chapter, including sensitivity to specific types of syntactic movement. I argue that these properties can be accounted for using the same syntactic operation of probing by the head L.

4.3 A familiar signature

The conjoint/disjoint alternation tracks the contents of ν P: the conjoint form is used when ν P contains syntactic material and the disjoint is used when ν P is empty. At the same time, this alternation is sensitive to movement: elements that undergo movement from ν P-internal to ν P-external positions are treated as purely ν P-external. In the previous chapter, we saw an independent grammatical process with a similar profile: the licensing of augmentless nominals.

Recall that augmentless nominals are restricted to syntactic positions within ν P. In (215), we see that the augmentless subject *muntu* is licensed when it appears in postverbal, ν P-internal position, but not when it moves to a preverbal ν P-external position. However, as (216) illustrates, when an ungrammatical preverbal augmentless subject further raises to ν P-internal object position in the higher clause, the sentence is grammatical.

(215) **Augmentless nominals licensed within vP**

- a. a- ngi- sho- ngo [ukuthi ku- fik-e **muntu**]
 NEG- 1SG- say- NEG.PAST that 17S- arrive-PFV 1person
 ‘I didn’t say that anyone came.’
- b. *a- ngi- sho- ngo [ukuthi **muntu** u- fik-ile]
 NEG- 1SG- say- NEG.PAST that 1person 1S- arrive-PFV

(216) **Raising to object licenses augmentless nominals**

- a. *a- ngi- fun- i [ukuthi **muntu** a- pheke iqanda]
 NEG- 1SG- want- NEG that 1person 1SJC- cook 5egg
- b. a- ngi- fun- i **muntu_i** [ukuthi t_i a- pheke iqanda]
 NEG- 1SG- want- NEG 1person that 1SJC- cook 5egg
 ‘I don’t want anyone to cook an egg.’

Furthermore, in simple intransitives and monotransitives, an augmentless nominal must be the highest nominal within vP: when both the subject and object are postverbal, only the subject may be augmentless, as in (217a).

(217) a. **✓VSO –augment +augment**

a- ku- phok- anga muntu iqanda
 NEG- 17S- cook- NEG.PAST 1person 5egg
 ‘Nobody cooked an egg.’

b. ***VSO –augment –augment**

*a- ku- phok- anga muntu qanda
 NEG- 17S- cook- NEG.PAST 1person 5egg

c. ***VSO +augment –augment**

a- ku- phok- anga **umuntu** qanda
 NEG- 17S- cook- NEG.PAST 1person 5egg

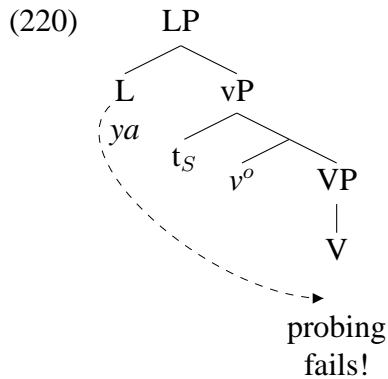
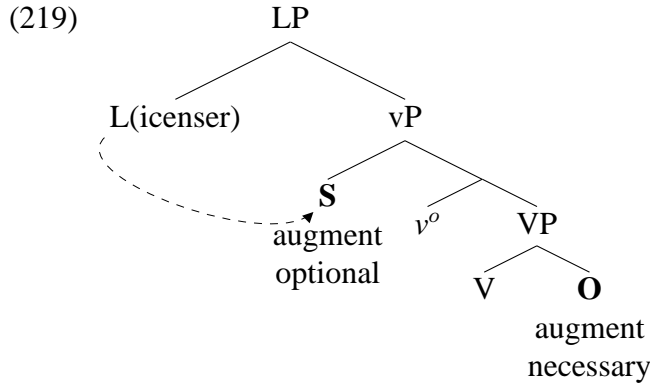
Crucially, just as with the conjoint/disjoint alternation, it is not enough for an augmentless nominal to *start out* inside vP. As (218) also illustrates, movement to a preverbal position, without subsequent raising-to-object, causes ungrammaticality:

(218) **Movement to ν P-external position ungrammatical**

- a. ngeke ku- fundise **muntu**
never 17s- teach.SJC 1person
'Nobody will ever teach.'
- b. *ngeke **muntu** a- fundise
never 1person 1s- teach.SJC

The conjoint/disjoint alternation and the distribution of augmentless nominals thus have a similar profile: both involve elements that are within ν P, and in both cases the grammatical operation involved is sensitive to elements that are inside ν P at a point *after* movement of subjects and objects occurs. In other words, at a glance, in both cases the *surface* configuration seems to be relevant, as Buell (2005) tried to capture. However, as we saw in the previous section, we can identify constructions, such as coordination, where the conjoint/disjoint alternation does not merely track surface configuration. I return to the issue of movement in section 4.5 to examine how we can account for these surface-oriented tendencies in both phenomena.

In this section I will show that we can understand both of these puzzles if we assume that a single head is responsible for both. As discussed in chapter 3, the participation of ν P-internal subjects in both of these processes suggests that the probing head, L, must be immediately *above* ν P. I have proposed that the conjoint/disjoint alternation is a record of the probing operation. If the probe finds a target, it spells out as the conjoint, while if it *fails* to find a target, it spells out as the disjoint. This same probe, L, licenses augmentless nominals. The need for licensing by L causes augmentless nominals to surface only in the most local position to the probe, making them the highest nominals within ν P. Augmented nominals, on the other hand, are inherently licensed and thus do not require licensing by L. This basic pattern is schematized in (219) and (220) below:



The mechanics of this analysis depends on a particular understanding of the relationships between probes and goals. First, as I have mentioned above, to capture the conjoint/disjoint alternation in terms of probing, Agreement operations must be able to fail without causing a crash (Preminger, 2009b, 2010, 2011). Second, the relationship between the probe, L, and both augmented and augmentless nominals suggests that case relationships must have the potential to be one-sided (Ndayiragije, 1999; Legate, 2005). In the following subsection, I address these issues in more detail.

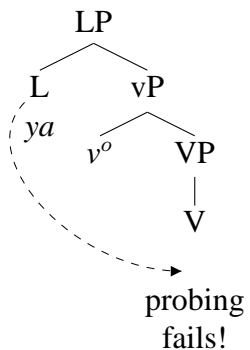
4.3.1 Asymmetric probe-goal relationships

As we have seen, it is crucial to the analysis I propose here that the failure to find a goal by L does not yield a crash. Preminger (2009b, 2010, 2011) argues that it is in fact *not* obligatory for a probing head to successfully undergo Agreement in order for a derivation to converge. However, Agree itself is not optional: a head obligatorily probes and thus will always Agree if a goal is present. As long as probing is attempted, the derivation will still converge even if a probe fails to find a goal.

We can understand the Zulu conjoint/disjoint pattern in terms of this proposal. The head responsible for the conjoint/disjoint alternation probes the ν P for an XP to agree with. When the ν P is empty, and L thus lacks a goal, the derivation still converges, as predicted by Preminger. In Zulu we see a morphological marker of this failure: where Agree does not occur, the probing head spells out as *-ya-*, rather than \emptyset . While I attach no particular import to the fact that it is the *failure* of Agree that is morphologically marked in this case, Preminger (p.c.) notes that this pattern is attested elsewhere, as in English verbal agreement morphology, where the “default” third singular morpheme (which Preminger argues can arise as the *absence* of agreement) is overt *-s*, while true agreement with first and second person arguments is \emptyset .

(221) **Failure to Agree by L:
no ν P-internal arguments**

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

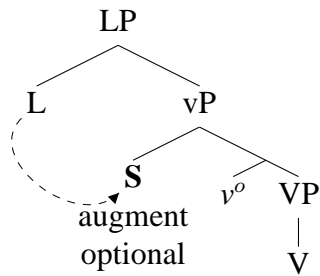


On the other side of asymmetric probing relationships is the issue of how potential goals respond to probing. Ndayiragije (1999) argues that some *goals* can undergo probing in Bantu even when they do not need to undergo Agree, as I discussed in chapter 3. For Ndayiragije, nominals that don't require case in Bantu can still be goals, and not merely interveners, of case probing without causing a crash. Similarly, Legate (2005) argues that nominals that are inherently cased in Warlpiri can occur in positions where structural case is assigned. This type of configuration is exactly what arises on my account of these two

puzzles in Zulu. Though augmentless nominals do require probing by L, *augmented* nominals apparently do not. However, it appears that though augmented nominals do not *require* licensing by the L head, they are licit targets for L, since their presence triggers the conjoint form of the predicate.⁸

(222) **Probing by L succeeds: postverbal subject**

ku- fundise **uMthuli**
 17S- teach.SJC 1person
 ‘Mthuli taught.’



The fact that augmentless nominals, on the other hand, *do* require structural licensing by L allows us to understand the fact that they are only licensed as the highest nominal inside vP. If L, the head responsible for the conjoint/disjoint alternation, is also responsible for structural case, an augmentless nominal must be its most local potential target in order to be licensed. While augmented nominals do not require structural licensing, we know from the behavior of the conjoint/disjoint alternation that they are potential targets for L. The presence of a higher nominal will thus always prevent a lower augmentless nominal from being licensed.

⁸In section 4.5.1, and again in chapter 5, I return to the question of why augmented nominals can act as goals for L. I suggest that though the augment, which independently provides licensing, can coincide with structural licensing from L, it in fact enters the derivation *after* L has probed, so at the point when L probes, all nominals are in fact augmentless.

(223) **Augmentless nominal must be most local to L**

a. **✓VSO –augment +augment**

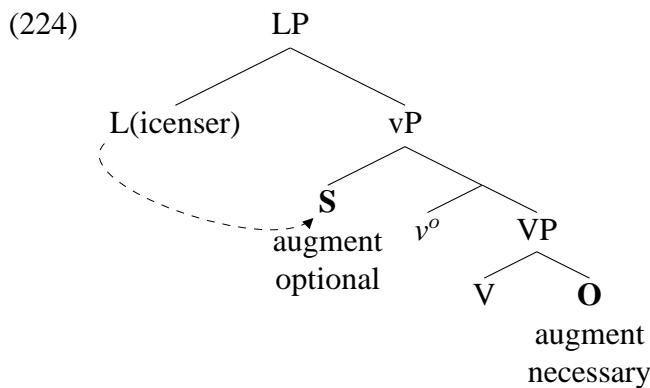
a- ku- phek- i muntu iqanda
 NEG- 17S- cook- NEG 1person 5egg
 ‘Nobody is cooking an egg.’

b. ***VSO +augment –augment**

a- ku- phek- i umuntu qanda
 NEG- 17S- cook- NEG 1person 5egg

c. ***VSO –augment –augment**

* a- ku- phek- i muntu qanda
 NEG- 17S- cook- NEG 1person 5egg



This type of asymmetry, where a *goal* requires a specific Agree relationship to hold, while the *probe* does not, is also discussed by Preminger (2011). Preminger shows that a probe that checks [participant] features in Kichean Mayan languages need not undergo Agree. Nominals that bear [participant] features, on the other hand, must be licensed via Agree with the [participant] probe (Person Licensing Condition, Béjar and Rezác, 2003).

As independently argued for in a number of sources, we see evidence in Zulu of asymmetrical relationships between the head L and its potential goals. While L is responsible for case-licensing augmentless nominals, it does not specifically probe for an augmentless nominal, as I discuss in more detail in the following section. In addition, L will not cause a crash whether or not it finds a goal. The conjoint/disjoint alternation is a record of whether L successfully Agrees. On the other hand, augmentless nominals that are not checked by L *do* cause a crash and thus must be local to L.

4.3.2 Interim summary

In this chapter, I have presented the basic distribution of the conjoint/disjoint verbal alternation in Zulu and argued that the phenomenon reflects a particular syntactic configuration in the language. I then showed that the distribution of this phenomenon closely matches the distribution of augmentless nominals in Zulu presented in the previous chapter. Both phenomena depend on the contents of ν P and both show the same sensitivity to syntactic movement. In this section I proposed that both of these phenomena can be accounted for as the result of probing by a syntactic head, L, that searches the ν P for a goal. L can find and case-license the highest element in ν P, yielding the distribution of augmentless nominals. When L fails to find a goal, the derivation records this failure in the morphological spell-out of the head, as the disjoint *ya* morpheme.

Throughout the chapter, two significant questions involving these phenomena and their analysis have emerged. One question concerns the nature of the licensing head L. I have thus far remained vague about the specific features that the L head targets. We have already seen in this chapter that the conjoint/disjoint alternation, which I claim reflects successful vs. unsuccessful probing by L, is sensitive to a variety of ν P-internal elements beyond nominals, including adverbs and locative phrases. In section 4.4, I return to the question of what such elements have in common such that they all function as goals for L.

In this chapter and in chapter 3, we have seen that elements involved in both the conjoint/disjoint alternation and the licensing of augmentless nominals are sensitive to movement. Specifically, in most cases, we have seen that elements that move out of ν P over the course of the syntactic derivation do not count as ν P-internal for either process. Similarly, elements that further move from a ν P-external to a higher ν P-internal position do count as ν P-internal. At the same time, we saw evidence earlier in this chapter that the conjoint/disjoint alternation, in particular, is not merely a reflection of surface configuration – differing crucially from true surface-oriented prosodic processes in the language. In section 4.5 I will discuss how we can understand the movement patterns that emerge from these phenomena.

4.4 The nature of L as a probe

On the analysis that I have developed in this chapter, the conjoint/disjoint morphology spells out the head L, which probes the *v*P in every derivation. I have proposed specifically that conjoint morphology is the result of a successful agreement/licensing operation for L, while disjoint morphology results when L fails to find a goal to Agree with. So far, however, I have not addressed the issue of what L probes for in any detail. In my discussion of augmentless nominal distribution chapter 3, I focused on nominal arguments of the verb. I argued that these augmentless nominals *require* probing by L in order to be licensed. As we have seen in this chapter, though, the conjoint/disjoint alternation is sensitive to other types of phrases in addition to nominals. We have seen, for example, that both adverbs and locatives also trigger conjoint morphology when they appear inside *v*P.

While Zulu is a language that has rich person, number, and noun class agreement in the subject and object agreement paradigms, neither the conjoint/disjoint alternation nor the syntactic restrictions on augmentless nominals overtly reflect any of these features of the nominals being probed. In addition, we saw in section 4.2 that the conjoint/disjoint alternation is not only sensitive to the presence of a nominal argument, but that it also can apparently probe non-arguments. In (192), repeated below, the presence of a non-argumental locative inside *v*P triggers conjoint morphology and in (225) an adverb can also trigger the conjoint:

(192) **Location reading: conjoint**

Q: uMfundo w- enza:- ni?
AUG.1Mfundo 1S- do- what?
'What is Mfundo doing?

A: uMfundo u- gijima **esito:lo**
AUG.1Mfundo 1S- run LOC.AUG.7store
'Mfundo is running in the store.'

(225) uSipho u- gijima **kakhu:lu**
AUG.1Sipho 1S- run a.lot.'
'Sipho runs a lot.'

This behavior of these non-nominal elements suggests that the conjoint/disjoint alterna-

tion is not distinguishing nominals from non-nominals.⁹ While this result is unproblematic in for an analysis such as that of Buell (2005), which depends purely on phonological weight inside a particular domain, it requires extra explanation in a theory based on syntactic agreement, such as the one I propose here.

In this section, I look more closely at the behavior of these non-nominal elements that participate in the conjoint/disjoint alternation, focusing first on CPs and then on locatives and adverbs. I will argue that while these categories may seem to have little in common with nominals at first glance, there are two different ways in which they behave as though they contribute an accessible nominal to the structure.

First, as I discuss in section 4.4.1, CPs exhibit some striking direct parallels to the patterns displayed by nominals in Zulu. I focus my discussion on the difference between CPs headed by the complementizer *ukuthi* and those headed by *sengathi* and show that like augmented nominals, *ukuthi* phrases are able to control phi-agreement and to appear in non-licensed positions. By contrast, *sengathi* phrases *must* appear in structurally-licensed positions, *just like augmentless nominals*. I conclude from these patterns that CPs in Zulu, or perhaps more accurately the complementizers themselves, pattern with nominals in participating in A-agreement processes. Their participation in the conjoint/disjoint alternation is therefore unsurprising.

In section 4.4.2, I turn to locatives and adverbs. While elements in these categories do not display such direct similarities to nominals, we find that these elements are typically built by adding some prefixal morphology to a nominal base. As I show here, and as we will see in more detail in chapter 5, this type of prefixal morphology in Zulu does not seem to prevent licensing of the nominal it contains, as augment patterns with PPs illustrate. In

⁹One measure in which it is difficult to directly compare the behavior of nominals and non-nominals is in terms of their status as intervenors. In the constructions that I have examined, speakers generally reject adverbs and locatives that are positioned between the verb and a subject or object nominal – regardless of whether the nominal bears an augment – so this question remains open. In the next section, and again in chapter 5, we’ll see some constructions where certain CPs and oblique adjuncts require the same type of licensing as augmentless nominals. As we will see, in these circumstances, augmented nominals do act as intervenors for licensing and the constructions are only grammatical when these CPs and adjuncts are highest in vP.

contrast to CPs, which contain a nominal-like complementizer as a head, these phrases instead seem to have a nominal *complement* that is accessible to L.

In sum, I conclude in this section that a number of seemingly non-nominal elements in fact contain accessible nominal goals, making their participation in the conjoint/disjoint unsurprising. This conclusion leaves open the issue of whether there are any elements that appear inside ν P in Zulu that do not share these properties. As we saw earlier in this chapter, certain clitics are potential candidates: they appear after the verb but do not trigger the conjoint. I return to the behavior of these clitics in section 4.4.3 to discuss what they teach us about the nature of potential targets for L. While their non-participation in the conjoint/disjoint alternation could be taken as an argument that they are not potential goals, I show that there is insufficient evidence to prove that these elements are situated inside ν P in the first place.

4.4.1 The conjoint/disjoint alternation and clausal complements

In this subsection, I argue that the behavior of CPs in fact parallels the behavior of nominals in a way that suggests that they can interact with the L probe in exactly the same way as nominal. From this stance, it is unremarkable that CPs participate in the conjoint/disjoint alternation, which I will illustrate at the beginning of the subsection. CPs inside ν P trigger the conjoint, while those that appear outside ν P trigger the disjoint. Once this observation is established, I will show that not only do CPs show the same basic sensitivity to the conjoint/disjoint alternation as nominals, but certain CPs, headed by *ukuthi*, can also trigger agreement on the verb in the same fashion as nominals. This agreement which has the predicted result that agreeing CPs must dislocate. I will return to this property of CPs in chapter 6, where I discuss raising-to-subject constructions.

Next I will show that the complementizer *sengathi* has a different distribution from *ukuthi*. I show that CPs headed by *sengathi* must remain inside ν P, and must furthermore be the *highest* element within ν P – exactly like the augmentless nominals we saw in the previous chapter. Given this distribution, it appears that CPs interact with the L head in exactly the same manner as nominals: all CPs are licit targets for L probing, but only a

subset of CPs, those headed by *sengathi*, require probing by L in order to be licensed.¹⁰ These parallels between CPs and nominals are illustrated in table 4.1 below. In light of these similarities, both in terms of the conjoint/disjoint alternation and in terms of other properties – such as agreement and structural licensing – I will conclude that CPs share the relevant properties of nominals that allow them to act as goals for L.

NOMINALS		CPs	
Augmented	Augmentless	<i>ukuthi</i> -headed	<i>sengathi</i> -headed
vP-internal OK triggers conjoint no agreement	vP-internal required triggers conjoint no agreement	vP-internal OK triggers conjoint no agreement	vP-internal required triggers conjoint no agreement
vP-external OK triggers disjoint agreement required	*vP-external (must be local to licenser)	vP-external OK triggers disjoint agreement optional	*vP-external (must be local to licenser)

Table 4.1: Distribution of nominals and CPs with respect to conjoint/disjoint

For the nominal arguments discussed earlier in this chapter, subject or object agreement with the argument correlates with movement of the argument, as we saw in chapter 2. Agreed-with nominals appear outside of vP, which can in turn yield disjoint morphology if the vP becomes empty as a result of such movement. Similarly, certain clausal complements in Zulu are able to control object agreement on the main predicate. When a CP complement agrees with the verb, it must appear outside the vP, triggering disjoint morphology:

- (226) a. *ngi- ya- ku- cabanga [ukuthi uMlungisi u- ya- bhukuda manje]*
 1SG- YA- 17O- think that AUG.1Mlungisi 1S- YA- swim now
 ‘I think that Mlungisi is swimming now.’
- b. **ngi- ku- cabanga [ukuthi uMlungisi u- ya- bhukuda manje]*
 1SG- 17O- think that AUG.1Mlungisi 1S- YA- swim now
 ‘I think that Mlungisi is swimming now.’

¹⁰This difference is perhaps due to the different morphological makeups of the complementizers. While they are both based built from the same verbal stem *-thi* ‘say’, *ukuthi* is inflected like an infinitival clause – or augmented class 17 nominal. By contrast, *sengathi* is inflected with aspect and mood morphology and does not bear anything like an augment vowel. While we cannot say that *sengathi* is merely an unaugmented form of *ukuthi*, the fact that it requires licensing is perhaps linked to its lack of an initial vowel.

In contrast to nominal arguments, however, clausal complements in Zulu also allow the main verb to appear in either the conjoint or the disjoint form *without* agreement, as we see for full CP complements in (227) below and for infinitival complements in (228):

- (227) a. *ngi- cabanga [ukuthi uMlungisi u- ya- bhukuda manje]*
 1SG- think that AUG.1Mlungisi 1S- YA- swim now
 ‘I think that Mlungisi is swimming now.’
- b. *ngi- **ya-** cabanga [ukuthi uMlungisi u- ya- bhukuda manje]*
 1SG- YA- think that AUG.1Mlungisi 1S- YA- swim now
 ‘I think that Mlungisi is swimming now.’
- (228) a. *ngi- funa uku- bhukuda*
 1SG- want INF- swim
 ‘I want to swim.’
- b. *ngi- **ya-** funa uku- bhukuda*
 1SG- YA- want INF- swim
 ‘I want to swim.’

With subjunctive CPs, the complementizer *ukuthi* can optionally be omitted. Both forms of the CP – with and without the complementizer – are compatible with either the conjoint or the disjoint:

- (229) a. *ngi- funa [ukuthi uXolani a- win- e umjaho]*
 1SG- want that AUG.1Xolani 1SJC- win- SJC AUG.3race
 ‘I want Xolani to win the race.’
- b. *ngi- ya- funa [ukuthi uXolani a- win- e umjaho]*
 1SG- YA- want that AUG.1Xolani 1SJC- win- SJC AUG.1race
 ‘I want Xolani to win the race.’
- (230) a. *ngi- funa [uXolani a- win- e umjaho]*
 1SG- want AUG.1Xolani 1SJC- win- SJC AUG.3race
 ‘I want Xolani to win the race.’
- b. *ngi- ya- funa [uXolani a- win- e umjaho]*
 1SG- YA- want AUG.1Xolani 1SJC- win- SJC AUG.1race
 ‘I want Xolani to win the race.’

Just as we saw with subjects in chapter 2, the position of a CP in Zulu is tied to information structure. In out-of-the-blue contexts, speakers often do not show systematic

preferences between the conjoint and disjoint forms given above. When part of the contents of the complement clause is in focus, however, speakers show a preference for the conjoint form:

(231) Q: u- cabanga ukuthi uMlungisi w- enza- ni manje?
 2SG- think that AUG.1Mlungisi 1S- do- what now?
 ‘What do you think Mlungisi is doing now?’

A: ngi- cabanga ukuthi u- ya- bhukuda manje
 1SG- think that 1S- YA- swim now
 ‘I think that he is swimming now.’

Speakers also prefer the conjoint form when the clausal complement is followed by a clausal adjunct:

(232) uMandla u- bona [ukuthi ngi- ya- m- thanda] [uma ngi- mu- pha
 AUG.1Mandla 1S- see that 1SG- YA- 1O- like when 1SG- 1O- give
 izipho]
 AUG.8presents
 ‘Mandla sees that I like him when I give him presents.’

By contrast, speakers use the disjoint form in contexts where the matrix verb is in focus, as in (233) below, or where there is verum focus on the predicate, as in (234):

(233) Q: w- enza- ni uMlungisi manje?
 1S- do- what AUG.1Mlungisi now
 ‘What’s Mlungisi doing now?’

A: ngi- **ya-** cabanga [ukuthi uMlungisi u- ya- bhukuda manje] ... kodwa
 1SG- YA- think that AUG.1Mlungisi 1S- YA- swim now ... but
 a- ng- azi kahle
 NEG- 1SG- know well
 ‘I THINK that Mlungisi is swimming now... but I don’t really know.’

(234) Q: uMandla a- ka- bon- i ukuthi ngi- ya- m- thanda, a- ngi-
AUG.1Mandla NEG- 1S- see- NEG that 1SG- YA- 1O- like NEG- 1SG-
thi?

say

‘Mandla doesn’t see that I like him, does he?’

A: Cha, uMandla u- **ya-** bona ukuthi u- ya- m- thanda
no AUG.1Mandla 1S- YA- see that 2SG- YA- 1O- like

‘No, he DOES see that you like him.’

Because the disjoint appears both in cases of verb focus and in cases of verum focus, it is sometimes used when the speaker wants to express doubt about the complement and sometimes when the speaker wants to express emphasis.

As we saw at the beginning of this section, both the full *ukuthi* CP complement and the infinitival complement are able to control object marking on the matrix verb, realized as *ku-*. When *ku-* object marking occurs, only the disjoint form of the matrix verb is grammatical:

(235) a. ngi- **ya- ku-** cabanga [ukuthi uMlungisi u- ya- bhukuda manje]
1SG- YA- 17O- think that AUG.1Mlungisi 1S- YA- swim now
‘I (do) think that Mlungisi is swimming now.’

b. *ngi- **ku-** cabanga [ukuthi uMlungisi u- ya- bhukuda manje]
1SG- 17O- think that AUG.1Mlungisi 1S- YA- swim now

(236) a. ngi- **ya- ku-** funa uku- bhukuda
1SG- YA- 17O- want INF- swim
‘I (do) want to swim.’

b. *ngi- **ku-** funa uku- bhukuda
1SG- 17O- want INF- swim

With subjunctive CPs, the *ku-* object agreement construction is only possible with the overt complementizer *ukuthi*. When the complementizer is dropped, object agreement becomes ungrammatical:

(237) a. ngi- ya- ku- funa ukuthi uXolani a- win- e umjaho
1SG- YA- 17O- want that AUG.1Xolani 1SJC- win- SJC AUG.1race
‘I (do) want Xolani to win the race.’

b. *ngi- ya- ku- funa uXolani a- win- e umjaho
1SG- YA- 17O- want AUG.1Xolani 1SJC- win- SJC AUG.1race

The dependence of object agreement on the presence of the overt complementizer suggests that the object marker reflects a direct agreement relationship with the complementizer (or the infinitival morphology) and is not merely a “default” morpheme, an issue I return to in chapter 6.

Just as with the indicative and infinitival complements, the *ku-* object agreement for subjunctive CPs requires the disjoint form of the verb:

- (238) * *ngi- ku- funa ukuthi uXolani a- win- e umjaho*
 1SG- 17O- want that AUG.1Xolani 1SJC- win- SJC AUG.1trace

With these indicative, infinitival, and subjunctive clausal complements, then, it appears that agreement forces dislocation, yielding the disjoint, just as in constructions with nominal arguments. Without agreement, these clausal complements may either remain in situ *or* dislocate, yielding the optionality that we saw above.

Not all clausal complements show such optionality, however. In contrast to these infinitival complements and CP complements introduced by *ukuthi*, CP complements introduced by *sengathi* require the conjoint form.

In CP complements of verbs like *bonakala* ‘seem’, *bona* ‘see’, or *fisa* ‘wish’, the complementizer *sengathi* ‘as if’ alternates with *ukuthi*, yielding meaning differences along the lines of those represented in (239) and (240) below. While *ukuthi* permits the disjoint with these verbs, *sengathi* does not:

(239) *ukuthi*: **disjoint permitted**

- a. *uMandla u- bona [ukuthi ngi- ya- m- thanda]*
 AUG.1Mandla 1S- see that 1SG- YA- 1O- like
 ‘Mandla sees that I like him.’
- b. *uMandla u- ya- bona [ukuthi ngi- ya- m- thanda]*
 AUG.1Mandla 1S- YA- see that 1SG- YA- 1O- like
 ‘Mandla sees that I like him.’

(240) *sengathi*: **conjoint required**

- a. uMandla u- bona [sengathi ngi- ya- m- thanda]
AUG.1Mandla 1S- see as.if 1SG- YA- 1O- like
'Mandla is of the opinion that I like him.' (implies that I don't)
- b. *uMandla u- ya- bona [sengathi ngi- ya- m- thanda]
AUG.1Mandla 1S- YA- see as.if 1SG- YA- 1O- like

In section 4.2.3 we saw independent evidence for determining whether elements are inside ν P or not. By applying these diagnostics, we can see that the non-agreeing clausal complements that trigger the disjoint are attached outside ν P, while those that trigger the conjoint are attached inside ν P. We can conclude from these diagnostics that CPs introduced by *sengathi* must remain inside ν P, in contrast to CPs introduced by *ukuthi* or without an overt complementizer.

(241) **Vocative insertion with CP**

- a. *uMandla u- bona, Monwa, [ukuthi ngi- ya- m- thanda]
AUG.1Mandla 1S- see 1Monwa that 1SG- YA- 1O- like
- b. uMandla u- ya- bona, Monwa, [ukuthi ngi- ya- m- thanda]
AUG.1Mandla 1S- YA- see 1Monwa that 1SG- YA- 1O- like
'Mandla sees, Monwa, that I like him.'

(242) *sengathi* **CP: vocative insertion prohibited**

- a. *uMandla u- bona, Monwa, [sengathi ngi- ya- m- thanda]
AUG.1Mandla 1S- see 1Monwa as.if 1SG- YA- 1O- like
intended: 'Mandla is of the opinion, Monwa, that I like him.'
- b. uMandla u- bona [sengathi ngi- ya- m- thanda], Monwa
AUG.1Mandla 1S- see as.if 1SG- YA- 1O- like 1Monwa
'Mandla is of the opinion that I like him, Monwa.'

(243) **Q insertion with CP**

- a. *uMandla u- bona **yini** [ukuthi ngi- ya- m- thanda]
AUG.1Mandla 1S- see what that 1SG- YA- 1O- like
- b. uMandla u- ya- bona **yini** [ukuthi ngi- ya- m- thanda]
AUG.1Mandla 1S- YA- see what that 1SG- YA- 1O- like
'Does Mandla see that I like him?'

(244) *sengathi* CP: Q insertion prohibited

- a. * uMandla u- bona **yini** [sengathi ngi- ya- m- thanda]?
 AUG.1Mandla 1S- see what as.if 1SG- YA- 1O- like
 intended: ‘Is Mandla of the opinion that I like him?’
- b. uMandla u- bona [sengathi ngi- ya- m- thanda] **yini**?
 AUG.1Mandla 1S- see as.if 1SG- YA- 1O- like what
 ‘Is Mandla of the opinion that I like him?’

In the examples above, the CP complements headed by *sengathi* are required to remain within vP, which we can see from their inability to co-occur with the disjoint form of the matrix verb. The restriction on *sengathi* CPs goes beyond the requirement that they remain inside vP, however: they are further restricted when they combine with a raising-to-object verb.

The optional raising-to-object verb *fisa*¹¹ ‘wish’ can either combine with an *ukuthi* (or null-complementizer) complement or with a *sengathi* complement:¹²

- (245) a. ngi- fisa [**ukuthi** ubaba a- fik- e kusasa]
 1SG- wish that AUG.1father 1SJC- arrive- SJC tomorrow
 ‘I wish that dad would arrive tomorrow.’
- b. ngi- fisa [**sengathi** ubaba a- nga- fika kusasa]
 1SG- with as.if AUG.1father 1SJC- CAN- arrive tomorrow
 ‘I wish that dad would arrive tomorrow.’

While either complementizer is allowed when raising-to-object does not occur, only the *ukuthi* construction permits raising-to-object:

- (246) a. ngi- fisa ubaba [**ukuthi** a- fik- e kusasa]
 1SG- wish AUG.1father that 1SJC- arrive- SJC tomorrow
 ‘I wish that dad would arrive tomorrow.’
- b. * ngi- fisa ubaba [**sengathi** a- nga- fika kusasa]
 1SG- wish AUG.1father as.if 1SJC- CAN- arrive tomorrow

¹¹In chapter 3, I reported on the behavior of *fisa* for speakers who do not allow it to function as a raising predicate. Here I report the judgments of those who do.

¹²When *fisa* takes a *sengathi* complement, the embedded verb bears the possibility modal *-nga-* and receives a strongly counterfactual interpretation, in contrast to the *ukuthi* complement which takes a plain subjunctive complement and is not strongly counterfactual. I set aside these additional differences here.

We find similar restrictions on *sengathi* clauses, which again contrast with the behavior of other clausal elements, if we examine adjunct clauses.

Small clause modifiers follow the familiar pattern of clausal complements – and of non-clausal adjuncts. While they typically trigger the conjoint form on the main verb, an old information small clause with verum focus on the predicate causes speakers to prefer the disjoint form:

(247) **Small clause new information: conjoint form**

- a. zo-nke izinsuku izingane e- zi- ningi zi- lala [zi-
10-all 10days AUG.10children REL- 10S- many 10S- sleep 10PRT-
lambile] lapha eThekwini
hungry here LOC.5Durban
'Every day, many children go to sleep hungry here in Durban.'
- b. # zo-nke izinsuku izingane e- zi- ningi zi- **ya-** lala [zi-
10-all 10days AUG.10children REL- 10S- many 10S- YA- sleep 10PRT-
lambile] lapha eThekwini
hungry here LOC.5Durban

(248) **Small clause old information: disjoint form**

- A: ngenxa yomsebenzi wa- mi a- yi- kho ingane
because.of 9POSS-AUG.1work 1POSS- 1SG NEG- 9S- exist 9child
eThekwini e- lala [i- lambile]
LOC.5Durban REL.9S- sleep 9PRT- hungry
'Because of my work, there's no child in Durban who goes to sleep hungry.'
- B: Hayi-bo, zonke izinsuku izingane e- zi- ningi zi- **ya-** lala
no 10-all 10days AUG.10children REL- 10S- many 10S- YA- sleep
[zi- lambile]
10PRT- hungry
'No, every day, many children DO sleep hungry.'

Full CP modifiers, such as reason or purpose clauses, typically require a disjoint verb:

- (249) a. uMfundo u- ya- shesha [ukuze a- fik- e nge- sikhathi
AUG.1Mfundo 1S- YA- hurry so.that 1SJC- arrive- SJC NGA.AUG- 7time
e- kilasini]
LOC- 5class.LOC
'Mfundo is rushing to get to class on time.'
- b. *uMfundo u- shesha [ukuze a- fik- e nge- sikhathi
AUG.1Mfundo 1S- hurry so.that 1SJC- arrive- SJC NGA.AUG- 7time
e- kilasini]
LOC- 5class.LOC
- (250) a. ngi- ya- gijima [ngoba ngi- funa uku- fika nge- sikhathi]
1SG- YA- run because 1SG- want INF- arrive NGA.AUG- 7time
'I'm running because I want to arrive on time.'
- b. *ngi- gijima [ngoba ngi- funa uku- fika nge- sikhathi]
1SG- run because 1SG- want INF- arrive NGA.AUG- 7time

The use of the disjoint in these constructions is expected for elements that have a high attachment site. By contrast, *sengathi* CPs that function as modifiers must remain inside *vP*, just as *sengathi* complements did:

- (251) a. u- (*ya-) khuluma sengathi u- phuz- ile
1S- (*YA-) speak as.if 1S- drink- PFV
'He's speaking like he's drunk.'
- b. u- (*ya-) hleka sengathi u- ya- qala uku- hleka
1S- (*YA-) laugh as.if 1S- YA- start INF- laugh
'He's laughing as if it's his first laugh ever.' (ie. a lot)

Just as with *sengathi* complements, we see additional restrictions on these *sengathi* modifiers. While these modifiers are grammatical after an intransitive verb, they cannot follow a transitive predicate with an in situ object:

- (252) a. *uMthuli u- dla **inyama** [sengathi u- ya- yi- qabuka]
AUG.1Mthuli 1S- eat AUG.9meat as.if 1S- YA- 9O- discover
intended: 'He's eating meat as if he's just discovered it.'
- b. inyama u- yi- dla [sengathi u- ya- yi- qabuka]
AUG.9meat 1S- 9O- eat as.if 1S- YA- 9O- discover
'He's eating meat as if he's just discovered it.'

- c. u- dla sengathi [inyama u- ya- yi- qabuka]
 1S- eat as.if AUG9meat 1S- YA- 9O- discover
 ‘He’s eating as if he’s just discovered meat.’

In (252a), we can see that the direct object cannot intervene between the verb and the *sengathi* CP. However, if the direct object *inyama* ‘meat’ is moved out of the *vP* via object agreement, as in (252b), or if it is instead realized inside the *sengathi* clause, as in (252c), the sentence is grammatical.

To summarize, I have shown in this section that *sengathi* CPs are required to appear inside *vP*, which in turn yields the conjoint form of the verb in all clauses in which they appear. This requirement holds whether the CP is introduced as a complement of the verb or as an adjunct. Furthermore, we saw that *sengathi* CPs cannot follow a nominal inside *vP*. In constructions that contain both an object and a *sengathi* CP, such as in raising-to-object and in modified clauses, the object *must* vacate the *vP* to leave the *sengathi* CP as the highest element.

This subsection illustrates that clausal elements behave in a parallel fashion to nominal elements with respect to the conjoint/disjoint alternation. When they appear inside *vP*, they trigger conjoint morphology, but movement out of *vP* – either because of object agreement *or* without agreement – triggers disjoint morphology. While most CPs are grammatical in a variety of structural positions inside and outside of *vP*, those headed by the complementizer *sengathi* do display structural restrictions akin to those that govern the distribution of augmentless nominals: *sengathi* CPs must appear inside *vP* and cannot follow a direct object within *vP*. These similarities are given in table 4.2 below, repeated from above:

NOMINALS		CPs	
Augmented	Augmentless	<i>ukuthi</i> -headed	<i>sengathi</i> -headed
<i>vP</i> -internal OK triggers conjoint no agreement	<i>vP</i> -internal required triggers conjoint no agreement	<i>vP</i> -internal OK triggers conjoint no agreement	<i>vP</i> -internal required triggers conjoint no agreement
<i>vP</i> -external OK triggers disjoint agreement required	* <i>vP</i> -external (must be local to licenser)	<i>vP</i> -external OK triggers disjoint agreement optional	* <i>vP</i> -external (must be local to licenser)

Table 4.2: Distribution of nominals and CPs with respect to conjoint/disjoint

To conclude, the fact that CPs (or perhaps their complementizer heads) interact with A-agreement and case-licensing in the same manner as nominals in these other respects – phi-agreement and case-licensing – makes their participation in the conjoint/disjoint alternation unsurprising.

4.4.2 The nature of locative and adverb categories

In the previous subsection, we saw evidence that CPs, or at least the complementizers that head them, behave in a manner that is akin to nominals. They are capable of controlling agreement in certain circumstances and a subset of these CPs, headed by the complementizer *sengathi*, are subject to the same licensing conditions that augmentless nouns face. In this section, I turn briefly to the nature of locatives and adverbs to illustrate the different way in which we find accessible nominal elements in these constructions.

Unlike the CPs discussed in the previous section, we do not find constructions in which adverbs control agreement in Zulu. This difference perhaps stems from the fact that adverbs are never *selected* by the predicate the way certain CPs are. Despite the absence of such evidence, the idea that adverbs and locatives are closely related to nouns is an old one in the literature on Bantu, and on Zulu in particular. For example, Nkabinde (1985) refers to them as “secondary” nouns. His argument is based on the fact that most adverbs in Zulu are formed from nouns that take locative or instrumental morphology:

- (253) a. ngo- kushesha
 NGA.AUG- 15speed
 ‘quickly’
 b. ngo- buhlungu
 NGA.AUG- 14pain
 ‘painfully’

As I discuss in detail in chapter 5, the nominal components of such elements do seem to be visible to L in the syntactic derivation. Specifically, we see that the nominals *inside* these constructions subject to the same syntactic licensing conditions as argument nominals – and crucially are able to be licensed by L even though they are inside this prefixal morphology.

As (254) shows, these prefixed oblique nominals must either be licensed by L as the highest element in *v*P or they must bear an augment:

(254) **Instrumental marked oblique: can be augmentless if highest in *v*P**

- a. *ngi- bhal- nge- peni* (= *nga+ipeni*)
 1SG- write NGA.AUG- 5pen
 ‘I write with a pen.’
- b. *a- ngi- bhal- i nga- peni*
 NEG- 1SG- write- NEG NGA- 5pen
 ‘I write with a pen.’

(255) **Instrumental –AUG: must be highest in *v*P**

- a. *u-Mfundo u- bhal- i-zincwadi nge- peni* (*nga+ipeni*)
 AUG-1Mfundo 1S- write AUG-10letter NGA.AUG- 5pen
 ‘Mfundo writes letters with a pen.’
- b. **u-Mfundo a- ka- bhal- i i-zincwadi nga- peni*
 AUG-1Mfundo NEG- 1S- write- NEG AUG-10letter NGA- 5pen
- c. *u-Mfundo a- ka- bhal- i nga- peni i-zincwadi*
 AUG-1Mfundo NEG- 1S- write- NEG NGA- 5pen AUG-10letter
 ‘Mfundo doesn’t write letters with any pen.’

In short, the nominal components of these elements behave as though they are visible to the syntax, and show the same sensitivities to licensing that argument nominals face.

In addition to adverbs that are formed in the way described above, certain adverbs are formed from non-nominal stems, including adjective stems. These adverbs are prefixed by morphemes such as *ka-*, which Nkabinde (1985) analyzes as a (no longer productive) noun class prefix. In a discussion of adverbs formed from non-nominal stems in Zulu, Buell (2009) shows that such adverbs behave as though they have noun class 17 membership and that, like nominals, they are able to control possessive morphology:

- (256) *phakathi kw- abantu*
 inside 17POSS- AUG.2people
 ‘among the people’ (Buell, 2009, p. 23)

To conclude, while we do not find adverbs and locatives functioning as arguments that are capable of controlling agreement on the verb, the way that nominals and CPs are, we do

see multiple pieces of evidence that suggest that they share categorial and featural properties with nominals – or that such properties of the nominals that they contain are visible to outside syntactic processes. In particular, not only do we see that the nominals in such expressions are subject to familiar licensing restrictions that I argue are attributed to L, but we find that the adverbs themselves are capable of controlling class 17 associative morphology on nominals that they combine with.

4.4.3 The selectiveness of L

In the previous subsections, I argued that ostensibly non-nominal elements, such as CPs, adverbs, and locatives, all involve an nominal-(like) goal that is accessible to L head. At the same time, given the range of things that L is sensitive to, it is reasonable to ask whether there is any sort of selectiveness to different types of elements in its syntactic search domain. In this subsection, I return to the issue of how different types of clitics behave with respect to the conjoint/disjoint alternation to explore the hypothesis that perhaps their differences can be attributed to whether they are potential goals for L in the first place. Despite the differing behavior of the two types of clitics – *wh*-clitics and *-ke* – I nevertheless conclude that there is insufficient evidence that any unambiguously *v*P-internal element is excluded from the class of possible goals for L.

As we saw in example (207), repeated below, *wh*- enclitics form a prosodic word with the verb but trigger a conjoint form:

(207) *wh*- clitics: final prosody, conjoint verb

- a. ba- dlala:- phi?
2S- play- where
'Where are they playing?'
- b. *ba- ya- dlala- phi?
2S- YA- play- where
- c. u- fundisa:- ni?
2sg- teach- what
'What do you teach?'
- d. *u- ya- fundisa- ni?
2sg- YA- teach- what

Buell (2005, adapted from ex. (255))

While this pattern is difficult to capture if we assume a prosodic account of the conjoint/disjoint alternation, it follows naturally from a syntactic account: the *wh*-clitic is syntactically present inside *vP* when *L* probes, which yields the predicted conjoint form.

By contrast, we saw in (208), repeated below, that the clitic *-ke*, which also forms a prosodic word with the verb, requires the disjoint form when the verb+clitic is phrase final:

(208) *-ke* clitic: final prosody, disjoint required

- a. ngi- ya- hamba:- ke
 1SG- YA- go- KE
 ‘So I’m going.’
- b. *ngi- hamba- ke
 1SG- go- KE

The theory that I have developed in this chapter predicts that this difference is due to the fact that *L* finds a goal in the case of the *wh*-clitics but not in the case of *-ke*. As discussed above, the fact that *L* successfully finds a goal in the case of *wh*-clitics is unsurprising given that (non-clefted) *wh*-words in the language generally must appear inside *vP*. With *-ke*, we could imagine two possible reasons why *L* fails to find a goal: either the *-ke* clitic could be located syntactically outside of *vP* or it could simply not be a suitable goal for *L*.

Van der Spuy (1993) and Buell (2005) discussed elements such as vocatives and yes/no question particles that are reliable markers of the *vP* edge: we saw in section 4.2.3 that when these elements appear immediately after the verb, the disjoint form is required, but when something else intervenes between the verb and these elements, the conjoint is required.

- (257) a. uSipho u- *(ya-) gijima **Mama** phandle
 AUG.1Sipho 1S- YA- run 1mother outside
 ‘Sipho is running, Mom, outside.’
- b. uSipho u- (*ya-) dlala ibhola **Mama** (phandle)
 AUG.1Sipho 1S- YA- play AUG.5soccer 1mother (outside)
 ‘Sipho is playing soccer, Mom, outside.’

If *-ke* is syntactically located outside of *vP*, we might expect a similar distribution, with the presence of *-ke* on the verb requiring following elements to be dislocated. Unlike the

vocatives and question particles, however, *-ke* does *not* require the dislocation.¹³ In (258), we see that *-ke* can appear on a matrix verb in the conjoint form, while the question particle *yini* requires the disjoint form in an analogous construction in (258c).¹⁴

- (258) a. Si- bong- e- **ke** ukuthi abantu ba- zi- phath- e kahle
 2PL- thank- PFV- KE that AUG.2people 2S- REFL- care- PFV well
 ‘We are grateful that people took good care of themselves.’
 (<http://mapholoba.blogspot.com/>, accessed April 10, 2012)
- b. *u- bong- e **yini** ukuthi abantu ba- zi- phath- e kahle
 1S- thank- PFV Q that AUG.2people 2S- REFL- care- PFV well
 intended: ‘Was he thankful that people took good care of themselves?’
- c. u- bong- **ile** **yini** ukuthi abantu ba- zi- phath- e kahle
 1S- thank- PFV Q that AUG.2people 2S- REFL- care- PFV well
 ‘Was he thankful that people took good care of themselves?’

Similarly, in (259), *-ke* may appear on the verb followed by a non-agreeing, non-dislocated object, while the question particle *yini* requires that the following object agree with the verb:¹⁵

- (259) a. a- ngi- thand- i- **ke** imifino
 NEG- 1SG- like- NEG- KE AUG.4vegetables
 ‘Ok, so I don’t like vegetables!’
- b. *a- wu- thand- i **yini** imifino?
 NEG- 2SG- like- NEG what AUG.4vegetables
 intended: ‘Don’t you like vegetables?’
- c. a- wu- yi- thand- i yini imifino?
 NEG- 2SG- 4O- like NEG what AUG.4vegetables
 ‘Don’t you like vegetables?’

¹³Most contexts in which the clitic *-ke* is appropriate tend to be contexts in which postverbal elements, such as objects, are old information and therefore dislocate for independent reasons. The constructions reported here involve less-common contexts where non-dislocation was permitted.

¹⁴Recall that in the near past/perfective construction, *-ile* is the disjoint form, while *e* is the conjoint. Buell (2005) discusses this parallelism in detail.

¹⁵In these constructions, we cannot observe a contrast between conjoint and disjoint morphology because this contrast disappears in the presence of negation. Instead, the only cues for object placement come from object agreement and relative position.

These constructions show that *-ke* does not demarcate a syntactic boundary in the same way that question particles and vocatives do. Instead, in these constructions, the choice between conjoint or disjoint form does not seem to take *-ke* into account. As I mentioned above, we could either interpret this fact as evidence that the clitic is syntactically present inside ν P when L probes, but that it is not a potential goal for L, or that it is not syntactically located in ν P.

The function of *-ke* seems to be discourse related, modifying the speaker's attitude rather than anything specific about the predicate. In addition, Doke (1997 [1927]) notes that the placement of the clitic is predictable, independent of meaning. It can attach to any part of speech, but it typically attaches to the highest element in the relevant clause or to the predicate. This predictable placement is compatible with an analysis where the clitic is located high in the structure, outside of the probing domain of L, during the syntax, but cliticizes to the predicate to form a single prosodic word late in the derivation. In short, there is insufficient evidence at this time that *-ke-* is truly located inside ν P during the syntactic derivation. The question of whether there are any elements that are clearly ν P-internal but are not visible to L remains open.

4.4.4 Summary

In this section, I examined the behavior of non-nominal elements with respect to the conjoint/disjoint alternation and to the structural licensing effects that I propose are related to the alternation. While it seems that nearly every element in the language – including CPs, adverbials, and locatives – are involved in the conjoint/disjoint alternation, I presented evidence here that these elements do share crucial properties with nominals. It is therefore reasonable to assume that while L does not display any morphological evidence of phi-agreement (unlike subject and object agreement in the language), it is nevertheless probing for nominal elements.

4.5 Movement and the timing of the derivation

In section 4.2, we saw that both the conjoint/disjoint alternation and the distribution of augmentless nominals are sensitive to syntactic movement. In particular, elements that move out of νP are treated as νP -external for the conjoint/disjoint alternation. In the same way, augmentless nominals that move out of νP do not receive structural licensing, while augmentless nominals that move from a νP -external position to a *higher* νP -internal position *do* receive structural licensing. A common factor in both of these processes, then, is that movement of an element bleeds probing of that element, yielding a pattern that appears to hold only on the surface.

The profile of these operations is similar to the pattern discussed by Holmberg and Hróarsdóttir (2004) for raising constructions that involve dative experiencer arguments in Icelandic. They show first that these dative arguments act as interveners for object agreement when they remain in situ after the verb:

(260) Icelandic dative experiencers in situ block object agreement

- a. það finnst einhverjum stúdent tölvurnar ljótar
EXPL findSG some studentDAT the computersNOM uglyNOM
'Some student finds the computers ugly.'
- b. *það finnast einhverjum stúdent tölvurnar ljótar
EXPL findPL some studentDAT the computersNOM uglyNOM
(Holmberg and Hróarsdóttir, 2004, ex. (14))

When the dative arguments undergo A-movement, however, number agreement with the lower object becomes possible:

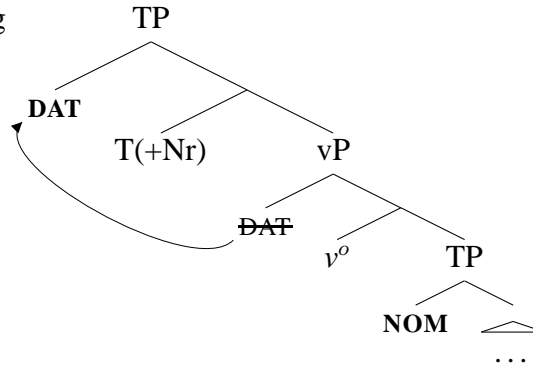
(261) Icelandic raised dative experiencers do not block object agreement

- a. einhverjum stúdent finnst tölvurnar ljótar
some studentDAT findSG the computersNOM uglyNOM
'Some student finds the computers ugly.'
- b. einhverjum stúdent finnast tölvurnar ljótar
some studentDAT findPL the computersNOM uglyNOM
'Some student finds the computers ugly. (Holmberg and Hróarsdóttir 2004, ex. (9))

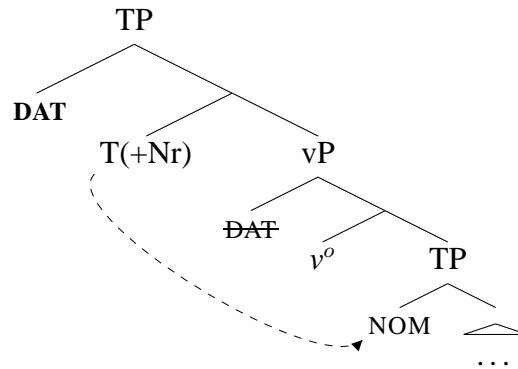
As Holmberg and Hróarsdóttir (2004) point out, given that dative experiencers act as interveners for agreement, illustrated in (260), the grammatical construction in (261b) must involve A-movement of the dative *before* the agreement operation takes place.

(262) **Icelandic dative A-traces are not interveners**

Step 1: DAT Raising



Step 2: Number Agreement



The derivation of (261b) illustrated in (262) has the same character as my analysis of Zulu nominal licensing by L: for both the conjoint-disjoint alternation and the licensing of augmentless nominals, Zulu seems to require any A movement of arguments out of vP to occur before L probes into that vP.

Sigurðsson and Holmberg (2008) note a similar timing pattern in one variety of Icelandic for matrix agreement with a nominative embedded argument across an intervening dative:

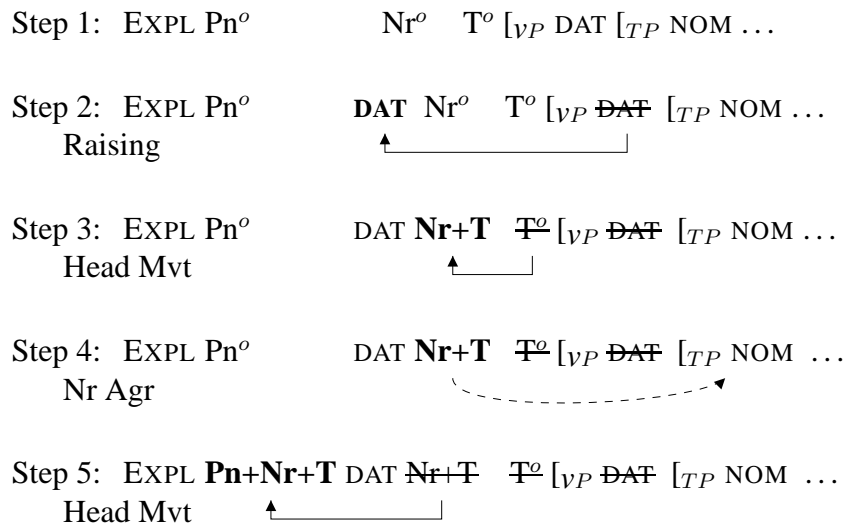
(263) **Icelandic optional dative intervention**

það þótti/ þóttu einum málfræðingi [þessi rök sterk]
EXPL thoughtSG/ thoughtPL one linguistDAT these argumentsNOM strong

‘One linguist thought these arguments to be strong.’ (Sigurðsson and Holmberg, 2008, ex. (22))

Sigurðsson and Holmberg analyze the possibility of plural agreement in (263) as the result of probing *following* A-movement: they claim the intervening dative argument undergoes low subject raising from Spec,vP, to a position above the matrix T^o and that this low subject movement is movement *around* the initial position of the Number probe to a position that is below the Person probe. The derivation of a construction like (263) involving nominative number agreement is one in which the dative argument moves *before* Number probes, and thus does not block agreement with the lower argument. Note that Person agreement with the lower argument is blocked because the landing site for the dative argument is below Person, so it still functions as a Person intervenor after movement has occurred.

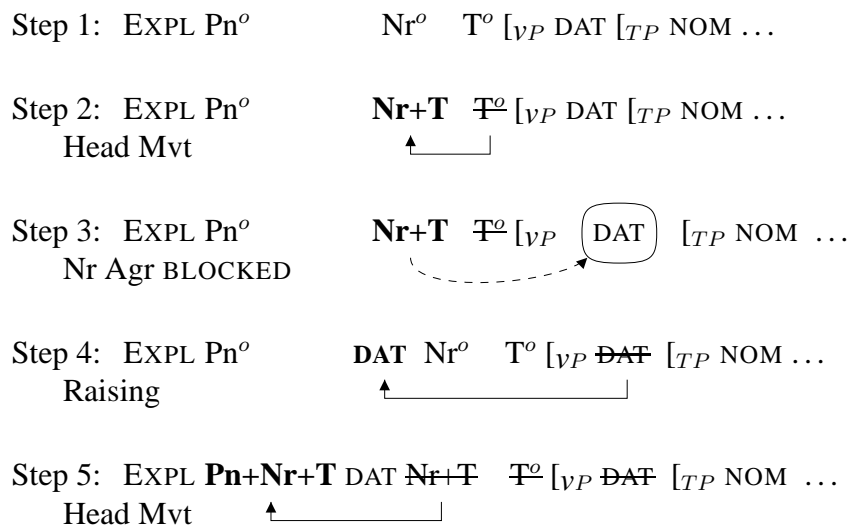
(264) **Derivation of Icelandic embedded nominative agreement**



(Sigurðsson and Holmberg, 2008, ex. (23)–(26))

With the opposite ordering of operations, with Number probing preceding movement, the dative argument acts as an intervenor for *both* Number and Person, yielding default agreement.

(265) **Derivation of Icelandic embedded nominative agreement**



Asarina (2011) extends this type of analysis to optional agreement with quirky dative subjects in Faroese, making explicit reference to the relative timing of case assignment and movement. What all of these proposals have in common is an appeal to the (phase-internal) free ordering of operations where one process would bleed another, backed up by an optionality in the resulting agreement morphology.

The two processes in Zulu that I have focused on in this chapter – case-licensing and the conjoint/disjoint alternation – can similarly be bled by A-movement. In this sense, they fall into the same category as the Icelandic facts: movement around a head can bleed an operation in which that head would probe the moved element. In Zulu, we can understand the ‘late’ timing of case-licensing and the conjoint/disjoint alternation if *vP*-internal nominals move *around L before L* probes the *vP*, resulting in a lack of licensing on those moved nominals and disjoint morphology if movement leaves the *vP* empty. As we saw in chapter 2, movement out of *vP* always correlates with phi-agreement, so I will assume here that the movement operation that is relevant is the one triggered by the phi-probe T.¹⁶

The ‘bleeding’ derivations for the conjoint/disjoint alternation and licensing of aug-

¹⁶A consequence of this assumption is that T and L are located in the same phase. At this time I am unaware of any evidence against such a conclusion. In chapter 6, I will argue that the effects of phases for A-agreement in Zulu arise only when a dominating category is an *intervenor* – that is, as an instance of the A-over-A condition (following Rackowski and Richards, 2005). Based on this notion of phase boundaries, the lack of phases in the relevant domain here is expected.

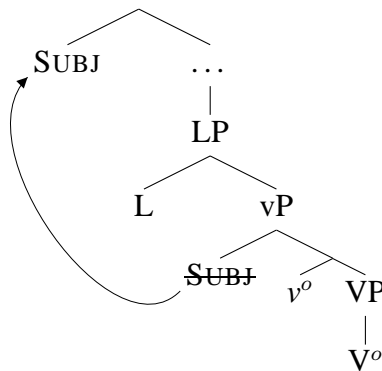
mentless nominals are given below. First, as we saw, nominals that vacate vP are never visible for the conjoint/disjoint alternation:

(266) **Nominals that leave vP trigger disjoint morphology**

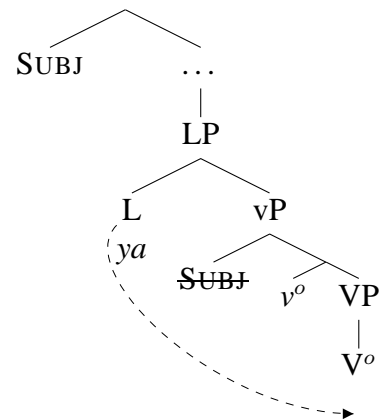
- a. uSipho_i u- **ya-** pheka t_i vP]
 1Sipho 1s- YA- cook
 ‘Sipho is cooking.’
- b. iqanda_k uSipho_i u- **ya-** li- pheka t_i t_k vP]
 5egg 1Sipho 1s- YA- 5O- cook
 ‘As for the egg, Sipho is cooking it.’

(267) **Appearance of disjoint morphology**

Step 1: SUBJ moves



Step 2: L probes and fails to find a target



Second, augmentless nominals, which must be probed by L in order to be licensed, are unlicensed if they undergo movement to preverbal, vP -external position. As we saw in (216), this is not a prohibition on augmentless nominals appearing outside of their original position, since raising-to-object that results in a vP -internal object in the higher clause does permit augmentless nominals. Rather, as with the conjoint/disjoint pattern, we can capture this distribution if movement out of vP ‘must’ precede probing by L, as illustrated below in the examples repeated in (267):

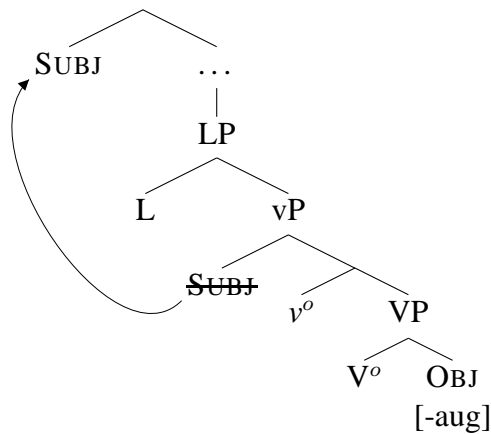
(267) **Nominals that leave ν P are not case-licensed**

- a. ngeke ku- fundise **muntu** ν P]
 never 17s- teach.SJC 1person
 ‘Nobody will ever teach.’
- b. *ngeke **muntu**_i u- fundise t_i ν P]
 never 1person 1s- teach.SJC

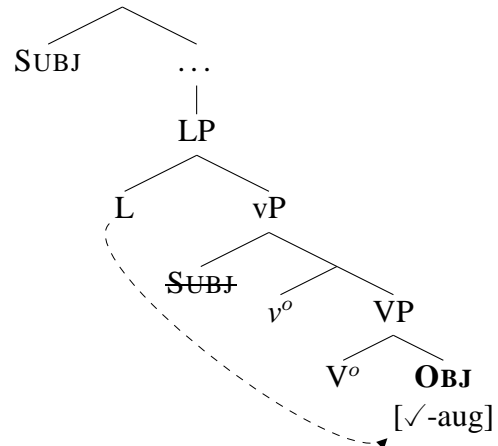
Just as in Icelandic, where the moved dative allows Number to probe a lower nominative, when a subject moves to a ν P-external position in Zulu, the lower object becomes available as a goal for L. The result of this ordering allows an object to be augmentless just in case the subject has moved to a preverbal position, as illustrated in the derivation in (268):

(268) **Licensing of augmentless objects**

Step 1: SUBJ moves



Step 2: L probes and licenses [-aug] OBJ



To summarize, we can understand the Zulu conjoint/disjoint alternation and nominal-licensing patterns as the result of A-movement occurring *before* L probes, just as can occur in Icelandic and Faroese. In principle, however, the *opposite* ordering should also be available, with probing by L preceding A-movement, yielding optionality of the type exhibited by Icelandic. As we have seen, this is not the case. Instead, Zulu appears to *only* allow the bleeding order of operations. In the next subsection, I propose that the absence of the unattested order arises naturally as a consequence of the Activity Condition (Chomsky, 2000, 2001).

4.5.1 Activity and the lack of optionality

Faroese and Icelandic, in which we saw similar evidence for movement around a probe preceding probing, exhibit *optionality* in the agreement possibilities involving potential dative interveners. As Holmberg and Hróarsdóttir (2004) and Jónsson (2009) show, though default Number agreement must occur when the dative subject remains low, Number morphology on the predicate can either be default *or* can agree with the nominative object when the dative subject has moved to a preverbal position, as in (269).

(269) **Optional number agreement in Icelandic**

[einhverjum stúdent]	finnst/	finnst	<i>t</i>	tölvurnar	ljótar
	↑				
[some student.DAT]	find.SG/	find.PL		the computers.NOM	ugly.NOM
‘Some student finds the computers ugly.’					

If we assume that operations are freely ordered within a phase, along the lines of Chomsky (2008), then this optionality is an expected result as long as both of the relevant operations take place inside the same phase.¹⁷ As Asarina (2011) discusses, this is a fairly natural assumption to make for the Icelandic data above in (269) since the relevant movements all take place within the inflectional domain. That is, until Spell-out forces a portion of the derivation to be finalized, operations can in principle happen in any order. If L and the phi-probes in Zulu are in the same phase, then the ability of movement within LP to precede probing by L would fall into the same domain as the Icelandic facts: movement of the subject to preverbal, *vP*-external position would be followed by L probing the now-evacuated *vP*.¹⁸

As (269) illustrates, the optionality in agreement possibilities in Icelandic is indicative that both orderings of operations are possible. When Number probes before movement,

¹⁷Holmberg and Hróarsdóttir (2004) and Sigurðsson and Holmberg (2008) also discuss the fact that *wh*-movement of dative experiencers also appears to take place around a probe, which is a different type of evidence for a counter-cyclic derivation, though they provide an alternate explanation why *wh*-phrases do not act as interveners in that instance.

¹⁸As I will discuss in chapter 7, there are a number of facts about Zulu that suggest that it might be missing a ‘lower’ phase boundary – associated with *vP* – including the possibility for TECs and ditransitive expletives and the lack of ‘accusative’ type licensing.

the dative subject intervenes, yielding default agreement. When the dative moves before Number probing, nominative agreement can hold.

In contrast to Icelandic, we saw that Zulu does not exhibit this type of optionality. In every acceptable Zulu derivation presented in the previous section, movement precedes probing by L. The other order of operations, where L probes before movement, is problematic.

If L could probe *vP* *before* movement of arguments occurs, we would expect to see two unattested patterns. First, such an ordering of operations would yield conjoint morphology even in constructions in which all arguments have moved to *vP*-external positions during the derivation, since at the time when L probes, these arguments would still be *vP*-internal and accessible to L. Second, this ordering would yield the option for an augmentless nominal to be licensed by L *before* it moves to a *vP*-external position. In this chapter and the previous one, I have established that neither of these patterns is attested and we can conclude that the Zulu data thus show that the order of movement *before* probing must be established in the grammar. I will propose here that Zulu is limited to this order (in contrast to Icelandic) as a result of a familiar restriction on the ability of nominals to act as goals – the Activity Condition (Chomsky, 2000, 2001).

With the Activity Condition, Chomsky posits that an element is only available as a potential goal if it has an unvalued uninterpretable feature:

(270) **Activity Condition:** A goal is accessible for Agree iff it has at least one unvalued uninterpretable feature. (Chomsky, 2001)

This principle has been used to account for why in languages like English, nominals can no longer undergo further A-movement or agreement after being case-licensed. Once the uninterpretable case of a nominal has been checked, that nominal is “inactive” – and thus inaccessible for further Agree operations. We saw in chapters 2 and 3 that English disallows raising from a case position (Spec,TP, in a finite clause) to another case position (Spec,TP, in a finite clause), a derivation that would be ruled out by the Activity Condition. Zulu, by contrast, allows this type of raising from an agreeing finite clause to another agreeing finite clause.

The behavior of augmentless nominals falls out straightforwardly from the Activity Condition. In a construction where they first undergo movement, they are not licensed by L and therefore must be licensed later in the derivation, through raising-to-object to put them in range of a higher L. In a construction where L probes before the augmentless nominal moves, probing by L licenses case on the nominal and renders it *inactive* for all further movement. In other words, once L probes the augmentless nominal, that nominal is “frozen” inside ν P and therefore cannot act as a goal for higher probes.

The situation for *augmented* nominals is less straightforward. As we have seen, while augmented nominals can be probed by L (as evidenced by their participation in the conjoint/disjoint alternation), they do not *require* L to license them, unlike augmentless nominals. We should ask, therefore, whether we can reasonably consider L to render these nominals inactive, since their relationship with L seems independent of their case-licensing. The flipside of this question is whether we would expect augmented nominals, which appear to have their case licensed by virtue of the augment itself, to *ever* be active in the derivation, if the elimination of unvalued case generally yields inactivity. In the next chapter, I will address this question in greater detail. I argue in section 5.5.2, on the basis of the interaction between case and agreement morphology, that case morphology enters into the derivation very late in Zulu, after A-agreement processes have taken place. If, as I argue in chapter 5, the augment is this type of case morpheme, then at the point at which L probes ν P, *all* nominals are augmentless and in need of licensing. On this view, we expect the behavior of augmented and augmentless nominals to be the same with respect to activity and probing by L. The augment enters the derivation later – either to license otherwise unlicensed nominals, or to yield interpretive effects on *licensed* nominals in the manner discussed in chapter 3 (and which I will return to in section 5.4 of chapter 5).

Another question that arises if the Activity Condition plays an active role in the grammar of Zulu is how it interacts with other A-agreement processes, such as phi-agreement. While phi-agreement and (nominative) case go hand-in-hand in languages like English, making it difficult to determine the precise cause and scope of Activity effects, we have seen in Zulu that these two components operate separately. Moreover, we have seen that the type of raising construction from agreeing finite clause to agreeing finite clause that is

ruled out in English is grammatical in Zulu. In light of the prevalence of this type of A-movement in Bantu, Carstens (2005, 2011) and Carstens and Diercks (forthcoming) argue that just as case appears to be absent in the Bantu family, so too is Activity: they propose that Bantu lacks both case *and* Activity effects. For example, Carstens (2011) argues that the relevant requirement for Activity is that a goal have at least one *unchecked* – rather than *unvalued* – uninterpretable feature. She then proposes that the noun class (gender) features of nominals in Bantu are uninterpretable but are also *intrinsically* valued – and therefore never get *checked* over the course of the derivation. Because nominals retain these unchecked, uninterpretable noun class features, they remain Active regardless of the number of Agree relations they enter into.

In short, Carstens makes an argument for why phi-agreement (for uninterpretable noun class) does not render a nominal inactive in Bantu – and moreover keeps nominals active throughout the derivation. We clearly need the result that phi-agreement does not inactivate nominals to hold in Zulu, where we have seen ample evidence that a nominal may undergo phi-agreement in multiple clauses. At the same time, I have argued in this chapter and the previous one that contrary to previous assumptions, Zulu *does* have case. And I have argued here that Activity effects apply precisely in the domain of case-licensing.

It is crucial to my analysis, however, that being probed by L renders a goal inactive not only for subsequent licensing processes, but also for subsequent phi-agreement processes, which we have seen do *not* involve case-licensing in Zulu (contra Carstens, 2011, a.o.). In other words, while phi-agreement does not inactivate a goal in Zulu, case-licensed nominals cannot undergo subsequent phi-agreement processes. This view of Activity as relativized to different processes – and specifically linked to case-licensing processes – is argued for by Bhatt and Walkow (in press). Bhatt and Walkow (in press) show that coordinated DPs in Hindi behave differently with respect to T agreement when they are subjects than they do when they are objects. Specifically, they show that when T agrees with conjoined subjects, *resolved* agreement – a syntactic process – results, but when T agrees with conjoined objects, only the closest NP in the conjunction may agree, which they argue reflects a post-syntactic process.

(271) **Hindi conjoined subjects: resolved agreement**

Ram aur Ramesh gaa {rahe hãĩ / *rahaa hai}
Ram.M and Ramesh.M sing PROG.MPL be.PRES.PL / *PROG.MSG be.PRES.SG
'Ram and Ramesh are singing.' (Bhatt and Walkow, in press, ex. (6a))

(272) **Hindi conjoined objects: closest conjunct agreement**

- a. Ram-ne ek thailii aur ek baksaa (aaj) uṭhaa {-yaa / *-yii /
Ram-ERG a bag.F and a box.M (today) lift {-PFV.M.SG / *-PFV.F /
???-ye}
???-PFV.M.PL
'Ram lifted a small bag and a box (today).'
- b. us-ne kharid-ii kursii aur sofa
he-ERG buy.-F.SG chair.F.SG and sofa.M.SG
'He bought the chair and the sofa.' (Bhatt and Walkow, in press, ex.
(8a),(12a))

They argue that this difference arises from the differences in how case is assigned to subjects and objects in Hindi. They build on Bhatt (2005), who argues that agreeing subjects in Hindi are case-licensed through the same operation that yields T agreement, while agreeing objects are already case-licensed before T agreement happens. This difference in case assignment means that while the conjoined subjects in Hindi are still Active as syntactic goals, the conjoined objects are not. Even though T agreement is not a case-licensing operation for objects in the language, the fact they they have been case-licensed renders them inactive for all future Agree relations – including phi-agreement. The result is that T agreement is valued through a *post-syntactic* process (closest conjunct agreement) with objects, since the syntactic agreement process (resolved agreement) is not possible.

This type of behavior with respect to the Activity Condition seems to be on display in Zulu as well – case-licensing from L renders a nominal inactive for *all* further Agree relations, even if they do not involve case licensing.

While this account rules out A-movement by case-licensed augmentless nominals, it does not in principle disallow A-bar movement: nominals that have been case-licensed and thus rendered inactive in languages like English are still available as goals for A-bar processes, such as *wh*-movement or topicalization. However, as we saw in the case of

topicalized objects in Zulu, as in (185), these nominals also behave as if they have moved before probing. Following Buell’s (2005) observation that agreement always accompanies A- and A-bar movement in Zulu, it is reasonable to assume that *all* moved arguments – subjects and objects – have first undergone a step of A-movement, even if they subsequently undergo dislocation to an A-bar position. If A-movement is a prerequisite for all dislocation in Zulu, then we do not expect A-bar nominals to be “exempt” from the Activity effects that require movement to occur before L probes. The question remains, however, of whether there are any elements that can escape *vP* *after* L has probed them. In the next subsection, I discuss one instance of such a configuration.

4.5.2 Coordination constructions

While I argue in the previous subsection that when L successfully probes a nominal that probing bleeds further A movement of the nominal, due to the Activity Condition, this account predicts that this process should still be able to feed other types of movement or linearization. As I discuss above, there is reason to believe that most A-bar movement in the language requires an initial step of A movement in the *vP*-domain. In this subsection, I return to the coordination data that I introduced in section 4.2.3 as an example of movement/linearization that takes place *after* L probes a nominal.

In this construction, recall that a shared object appears only in the second conjunct, while the first conjunct receives phrase-final prosody, but a conjoint verb form:

(212) Shared object: prosodic boundary in first conjunct, conjoint required

ngi-buk-e:la) futhi (ngi-phinde) ngi-dlale ibho:la)
 1SG-watch-APPL) and 1SG-again 1SG-play.SJC AUG.5soccer
 ‘I watch and I (also) play soccer.’

Crucially, we see that while L has apparently probed successfully, the goal *ibhola* does not have to surface in the position where it was probed. This construction does not involve object agreement, and thus presumably it is exactly the type of construction where we would expect the nominal to be successfully manipulated after agreement with L. Since no A-movement is involved, the nominal may be linearized in a position outside of the first

conjunct even though L has probed it, as evidenced by the conjoint morphology.

4.6 Summary

In this chapter, I have argued we can understand the distribution of augmentless nominals discussed in chapter 3 in terms of a separate syntactic process, the conjoint/disjoint alternation. I showed that the conjoint/disjoint alternation, which marks verbal predicates, shows the same structural sensitivities as the licensing of augmentless nominals: both are sensitive to the contents of vP and both show the same sensitivities to A-movement. I proposed that the simplest account of both phenomena involves a syntactic head L, which spells out as \emptyset when it successfully finds a goal and *ya* when it fails to find a goal within vP . An element that is probed by L is structurally licensed, which allows augmentless nominals and the complementizer *sengathi* to appear in positions local to L. Elements that are not probed by L are grammatical if they bear an augment (or the appropriate complementizer). In section 4.5, I addressed some of the outstanding issues that this analysis raised in terms of the timing of the derivation and the apparent surface-oriented nature of both case-licensing and the conjoint/disjoint alternation in Zulu. I argued that in principle, either L could probe first *or* a nominal could move around L first. In practice, however, we only seem to find instances where nominals move *before* L probes – and not cases where they move *after* L probes. I proposed that this unattested order arises from the Activity Condition: once a nominal is probed by L, it is inaccessible for *any* further A-movement process.

Thus far, I have focused my attention on those elements that require structural licensing and simply taken for granted that an augment vowel – or appropriate complementizer – allows other elements to be “exempt” from these structural requirements. In chapter 5, I turn to these intrinsically licensing morphemes to account more precisely for their role in the syntax.

Chapter 5

Beyond the augment: case morphology in Zulu

In the previous two chapters, I have argued that structural case plays a crucial role in governing the distribution of Zulu nominals. I argued that nominals in Zulu are structurally licensed in ν P-internal positions by entering into a local relationship with a Licensing head or, in the case of some direct objects, through the presence of a CAUS or APPL head acting in conjunction with the lexical verb. In chapter 4, I claimed that all nominals are capable of entering a relationship with L. However, as the data discussed in the previous chapters makes clear, only *augmentless* nominals are subject to these structural restrictions. As I noted in chapter 3, our discussion so far has left open the precise reason why augmented nominals do not need to be licensed externally. In this chapter I examine what it is about the morphosyntax of the augment such that augmented nominals do not need to receive structural case through the mechanisms argued for in the previous chapters.

Cross-linguistically, we commonly find three types of case morphology marking languages: *structural*, *quirky*, and *inherent* (e.g. Schütze, 1997; Woolford, 2006). Building on these existing typologies of case morphology, I propose that we can understand the relationship between morphological and structural case in terms of two parameters, which I call $[\pm\text{Intrinsic}]$ and $[\pm\text{Agreeable}]$. I then demonstrate that Zulu attests all four possible combinations of $[\pm\text{Intrinsic}]$ and $[\pm\text{Agreeable}]$ in how nominals are marked. The augment is merely one of these possibilities, the full range of which is given below.

+ intrinsic + agreeable (“ <i>augment</i> ”)	– intrinsic + agreeable (“ <i>structural</i> ”)
+ intrinsic – agreeable (“ <i>inherent</i> ”)	– intrinsic – agreeable (“ <i>quirky</i> ”)

Table 5.1: Licensing strategies and nominal morphology

In section 5.1, I discuss some previous accounts of the relationship between morphological case and structural licensing and show how this relationship can be understood in terms of the table above. I show how the discussion of structural case in Zulu from the previous two chapters fits into this picture in section 5.2. In section 5.3, I show that the augment interacts differently with two different types of oblique morphology in Zulu, and that these interactions have consequences for nominal licensing. In particular, I argue that oblique morphology in Zulu in some instances corresponds to *quirky* case, which morphologically marks but does not license nominals, and in others to *inherent* case, which morphologically marks *and* structurally licenses nominals. The augment is in complementary distribution with the inherent oblique morphology and behaves differently from it with respect to agreement. In section 5.4, I return to the question of interpretation with respect to these different nominals in Zulu. I show that in a variety of languages, interpretive properties of nominals can depend on the interaction between structural and morphological case in a similar way to what we see in Zulu. Section 5.5 turns to the relationship between case morphology and agreement. I show that the timing of case and agreement is the reverse of what has been argued to hold in languages like Icelandic and discuss the consequences of this discovery.

5.1 Case classification

The original insight behind the theory of abstract, or structural, case as a system that governs the syntactic distribution of nominals is the observation that in some languages *mor-*

phological case marking correlates with specific syntactic positions in which nominals are licensed (Vergnaud, 2006 [1976]). In a language with overt case morphology like Icelandic, for example, nominal licensing associated with T^o typically corresponds to “nominative” case while licensing associated with v^o typically corresponds to “accusative”, as in example (94) below, repeated from chapter 3:

(94) **Icelandic NOM-ACC pattern**

- a. Við kusum **stelpuna**
 We.NOM elected.1PL the.girl.ACC
 ‘We elected the girl.’
- b. **Stelpan** var kosin
 the.girl.NOM was.3SG elected
 ‘The girl was elected.’
- c. * **Stelpuna** var kosin
 the.girl.ACC was.3SG elected

(Sigurðsson, 1992)

As (94) shows, nominals in object position receive one type of morphology, while nominals in subject position of a finite clause receive different morphology. This morphology is connected to structural position, rather than grammatical function, as the behavior of the passivized internal argument shows.

This correlation between morphological case and structural licensing is imperfect, however. In Icelandic, nominals that appear in the structurally-licensed positions that correspond to nominative and accusative sometimes receive “unexpected” case morphology (e.g. Andrews, 1982; Thraínsson, 1979; Zaenen et al., 1985; Sigurðsson, 1989; Holland, 1993; Jonas, 1996; Schütze, 1997; Fanselow, 2000; Jónsson, 2003; Woolford, 2006). In (273a), the subject receives *dative* case, while the object is *nominative*. In (273b), the subject is *genitive*.

(273) **Icelandic “quirky” pattern**

- a. Henni líkuðu hestarnir.
 her.DAT liked horses.NOM
 ‘She liked the horses.’

b. Hennar var saknað.

her.GEN was missed

‘She was missed (by someone).’

(Sigurðsson, 2004, ex. (7d,i))

In order to capture this imperfect relationship between morphological case marking and positions in which nominals seem to be structurally licensed, researchers have developed a more fine-grained typology of case that addresses the different types of relationships that may hold between case morphology and structural licensing. In general, these types of distinctions have led researchers to conclude that morphological case is a distinct phenomenon from the type of structural licensing that I have discussed so far in this thesis. Nevertheless, the clear points of contact between structural licensing and nominal morphology have remained a major focus. A common way to address this issue is in terms of a three-way distinction among types of case (e.g. Schütze, 1997; Woolford, 2006). While terminology varies slightly, I follow Schütze (1997) in referring to these types as *structural*, *quirky*, and *inherent*.

The term *structural case* refers to nominal licensing via a structural relationship. This is the type of case that arises in Zulu via local relationships with L, APPL, and CAUS, if the results reported in the previous chapters are correct. We can say that a particular morphological case reflects structural case insofar as it predictably arises on nominals licensed in a particular structural configuration.

Certain nominals display an identical syntactic distribution to nominals that receive predictable morphological case in specific structurally-licensed positions, yet they are not marked with predictable case morphology and instead must be marked with specific case morphology that seems to be lexically determined. This type of nominal morphology has been labelled as *quirky case*. As we can see in example (274) below, the internal argument of the transitive predicate *luku* ‘finished’ requires dative case, instead of the expected accusative. When the predicate is passivized, the internal argument retains the dative case even when it moves to preverbal subject position, which would typically go along with a shift to nominative case, as we saw in (94).

(274) **Icelandic quirky DAT: limited to structurally licensed positions**

a. þeir luku kirkjunni
they.NOM finished church.DAT
‘They finished the church.’

b. Kirkjunni_i var lokið t_i
church.DAT was finished
‘The church was finished.’

(Andrews, 1982)

While the predictable morphology associated with structural case correlates with the manner in which the nominal is licensed, quirky case is independently selected by specific predicates and serves to obscure the structural licensing relationship.

Finally, some researchers further distinguish a third type of case, referred to as *inherent* case. This type of morphological case can appear on nominals in particular semantic relationships, where the elements they mark can appear outside of structurally licensed positions. This type of morphological case, then, can be taken as a direct signal of nominal licensing that is independent of the larger clause (the result of some local case-assigning P or perhaps driven purely by meaning – i.e. ‘semantic case’ – as discussed in detail by Schütze, 1997). Schütze considers genitive-marked nominals in possessive constructions in languages like English to be an example of this type of inherent case, as well as instances of “semantic DAT of duration” in Icelandic, as illustrated in (275) below.

(275) **Icelandic inherent case**

dögum saman
days.DAT together
‘for days at a time’

In addition to the differing behavior of these types of morphological case with respect to structural licensing, they also display different properties with respect to other aspects of the syntax. Schütze (1997) argues that while nominals marked with structural case are able to agree with a predicate, nominals that are marked with quirky or inherent case are unable to agree, as in the contrast in (276) below.

- (276) a. **strákunum** leidd- **ist** / *ust
the.boys.DAT.PL bored- 3SG / *3PL
‘The boys were bored.’
- b. **strákarnir** leidd- **ust** / *ist
the.boys.NOM.PL walked.hand.in.hand- 3PL / *3SG
‘The boys walked hand in hand.’¹ (Sigurðsson, 1996, ex. (1),(2))

Based on these patterns, we can capture these different types of case in terms of two points of variation: [\pm *Intrinsic*] and [\pm *Agreeable*].

The property [\pm *Intrinsic*] addresses whether a nominal is dependent on the clausal structure for licensing. Nominals with [+*Intrinsic*] case, such as the *inherent* case discussed above, are independently licensed and not restricted to structurally licensed positions. Nominals with [–*Inherent*] case, such as the *structural* and *quirky* case discussed above, must be licensed via the standard clausal licensing mechanisms.

The [\pm *Agreeable*] property addresses whether a particular case allows a nominal that it marks to agree in phi-features with a verb. Nominals with [+*Agreeable*] case, such as *structural* case, can agree with a verb, while nominals with [–*Agreeable*] case, such as *quirky* and *inherent*, cannot. The fact that case seems to interact with agreement in this way raises the question of what the causality of the restrictions on certain case coinciding with phi-agreement is, particularly in light of the discussion on Activity from chapter 4. I will construe [\pm *Agreeable*] as a *surface* restriction. As we will see in section 5.3.3, while Zulu observes the same restriction as found in Icelandic, it is realized in a slightly different fashion. In Section 5.5, I return to this question of the timing relationship between case and phi-agreement.

Though Schütze (1997) and others argue for three different types of case, if these two defining points of variation are allowed to combine freely, we actually expect them to yield *four* possibilities for case morphology. In addition to the types described above, a [+*Intrinsic*, +*Agreeable*] case would both locally license nominals to which it attaches and would allow these nominals to agree. These possibilities are illustrated in table 5.2, repeated from above.

¹The two verbs in these constructions are homonyms, distinguished by the fact that one assigns quirky dative to the subject, while the other does not.

+ intrinsic + agreeable	– intrinsic + agreeable (“ <i>structural</i> ”)
+ intrinsic – agreeable (“ <i>inherent</i> ”)	– intrinsic – agreeable (“ <i>quirky</i> ”)

Table 5.2: Licensing strategies and nominal morphology

Building on my analysis of structural case licensing from the previous chapters, I argue in this chapter that Zulu illustrates *all* of these possible types of case licensing and nominal morphology. As I discussed in chapter 3, this conclusion is remarkable because in the Bantu language family, it has long been assumed that *none* of these categories exists. In addition to the research arguing against the existence of case effects in Bantu (e.g. Harford Perez, 1985; Ndayiragije, 1999; Alsina, 2001; Baker, 2003b; Carstens and Diercks, forthcoming; Diercks, 2012), it has been taken for granted that the uniform appearance of augmented nominals in different structural positions means that Bantu languages also lack *morphological* case, as we saw in example (93), repeated below:

(93) **Lack of structural case morphology in Zulu**

- a. **u-mntwana** u- cul- e i-ngoma
AUG-1child 1S- sing- PFV AUG-9song
‘The child sang a song.’
- b. u-Mfundo u- nik- e **u-mntwana** u-jeqe
AUG-1Mfundo 1S- give- PFV AUG-1child AUG-11steamed.bread
‘Mfundo gave the child steamed bread.’
- c. u-Mfundo u- nik- e u-gogo **u-mntwana**
AUG-1Mfundo 1S- give- PFV AUG-1granny AUG-1child
‘Mfundo gave granny the child.’

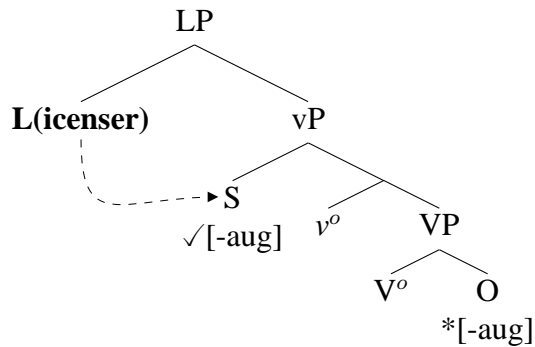
In this chapter, I will argue that the *augment* is in fact part of the morphological case system of Zulu and is an instantiation of the fourth type of case: [+Intrinsic,+Agreeable].

Augmented nominals thus are not subject to structural licensing effects, since the augment signals local, or *intrinsic*, licensing, but they are nevertheless able to agree. I will compare the behavior of the augment with the behavior of other nominal prefixes in the language that fill out Zulu’s case paradigm.

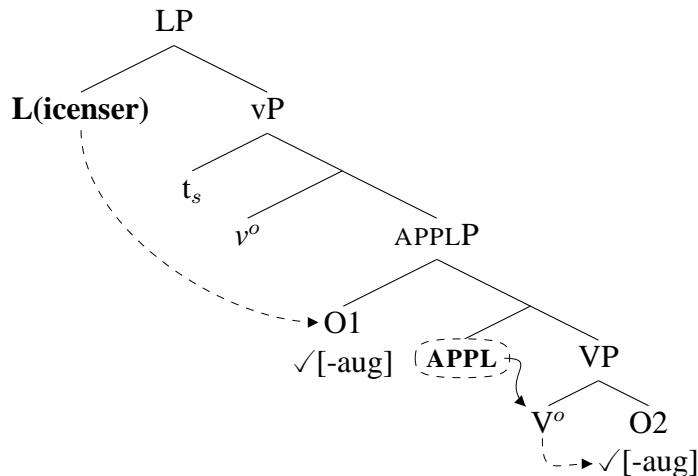
5.2 Structural licensing: recap

In the previous two chapters, we saw structural restrictions on augmentless nominals in Zulu that cannot be explained by independent factors. Specifically, we saw that augmentless nominals are licensed only as the highest element inside vP , licensed by L^o , or by V^o in conjunction with APPL or CAUS.

(114) Licensing via L



(115) Licensing via extra ‘external’ arguments



While these positions of structural licensing are different from those of the familiar case languages discussed in the previous section, I argued that this type of structural licensing process is exactly parallel to these familiar patterns of case licensing.

We also saw in chapter 3 that though augmentless nominals must be licensed in ν P-internal – and thus non-agreeing – positions, they can nevertheless control agreement on a verb. Evidence for this conclusion comes from raising-to-object constructions in which an augmentless nominal raises from an embedded agreeing subject position to ν P-internal position in the matrix clause:

- (216a) angifuni **muntu** [ukuthi a- pheke (i)qanda]
 NEG-1SG-want 1person that 1SJC- cook 5egg
 ‘I don’t want anyone to cook an egg.’

If we evaluate this type of licensing in terms of the distinctions made in the previous section, augmentless nominals are [-Intrinsic,+Agreeable]. That is, these nominals are dependent on structural case-licensing and are able to agree with a verb – exactly like nominals that receive *structural* case in a language like Icelandic. The fact that these nominals are distinguished by a lack of morphology means that structural case has no morphological correlate in Zulu.

As the previous two chapters discuss, two factors help to obscure the existence of structural case in Zulu. First, the fact that the positions in which nominals are licensed differ from those observed in languages like English or Icelandic – for example, the lack of licensing through finite Tense – gives nominals in Zulu a different distributional profile than we have come to expect from more familiar case languages. Second, the fact that these structural case effects are only observable with augmentless nominals gives us many fewer opportunities to see it in the first place. In the next section, I’ll look more closely at the behavior of the augment and other pieces of Zulu nominal morphology to argue that the augment serves as a local ([+Intrinsic]) licenser.

5.3 Zulu nominal prefixes and licensing

So far, this thesis has focused mainly on the differences between augmented and augmentless nominals in Zulu. We have seen that while augmentless nominals require structural licensing, augmented nominals do not. In this section, I will compare the behavior of augmented nominals to nominals with oblique morphology. I will show that while certain

oblique morphemes are in complementary distribution with the augment, others are not. I will argue that these two types of oblique morphology are equivalent to inherent and quirky case.

5.3.1 Classification of oblique prefixes

Zulu has a number of prefixes that mark oblique nominals, some of which we saw briefly in section 4.4.2 in the previous chapter. I focus on a set of prefixes that fall into the two distinct classes discussed below, which I will refer to as *augment-replacing* and *augment-permitting* prefixes.²

Augment-replacing prefixes include the oblique markers *ku-* and *kwa-*, which typically mark locatives but can also be used for benefactives (especially when not introduced by applicative *-el-* morphology), as in (277b,d). These prefixes uniformly take an augmentless complement, as the examples in (277) below show.

(277) Augment-replacing prefixes: augmentless complement

- a. u- buy- is- el- e ifowuni y-akho en-dala
 2SG.SJC- return- CAUS- APPL- SJC AUG.9phone 9POSS-your 9REL-old
 kwa-MTN Service Provider
 KWA-5MTN Service Provider
 ‘Return your old phone to the MTN Service Provider.’³
- b. u-Sipho u- zo- pheka ukudla **kwa-** zingane
 AUG-1Sipho 1S- FUT- cook AUG.15food KWA- 10child
 ‘Sipho will cook food for the children.’
- c. u-Sipho u- zo- thum- ela imali **ku-** mama
 AUG-1Sipho 1S- FUT- send- APPL AUG.9money KU- 1mother
 ‘Sipho will send money to mother’
- d. u-Sipho u- zo- thumela imali **ku-** bantwana
 AUG-1Sipho 1S- FUT- send.APPL AUG.9money KU- 2child
 ‘Sipho will send money to the children’

²At this time I have not done an exhaustive survey of the behavior of all oblique-marking prefixes in the language so I reserve my generalizations for the prefixes explicitly mentioned.

³Google, accessed November 18, 2011.

The examples in (277) show that regardless of the noun class these prefixes attach to, they always surface with the same form and show no evidence of an augment vowel. By contrast, the typical pattern when a vowel-final prefix attaches to an augmented nominal is for the two vowels to predictably “coalesce” to resolve hiatus (Doke, 1997 [1927]). We will observe this process below in the behavior of augment-permitting prefixes, but example (278) below shows that the augment cannot appear with the augment-replacing prefixes:

(278) **Augment-replacing: augment ungrammatical**

- a. * u-Sipho u- zo- pheka inyama **kwe-** zingane
AUG-1Sipho 1S- FUT- cook AUG.9meat KWA.AUG- 10child
intended: ‘Sipho will cook meat for the children.’
- b. * u-Sipho u- zo- thumela imali **ko-** bantwana
AUG-1Sipho 1S- FUT- send.APPL AUG.9money KU.AUG- 2child
intended: ‘Sipho will send money to the children’

The augment-permitting oblique-marking prefixes that I focus on are *nga-* and *na-*. The prefix *nga-* is used to mark a variety of oblique arguments, typically instrumentals or certain temporal adverbials:

(279) **Augment-permitting *nga-*: augmented complement**

- a. uMlungisi u- zo- fika **ngo-** ten (= nga+u-10)
AUG.1Mlungisi 1S- FUT- arrive NGA.AUG- 1.ten
‘Mlungisi will arrive at ten o’clock.’
- b. uMlungisi u- zo- fika **nga-** sonto (= nga+isonto)
AUG.1Mlungisi 1S- FUT- arrive NGA.AUG- 5Sunday
‘Mlungisi will arrive on Sunday.’
- c. ngi- bhala **nge-** peni (= nga+ipeni)
1sg- write NGA.AUG- 5pen
‘I write with a pen.’
- d. ngi- bhala **nga-** mapeni (= nga+amapeni)
1sg- write NGA.AUG- 6pen
‘I write with pens.’

We can observe the presence of the augment vowel in the examples in (279) through the process of coalescence. The *a* vowel of the prefixes predictably lowers the vowel height of the augment, with *u* lowering to *o*, *i* lowering to *e*, and *a* remaining unchanged.

This same process occurs in constructions involving the *na-* prefix, which means ‘with’ and is used in both comitative constructions and in certain types of existential and possessive predication (Buell and de Dreu, 2011). I focus on the comitative use of *na-* here, since the more flexible word order that they permit will better allow us to observe distributional restrictions.

(280) **Augment-permitting *na-*: augmented complement**

- a. uXolani u- dlala **no-** mfana (= na+umfana)
1Xolani 1S- play NA.AUG- 1boy
‘Xolani is playing with a boy.’
- b. uXolani u- dlala **ne-** ntombazane (= na+intombazane)
1Xolani 1S- play NA.AUG- 9girl
‘Xolani is playing with a girl.’
- c. ngi- **na-** bangane abaningi (= na+abangane)
1sg- NA.AUG- 2bangane 2REL.many
‘I have many friends.’
- d. ngenxa yeholide ku- **ne-** siminyaminyanya
becauseof. 9POSS.AUG.5holiday 17S- NA.AUG- 7crowd
sezimoto
7POSS.AUG10cars
‘Because of the holiday, there’s a lot of traffic.’ (=na+isiminyaminyanya)

The examples in (279) and (280) show that the augment is possible with the augment-permitting prefixes, where it was not with the augment-replacing prefixes. While the augment-replacing prefixes (277) always require an augmentless nominal, the augment-permitting prefixes do not always require an augmented nominal. Instead, the augment-permitting prefixes *preserve* the distribution of the augment that we observed with core arguments in chapter 3. In example (281) below, we can see that the augment is in fact required with augment-permitting prefixes in these particular (non downward-entailing) environments:

(281) **Augment-permitting: augment required in non-licensed environment**

- a. *uXolani u- dlala **na-** mfana
1Xolani 1S- play NA- 1boy
intended: ‘Xolani is playing with a boy.’

- b. * ngenxa yeholide ku- **na-** siminyaminy
 because.of 9POSS.AUG.5holiday 17S- NA- 7crowd
 sezimoto
 7POSS.AUG10cars
 intended: ‘Because of the holiday, there’s a lot of traffic.’

The environment in (281) is an environment where a core argument, such as a subject or direct object, would also be required to bear an augment: though the nominal is within ν P, there is no downward entailing licenser of the augmentless nominal. By contrast, if we place nominals with augment-permitting prefixes in negated sentences, as in (282) below, the augment may now be dropped⁴:

(282) **Augment-permitting prefixes: augment contrasts preserved**

- a. a- ngi- bhal- i **nga-** peni
 NEG- 1sg- write- NEG NGA.AUG- 5pen
 ‘I don’t write with any pen.’
- b. uXolani a- ka- dlal- i **na-** mfana
 AUG.1Xolani NEG- 1S- play- NEG NA- 1boy
 ‘Xolani isn’t playing with any boy.’
- c. a- ku- **na-** siminyaminy sezimoto
 NEG- 17S- NA- 7crowd 7POSS.AUG10cars
 ‘There’s no traffic.’

5.3.2 Structural restrictions on obliques

So far in this section, we have seen a split in the behavior of the oblique prefixes in Zulu. Augment-replacing prefixes always take an augmentless complement, even when the nominal appears in environments (and with interpretations) that do not permit non-oblique arguments to be augmentless, as in (277). Augment-permitting prefixes, by contrast, preserve

⁴Many speakers of Durban Zulu find the construction in (282c) to be marked and prefer an alternative involving the existential predicate *kho(na)*:

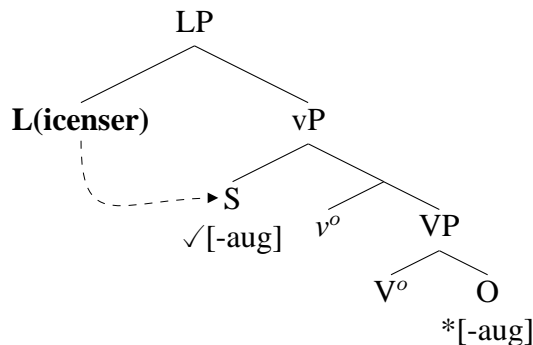
- (1) a- ku- -kho (i)siminyaminy se- zimoto
 NEG- 17S- exist (AUG)7.crowd 7POSS.AUG- 10cars
 ‘There’s no traffic.’

the basic augment contrasts that hold for non-obliques. The augment-permitting prefixes combine with an augmented nominal in non-negative contexts but can combine with an augmentless NPI nominal in downward-entailing environments, as in (282).

In this subsection, I will show that this pattern extends to the structural licensing restrictions on non-obliques discussed in the previous two chapters. Specifically, nominals with augment-replacing prefixes do not seem to require structural licensing, while nominals with an augment-permitting prefix do show sensitivities – in the absence of an augment.

Recall that (in the absence of CAUS or APPL) structural licensing comes from a Licensing head above vP , as repeated in (114) below:

(114) **Licensing via L**



In these constructions, L targets the highest element in vP , which means that nominals that are not local to L cannot receive licensing. If oblique nominals require structural licensing, we would expect them to only be grammatical in a position that is local to L.

First, as (283) shows, augment-replacing prefixed nominals may appear in positions that are *not* maximally local to L. We saw nominals with augment-replacing prefixes in this position in the non-negative environments in (277), but in example (283) we can see the absence of restriction even in a downward-entailing context with an NPI interpretation. The *kwa*-marked augmentless nominal appears after the direct object, in a position that is not local to L.

(283) **Augment-replacing prefix: second object non-local to L**

u-Sipho a- ka- zu- pheka u-kudla **kwa-** zingane
 AUG-1Sipho NEG- 1S- FUT- cook AUG-15food KWA- 10child
 ‘Sipho will not cook food for any children.’

Similarly, augmented nominals that are marked with an augment-permitting prefix may also appear following a direct object, in a position that is non-local to L. In (284), as in (283), the augmented obliques with augment-permitting prefixes can appear in a position following the direct object.

(284) **augment-permitting prefix +AUG: non-local to L**

- a. u-Mfundo u- dlala i-bhola **no-** muntu (na+umuntu)
AUG-1Mfundo 1S- play AUG-5ball NA.AUG- 1person
‘Mfundo is playing soccer with someone/the person.’
- b. u-Mfundo u- bhala i-zincwadi **nge-** peni (nga+ipeni)
AUG-1Mfundo 1S- write AUG-10letter NGA.AUG- 5pen
‘Mfundo writes letters with a pen.’

When an augment-permitting prefix combines with an *augmentless* nominal, however, we do find a structural restriction in exactly this environment, as I showed in section 4.4.2 of chapter 4. The nominal in these cases is sensitive to the same structural restrictions as plain arguments. In (285a), an augmentless oblique with an augment-permitting prefix is ungrammatical when it follows the direct object. This ungrammaticality contrasts with the grammatical augmented oblique in this same position in (284a) or (285b). While speakers do judge an NPI interpretation to be felicitous with the augmented oblique in (285b), exactly as they did for augmented *vP*-internal arguments that did not receive licensing in chapter 3, (285c) shows that speakers also employ a *syntactic* repair to the ungrammatical sentence in (285a). In (285c), the oblique nominal has been shifted to a position above the direct object, where it can be licensed.

(285) **augment-permitting prefix –AUG: structurally restricted to highest in *vP***

- a. * u-Mfundo a- ka- dlal- i i-bhola na- muntu
AUG-1Mfundo NEG- 1S- play- NEG AUG-5ball NA- 1person
- b. u-Mfundo a- ka- dlal- i i-bhola **no-** muntu
AUG-1Mfundo NEG- 1S- play- NEG AUG-5ball NA.AUG- 1person
‘Mfundo isn’t playing soccer with the person/anyone.’
- c. u-Mfundo a- ka- dlal- i **na- muntu** i-bhola
AUG-1Mfundo NEG- 1S- play- NEG NA- 1person AUG-5ball
‘Mfundo isn’t playing soccer with anyone.’

Interestingly, the construction in (285c), where the augmentless augment-permitting oblique precedes the direct object, is strongly dispreferred with an *augmented* augment-permitting oblique, as (286) shows. This contrast suggests that perhaps the shifting operation is only available for nominals that require structural case, along the lines of the case-driven analyses of raising discussed in previous chapters.

- (286) ?? u-Mfundo a- ka- dlal- i **no-** **muntu** i-bhola
 AUG-1Mfundo NEG- 1S- play- NEG NA.AUG- 1person AUG-5ball
 ‘Mfundo isn’t playing soccer with the person/someone.’

I am unsure at this time of the correct analysis for the structure in (285c), though see Lechner (2003) and Csirmaz (2006) for discussion of similar c-command relationships between arguments and case-marked adjuncts in unrelated languages. However, as with the core arguments, augment-permitting obliques with an augmentless complement seem to be restricted to being the highest element in νP , or most local to L.⁵

⁵Note that this type of movement, with the nominal requiring licensing shifting around a non-agreeing in situ argument, is not possible for a non-oblique argument. For internal and external arguments, including those introduced by APPL or CAUS, the only way to become local to L is if a *higher* argument undergoes A-movement out of νP . Though I will not pursue a full account of this contrast here, note that this seems to be a more general property of adjuncts vs. arguments in Zulu. As I showed in chapter 2, while νP -internal arguments display rigid word order with respect to each other, Buell (2005) demonstrates that certain adjuncts can have variable word order with respect to a νP -internal subject:

- (1) a. ng- a- ya lapho ku- hlala **uSipho** khona
 1SG- PAST- go where 1S- stay AUG.1Sipho there
 b. ng- a- ya lapho ku- hlala (khona) **uSipho**
 1SG- PAST- go where 1S- stay (there) AUG.1Sipho
 ‘I went to where Sipho lives.’ (Buell, 2005, ex. (282))

I will assume that the inability of arguments to move within νP prevents a construction like (285c) from being a grammatical option in constructions where a lower nominal requires licensing but a higher nominal intervenes. An alternative possibility, suggested by Michael Diercks, would be that the obliques in these constructions are not actually undergoing movement within νP , but instead are flexible in their possible attachment sites and can simply attach in a position local to L when structural licensing is required. On this account, the inability for arguments to “move” within νP would reduce to the fact that arguments only have one possible attachment site within νP . In the absence of strong evidence to distinguish these possible accounts, I set them aside here and simply note that this difference will need to be dealt with by any theory of

The pattern that we see with the augment-permitting obliques is reminiscent of the quirky case pattern in Icelandic, where nominals that require a particular morpheme are still limited to structurally licensed positions:

(274) **Icelandic quirky DAT: limited to structurally licensed positions**

- a. þeir luku kirkjunni
 they.NOM finished church.DAT
 ‘They finished the church.’
- b. Kirkjunni var lokið
 church.DAT was finished
 ‘The church was finished.’ (Andrews, 1982)

Notably, just as in Icelandic, Zulu *augment-permitting* morphology is *required* by these oblique nominals but does not serve to license them. Instead, they are limited to structurally licensed positions – or to appearing with an augment. As I will discuss in more detail in section 5.3.3, these remarkable similarities will be essential to our understanding of Zulu’s case system.

The final aspect of oblique behavior that is relevant to our understanding of their case-type properties concerns the behavior of these nominals with respect to movement and agreement. As (285c) showed, nominals with augment-permitting morphology that undergo a syntactic shift into a structurally licensed position maintain their augment-permitting prefix. Both augment-replacing and augment-permitting obliques are also able to dislocate with their prefixes intact:

- (287) a. abantu ba- phuza umqombothi [kwa- Zulu]
 AUG.2people 2S- drink AUG.3traditional.beer KWA- 5Zulu
- b. [kwa- Zulu] abantu ba- phuza umqombothi
 KWA- 5Zulu AUG.2people 2S- drink AUG.3traditional.beer
 ‘People drink sorghum beer in Zululand.’

licensing in Zulu.

- c. uXolani u- gunda utshani [nge- sigundatshani]
 AUG.1Xolani 1S- cut AUG.12grass NGA.AUG- 7lawnmower
- d. [nge- sigundatshani] uXolani u- gunda utshani
 NGA.AUG- 7lawnmower AUG.1Xolani 1S- cut AUG.12grass
 ‘Xolani cuts the grass with a lawnmower.’

This behavior contrasts starkly with what happens when augment-replacing *or* augment-permitting obliques move to an *agreeing* vP-external position. In chapter 2, I showed that Zulu allows certain oblique arguments, such as locatives or instrumentals, to appear in Spec,TP, while the subject remains inside vP (Buell, 2007; Zeller, 2010b). In (288) and (289), I show that while the non-inverted versions of these constructions *require* augment-replacing or augment-permitting morphology, the inversion constructions *prohibit* it. That is, when oblique nominals move to preverbal agreeing positions, they retain their oblique interpretation while losing their oblique morphology. The agreement we find in these situations, as discussed in chapter 2, is agreement with the noun class of the oblique nominal (and not with the thematic subject or with the oblique morphology itself).

(288) **Locative inversion: no augment-replacing morphology**

- a. abantu abadala ba-hlala *(ku)- lezi zindlu
 2people 2old 2S-stay KU- 10these 10houses
 ‘Old people live in these houses.’
- b. (*ku-) lezi zindlu zi- hlala abantu abadala
 KU- 10these 10houses 10S- stay 2people 2old
 ‘Old people live in these houses.’ (Buell 2007, (7))

(289) **Instrument inversion: no augment-permitting morphology**

- a. u- John u- dla *(nge)- sipuni
 AUG- 1John 1S- eat NGA.AUG- 7spoon
 ‘John is eating with a spoon.’
- b. (*nga-) i- sipuni si- dla u- John.
 (*NGA) AUG- 7spoon 7S- eat AUG- 1John
 ‘John is eating with a spoon.’ (Lit. ‘The spoon is eating John.’) (cf. Zeller 2010, (50))

In chapter 3, we saw that though augmentless nominals were incapable of surfacing

in agreeing positions, they were capable of controlling agreement if they further raised to a non-agreeing position. Here we see that while oblique nominals are capable of agreeing and appearing in an agreeing positions, they do so at the expense of their oblique morphology. Example (290) below is further illustration that the ungrammaticality of the oblique morphology on agreeing subjects in (288) and (289) is the result of agreement, rather than surface position. In this construction, when an inverted oblique further raises to a vP-internal position in the matrix clause – where we know that oblique morphology may surface – it still must appear without and augment-replacing morpheme:

- (290) a. *ngi- funa (ukuthi) (*ku-) lezi zindlu zi- hlala abantu abadala*
 1SG- want (that) KU- 10these 10houses 10S- stay 2people 2old
 ‘I want old people to live in these houses.’
- b. *ngi- funa (*ku-) lezi zindlu ukuthi zi- hlala abantu abadala*
 1SG- want KU- 10these 10houses that 10S- stay 2people 2old
 ‘I want old people to live in these houses.’

I return to the issue of the disappearing oblique morphology in section 5.5.2.

5.3.3 Case morphology in Zulu

To summarize what we’ve seen so far, in this chapter I have shown that there are four types of nominal in Zulu that differ from each other in their behavior. First, as the previous chapters had already established, we find a distinction between augmentless nominals, which require structural licensing, and augmented nominals, which do not. Second, we saw a similar distinction among the oblique nominals. Nominals with augment-replacing morphology did not require independent licensing. The augment-replacing prefixes appear to be in complementary distribution with the augment – augment-replacing morphology uniformly attaches to augmentless nominals – but at the same time nominals with augment-replacing morphology showed no sensitivity to structural restrictions. Nominals with augment-permitting morphology, by contrast, did require independent licensing, in the form of either an augment or structural licensing in vP. I propose here that these four types of nominals correspond to the case-licensing and nominal morphology paradigm introduced when I discussed languages like Icelandic earlier in this chapter. As I will discuss

in this subsection, these nominal types map onto the paradigm as shown in table 5.3.

+ intrinsic + agreeable <div>augment</div>	– intrinsic + agreeable (“ <i>structural</i> ”) <div>augmentless</div>
+ intrinsic – agreeable (“ <i>inherent</i> ”) <div>aug-replacing</div>	– intrinsic – agreeable (“ <i>quirky</i> ”) <div>aug-permitting</div>

Table 5.3: Licensing strategies and nominal morphology in Zulu

The intrinsic parameter

Recall that Icelandic showed a distinction between case morphology that signals that a nominal is licensed locally and is therefore not dependent on structural licensing mechanisms, and case morphology that does not. This distinction was represented by the feature $[\pm\text{Intrinsic}]$. In Zulu, two types of nominal morphology do not show sensitivity to structural licensing effects: the *augment* and *augment-replacing prefixes*. While these $[+\text{Intrinsic}]$ nominals in Zulu do not require structural licensing, they are nevertheless capable of appearing in licensed positions, as chapter 4 established (contra Schütze, 1997). We can understand the complementarity of the augment and the augment-replacing prefixes in terms of their $[+\text{Intrinsic}]$ property: either morpheme is capable of licensing the nominal, but augment-replacing morphology is more highly specified than the augment, since it correlates with oblique meaning, so when augment-replacing morphology is appropriate it will take precedence. In other words, while I have argued that the augment vowel is essentially a morphosyntactic default that does not correspond to any particular meaning or syntactic configuration, 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. In section 5.5.3 I return to the fact that these two morphemes never

combine and contrast it with the behavior of the augment and augment-permitting, which do combine.

As I discussed in section 5.2, structural [-Intrinsic,+Agreeable] case in Zulu does not correspond to a particular morpheme or class of morphemes. Rather, this type of case is what we observe with augmentless nominals. Similarly, augment-permitting morphology also has [-Intrinsic] properties: nominals marked with this morphology require independent licensing, just like quirky cased nominals in Icelandic. While in Icelandic the only solution to licensing quirky nominals is for them to receive structural licensing, augment-permitting obliques have two potential solutions to the licensing dilemma. They may appear in structurally licensed positions, just as in Icelandic, but they may also *combine* with a [+Intrinsic] augment morpheme, as we saw in the previous subsection.

The agreeable parameter

The second split that we've observed in this chapter has been represented with the feature [\pm Agreeable]. In Icelandic, we saw that nominals marked with quirky and inherent case are unable to control agreement, while nominals marked with structural case are able to agree. We find this same type of pattern in Zulu. We have seen throughout the thesis that both augmented and augmentless nominals are capable of controlling subject agreement in pre-verbal position. With augmentless nominals, this agreement pattern can only be observed if the augmentless nominal further raises to a structurally licensed position, as repeated in (216a) below:

- (216a) angifuni **muntu** [ukuthi a- pheke (i)qanda]
 NEG-1SG-want 1person that 1SJC- cook 5egg
 'I don't want anyone to cook an egg.'

These augmented and augmentless nominals are therefore [+Agreeable], in that they permit agreement with a verb.

Nominals with augment-replacing or augment-permitting morphology, by contrast, cannot control subject agreement, as we saw in the previous subsection. In inversion constructions, oblique nominals may control agreement, but in doing so, they lose their oblique morphology. Just as in Icelandic, then, we find that the categories in Zulu that correspond

to quirky and inherent case are unable to agree. In section 5.5.2, I return to a notable but systematic difference between the two languages: that while Icelandic obliques keep their case morphology at the expense of agreement, Zulu obliques undergo agreement at the expense of their case morphology.

5.3.4 Taking Stock

In this chapter, I have argued that the behavior of nominals in Zulu is analogous to the behavior of nominals in more familiar case-marking languages, such as Icelandic. This result is surprising in light of previous research arguing for an absence of such effects in the Bantu languages. In addition to morphology and licensing in Zulu that correspond to Icelandic structural, inherent, and quirky case, we also see a *fourth* type of different types of nominal morphology, represented by the upper left quadrant of table 5.4, repeated from above.

+ intrinsic + agreeable augment	– intrinsic + agreeable (<i>“structural”</i>) augmentless
+ intrinsic – agreeable (<i>“inherent”</i>) aug-replacing	– intrinsic – agreeable (<i>“quirky”</i>) aug-permitting

Table 5.4: Licensing strategies and nominal morphology in Zulu

Now that we have seen the ways in which Zulu is deeply similar to more familiar case-marking systems, in the rest of this chapter I will address some of the ways in which Zulu differs from familiar patterns. I first examine the role of the augment and some of its more novel syntactic and semantic properties. Then I turn to the ways in which agreement and case morphology interact in Zulu.

5.4 The augment and the role of case morphology in Zulu

In this chapter, I have returned to an issue first raised in chapter 3: what properties must be attributed to the augment to explain why augmented nominals do not require structural licensing. As I discussed in that chapter, it is difficult to understand the Zulu augment as making any particular semantic contribution: I have shown that the augment can mark definiteness, indefiniteness, specificity, nonspecificity, high- or low-scope. If the augment is merely a case marker, as I have argued in this chapter, then this lack of additional semantic content becomes less unexpected; when we consider the role of case morphemes such as “nominative” or “accusative”, we typically do not discuss them in semantic terms.

At the same time, if we compare the Zulu system of case morphology to the one described for Icelandic at the beginning of this chapter, we do find differences in the extra-syntactic roles the different types of nominal morphology play. All of the non-structural morphology that we saw in Icelandic is constrained to particular semantic or structural configurations. Quirky case is idiosyncratically assigned by verbs to particular arguments. Inherent case corresponds to particular types of oblique semantics. While the augment-replacing and augment-permitting obliques follow this familiar pattern – corresponding to particular meanings, including locative, benefactive, comitative, and instrumental (with the choice between “quirky” augment-permitting and “inherent” augment-replacing apparently sometimes idiosyncratic) – the augment does not. In Zulu, the augment vowel is not restricted in its distribution in any observable way – by structure, idiosyncratic selection, or semantics.

One way to characterize this free distribution of the augment would be as a “default” case marker that can license a nominal in any structural position. This sense of “default” is reminiscent of proposals that certain languages employ a default case marker that can license nominals that are not otherwise structurally licensed, as McCloskey (1985) and Chung and McCloskey (1987) argued for accusative subjects of nonfinite clauses in Irish, and as Kang (1988) argued for nominative subjects of certain small clauses in Korean. This view is a departure from more recent discussions of default case (including Schütze, 1997, 2001; McFadden, 2004), which take default case to simply be the unmarked morphological

marker applied to nominals that are assumed to not require structural licensing in the first place. Crucially, as Schütze (2001, p. 208) discusses, on these theories default case does *not* serve to license nominals because if such a case were available, it “would render the Case Filter vacuous.” This result is not, in fact, unwelcome in Zulu: as we have seen, the availability of the augment *does* obscure the effects of the Case Filter throughout much of Zulu grammar. It is only when we focused on the distribution of nominals without the augment that any structural effects were detectable.

At the same time, while augmented nominals do not appear to have any reliable semantic correlates, augmentless nominals *do* have semantic (and additional structural) restrictions: they must occur in downward-entailing environments and carry certain (typically NPI or *wh*-) interpretations. In this sense, the semantic and distributional properties of augmented and augmentless nominals seem to be the reverse of what we expect: under this analysis, *structural* case in Zulu correlates with a limited distribution and restricted semantics, while an *intrinsic* case does not.

While it may seem odd for structural case to have interpretive consequences, this type of pattern is in fact well-attested cross-linguistically (see de Hoop, 1996, for an overview of several of these cases). In a number of languages, an alternation between two case morphemes (either both structural, or one structural and one not) in a particular structural position can have the same sort of interpretive consequences observed in Zulu.

One such case alternation with interpretive restrictions and consequences occurs with the distribution of the Finnish partitive (Brattico and Leinonen, 2009; Csirmaz, 2012; Heinämäki, 1984; de Hoop, 1996; Kiparsky, 1998, 2001; Thomas, 2003; Vainikka, 1989, 1993, and others). Certain nominals in Finnish can alternate between partitive and non-partitive case, with corresponding interpretive differences. The two main functions of partitive case, among several others, have been described as *aspectual* and *NP-related* (Kiparsky, 1998). These functions yield the definiteness contrast illustrated in (291), with partitive signaling indefinite interpretation, and a telicity contrast, with partitive signaling an atelic predicate as in (292).

- (291) a. Anne tapaa vieraita
Anne meets guests.PART
'Anne meets some guests.'
- b. Anne tapaa vieraat
Anne meets guests.ACC
'Anne meets the guests.'
- (de Hoop, 1996, ex. (20),(21))
- (292) a. Ammu- i- n karhu- a
shoot- PAST- 1SG bear- PART
'I shot at the (a) bear.' (atelic)
- b. Ammu- i- n karhu- n
shoot PAST- 1SG bear- ACC
'I shot the (a) bear.' (telic)
- (Kiparsky, 1998, ex. (1))

These alternations are restricted to particular structural positions: while internal arguments can participate in either the definiteness or telicity alternation, as illustrated in (291) and (292) above, external arguments never receive partitive case to signal atelicity, but can receive partitive case as indefinites, as (293) shows:

- (293) Sitä käsikirjoitusta oli sängy- n alla- kin
that.PART manuscript.PART be.PAST3SG bed- GEN under- even
'(Parts of) that manuscript were even under the bed.'
- (Kiparsky, 1998, ex. (54))

This interaction between morphological case alternations, structural position, and interpretation in Finnish has a similar character to the patterns we find in Zulu. In a recent analysis, Csirmaz (2012) argues that the distribution of partitive case in Finnish can be unified by the notion of *divisibility*, where 'a predicate P is divisible if and only if for every argument of the predicate, all proper parts of the argument are parts of arguments of P' (Csirmaz, 2012, p. 3). A bare plural or a mass noun is divisible, therefore, because all parts of these nouns, including individual elements and parts of individual elements, are parts of (a part of) the original set.

Assuming that case morphology is inserted post-syntactically, Csirmaz claims that a nominal spells out with partitive case if it is minimally contained within a divisible Spell-out domain. That is, if either the nominal itself *or* the entire *vP* that contains it is divisible, the nominal will bear partitive morphology. With a divisible *vP*, such as the atelic predicate

in (292a), the *object* of that *vP* will be marked with partitive because it spells out inside the divisible *vP* phase. The subject of such a predicate would not bear partitive, because it is outside of the divisible Spell-out domain. If a DP itself is divisible (either subject or object), as in (293) or (291a), it will also spell out with partitive case.

In this analysis, despite the fact that partitive case appears in a wider variety of environments than accusative case, it is characterized as the non-default case. The more restricted accusative case is in fact the default morphological realization of structural case. In this sense, this analysis of Finnish is also in line with my analysis of Zulu, since I argue that the more restricted augmentless nominals are the true reflection of structural licensing.

Finnish is not the only example of a language where morphological case alternations have semantic consequences. Another well-described alternation is the genitive of negation in Russian, where genitive case alternates with structural case in negative contexts to yield a weak indefinite interpretation (though with complications, as discussed by Partee and Borschev, 2004). In Turkish as well, the distribution of accusative case has interpretive consequences (Enç, 1991; Kornfilt, 1997, among others). As von Stechow and Kornfilt (2005, p. 3) conclude: “the accusative case marker can indicate the referential property of the direct object (such as specificity) in clearly defined morphological environments in a reliable fashion; in other contexts, it is not a reliable indicator of properties like specificity.”

As in Zulu, in all of these constructions, the relevant case alternation and its interpretive consequences are limited to a particular syntactic domain – outside of the correct structural environment, the case alternation is impossible and cannot be employed to mark the interpretive difference. While I do not focus on the interpretive consequences of Zulu nominal morphology in this thesis and will not attempt to unify the semantics of the augmented/augmentless alternation with the syntax I have proposed here, these cross-linguistic case alternations suggest to me that the Zulu pattern is not as unusual as it may have seemed.

5.5 Case and agreement interactions

In this section, I return to some of the issues surrounding the case system proposed in this chapter. First, I return to the property of [\pm Agreeable] to argue that we can predict whether

a particular morpheme will be [+Agreeable] in Zulu based on its morphological relationship to the noun class marker: the augment allows agreement because it itself “agrees” in noun class with the stem, while augment-replacing and augment-permitting prefixes do not. Next, I relate the prohibition on agreeing obliques in Zulu to the similar prohibition we find in languages like Icelandic. A comparison of the two suggests that different timing relationships between agreement and morphological case “assignment” are necessary in the two different languages. With these differences in mind, I return briefly to the discussion of Activity from section 4.5.1 in the previous chapter. I then address the question of why certain nominal morphemes – the augment and the augment-permitting prefixes – may combine with each other on a single nominal but others cannot. I propose that the augment-permitting prefixes are prepositional, while the augment and augment-replacing prefixes are not. Finally, I discuss a few additional facts about the distribution of the augment within certain complex DP structures and suggest that the unexpected appearance of augmentless nominals within these structures can be understood as a form of case concord.

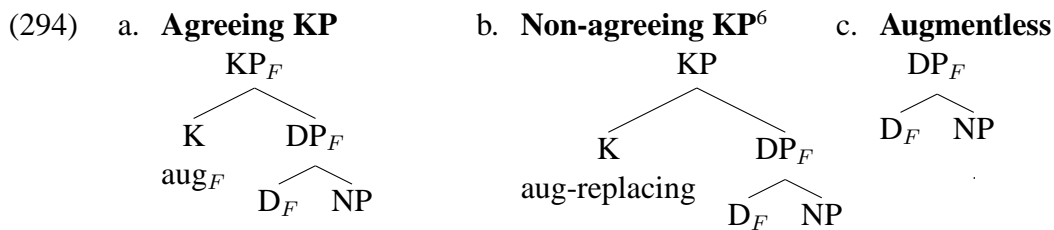
5.5.1 On Agreeableness

Perhaps the main distinguishing feature of the augment, in the context of the analysis developed in this chapter, is the fact that though it is intrinsically licensing, it permits nominals that it marks to agree. While Schütze (1997) proposed that only nominals marked with structural case are capable of agreement, the fact that the augment permits agreement requires a different generalization for Zulu.

I propose that in Zulu, what determines whether a particular type of nominal morphology will allow or prevent agreement is not the abstract category of that morphology, but rather the nature of the morpheme itself. Crucially, the fact that the augment vowel *reflects the noun class* of the nominal it combines with makes the phi-features of that nominal available for outside agreement process. By contrast, augment-replacing and augment-permitting morphology does not “agree” with the noun class of the nominal they mark and thus prevent those phi-features from being accessed. Rezác (2008) makes a similar proposal for PPs in certain Basque dialects, arguing that prepositions that agree with their comple-

ments become ‘transparent’ for Agree and can therefore participate in outside agreement processes in the same manner as plain nominals.

Simply by looking at the shape of these morphemes, then, we can determine whether they will allow or disallow agreement: augment-replacing and augment-permitting morphology *does not* reflect the noun class of the complement and thus is opaque for outside agreement. The augment *does* reflect noun class and thus permits agreement, but the augmentless nominals receive their licensing from higher in the clause – and thus presumably have no need for the intervening level of structure present in the other three categories.



The structures in (294) are one possible way to represent this difference: the phi-features of the noun class marker make the entire DP available for agreement. When the augment “agrees” with the DP, the entire KP is now available. When the case marker does not agree, those features are not visible at the KP-level (see Baker, 2008; Taraldsen, 2010, for a similar take on noun class agreement with determiners in Bantu, and in Zulu in particular). In section 5.5.3 I address a possible alternative analysis for the augment-permitting prefixes, but one that is still compatible with this view of Agreeableness.

5.5.2 Timing of agreement and case

As mentioned in this and preceding sections, one property that Zulu shares with a language like Icelandic is the inability of oblique case-marked nominals to agree with the verb. In Zulu, as we saw, this prohibition on agreeing obliques results in omission of oblique morphology when the oblique argument appears in an agreeing position:

⁶In section 5.5.3, I return to the syntactic status of the augment-permitting prefixes. I argue that, based on systematic differences between these prefixes and the augment and augment-replacing morphology, the augment-permitting prefixes are better classified as true prepositions, rather than case heads, as represented here. The observations about their non-agreeing status – and the consequences that follow – that I make in this section remain valid.

(288) **Locative inversion: no augment-replacing oblique morphology**

- a. abantu abadala ba-hlala ***(ku)-** lezi zindlu
 2people 2old 2S-stay KU- 10these 10houses
 ‘Old people live in these houses.’
- b. ***(ku)-** lezi zindlu zi- hlala abantu abadala
 KU- 10these 10houses 10S- stay 2people 2old
 ‘Old people live in these houses.’ (Buell 2007, (7))

By contrast, as we saw in Icelandic in chapter 4, when oblique nominals occupy a position that would normally trigger agreement, they keep their oblique morphology and instead cause a change in verbal agreement patterns. In a simple intransitive with a quirky subject, default 3SG agreement appears on the verb as in (276a), in contrast to an intransitive with a nominative subject, which requires agreement, as in (276b).

- (276) a. **strákunum** leidd- **ist** / *ust
 the.boys.DAT.PL bored- 3SG / *3PL
 ‘The boys were bored.’
- b. **strákarnir** leidd- **ust** / *ist
 the.boys.NOM.PL walked.hand.in.hand- 3PL / *3SG
 ‘The boys walked hand in hand.’ (Sigurðsson, 1996, ex. (1),(2))

When the subject is marked with quirky case, the verb can sometimes agree with certain (third person) non-subject arguments, such as nominative objects, as in (295), or embedded arguments (I discussed the circumstances under which this type of agreement is permitted in chapter 4), as in (296).

- (295) honum lík- **a** **þeir**
 him.DAT.SG like- 3PL they.NOM.PL
 ‘He likes them.’ (Sigurðsson, 1996, ex. (7c))
- (296) henni virð- **ast myndirnar** vera ljótar
 her.DAT.SG seem- 3PL the.paintings.NOM.PL be ugly
 ‘It seems to her that the paintings are ugly.’ (Sigurðsson and Holmberg, 2008, ex. (4a))

Thus, while it seems that Zulu and Icelandic have the same surface ban on agreeing obliques, they achieve a grammatical output in different ways. In Zulu, oblique case mor-

phology is lost and agreement appears, while in Icelandic agreement is sacrificed (at least in constructions where the oblique nominal acts as an intervenor, as discussed in detail in chapter 4) but the oblique case morphology is retained.

This difference has consequences for our understanding of the timing of different grammatical processes. Bobaljik (2008) takes the dependence of verbal agreement in Icelandic on morphological case to be evidence for treating phi-agreement as a post-syntactic process. He argues that because morphological case in Icelandic can be determined via post-syntactic insertion rules, any operations that are dependent on morphological case are therefore also post-syntactic. In Zulu, by contrast, we appear to have the opposite dependency: agreement with a nominal appears to prevent it from bearing (otherwise obligatory) oblique morphology. This reverse order of operations suggests that agreement has to be able to precede morphological case in Zulu. Furthermore, the strict correspondence between agreement and syntactic movement in Zulu suggests that agreement is more closely entangled with syntactic processes in the language, rather than postsyntactic ones.

A related issue to the question of the relative timing of case and agreement is the role of the Activity Condition, as discussed in section 4.5.1 of chapter 4. In that chapter, I proposed that when nominals are case-licensed by L, they are rendered inactive for all further agreement processes – including phi-agreement with T. Since I have proposed in this chapter that the augment and the augment-replacing prefixes also license nominals, we might ask whether the nominals they mark are rendered inactive by virtue of this licensing process. If so, then we would expect all nominals to be unable to agree *after* they are case-marked. In this section, I have suggested for oblique nominals, on the basis of the contrasts between Zulu and Icelandic, that case morphology is introduced very late in Zulu – after phi-agreement. If this relatively late insertion holds not just for the oblique markers, but also for the augment itself, then inactivity will not arise until late in the derivation. If the augment is inserted *after* all movement and agreement has taken place, then its presence on a nominal at the end of the derivation is essentially irrelevant to the Activity of a nominal throughout the derivation. In other words, regardless of the case morphology that a nominal bears at the end of the derivation, we will only see the effects of Activity that arise through structural licensing: if a nominal is probed by L it will become inactive and if it moves

before probing it will remain active. In chapter 4, I showed that augmented nominals behave as though they can receive licensing from L, even though they don't seem to need it. Under this view, even nominals that surface with an augment are in fact augmentless at the point in the derivation where L probes.⁷

One remaining issue that I won't attempt to fully explain here is the question of what allows the the oblique morphology – and the meaning it conveys – to disappear. A possible factor in the availability of these constructions is their rather limited distribution. Unlike in Bantu languages that have locative inversion constructions that retain – and agree with – locative noun class morphology on the inverted locative (as shown, for example, in Bresnan and Kanerva, 1989; Bresnan, 1994; Marten, 2006; Diercks, 2011), the Zulu locative inversion of the type discussed here has a more limited distribution. The example in (297) from Otjiherero below show that, at least in some languages, locative inversion of this type can occur with a transitive predicate (though as Marten, 2006, shows, the availability of this construction varies even across Bantu languages that have full locative agreement in inversion):

- (297) pò- ndjúwó pé- tjáng- èr- à òvá- nàtjè ò- mbàpírà
 16- 9house 16S.- write- APPL- FV 2- children 9- letter
 'At the house write (the) children a letter.' *Otjiherero* (Marten, 2006, ex. (36))

In Zulu, the construction is restricted, roughly, to middle-type contexts and certain other unaccusatives, as illustrated below:

- (298) a. lezi zindlu zi- hlala abantu abadala
 10these 10houses 10S- stay 2people 2old
 'Old people live in these houses.' (Buell, 2007, ex. (7))

⁷An alternative to this view of the augment as always being inserted late in the derivation would be to assume that while the insertion of the augment *does* inactivate the DP it licenses, the entire KP that it heads is still active, following (Carstens, 2005, 2011), who argues that elements with uninterpretable phi-features become inactive only when they have been probed. The fact that the KP contains phi-features would be crucial to its ability to enter into phi-agreement processes with higher heads, again in contrast to the augment-replacing morphology.

- b. lesi silonda si- phuma ubovu
 7this 7sore 7S- exit AUG.11pus
 ‘Pus is coming out of this sore.’

(Nkabinde, 1985, p. 47)

In other environments, the alternation is simply not possible:

- (299) a. abangane ba- cula **ku-** le- ndlu
 AUG.2children 2S- sing KU- 9DEM- 9house
 ‘Children sing in this house.’
- b. # le- ndlu i- cula abangane
 9DEM- 9house 9S- sing AUG.2children
 # ‘The house sings children.’
 *‘Children sing in this house.’

The distribution of the instrument inversion is even more restricted, as Zeller (2010b) notes. In particular, it appears to be grammatical for only the most archetypal instances of instruments for specific actions. In (300), we can see that while the inversion is permitted with the predicate *dla* ‘eat’ if *isipunu* ‘spoon,’ the typical Zulu eating utensil, is used, it is ungrammatical when other utensils are substituted. The example in (301) shows the same pattern with *bhala* ‘write’ and *ipeni* ‘pen’:

- (300) a. isipuni si- dla uJohn
 AUG.7spoon 7S- eat AUG.1John
 ‘John is eating with a spoon.’ (Zeller, 2010b, ex. (50))
- b. * imfoloko/ ama-chopsticks i-/a- dla uJohn
 AUG.9fork/ AUG.6-chopsticks 9S-/6S- eat AUG.1John
- (301) a. ipeni li- bhala uSipho
 AUG.5pen 5S- write AUG.1Sipho
 ‘Sipho wrties with a pen.’
- b. * ipenseli/ ikhompyutha li- bhala uSipho
 AUG.5pencil/ AUG.5computer 5S- write AUG.1Sipho

Though I leave this issue for future research, it seems likely that what unites these environments in which augment-replacing or augment-permitting oblique morphology may be omitted – thus permitting the inversion and agreement – are those in which there is a certain degree of predictability to the meanings, which allows for recoverability.

5.5.3 The status of augment-permitting prefixes

To return to the issue of the internal structure and Agreeableness of the different categories of nominal case morphology, in this subsection I focus on the interaction of the augment and augment-permitting morphology. As I discussed in the previous sections, while the augment is in complementary distribution with augment-replacing morphology, it can appear in conjunction with augment-permitting morphology:

(277a) **Augment-replacing morphology**

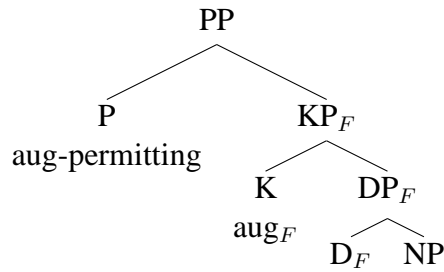
u-buy-is-el-e i-fowuni y-akho en-dala **kwa**-MTN
 2SG-return-CAUS-APPL-SJC AUG-9phone 9-your 9-old KWA-5MTN
 Service Provider
 Service Provider
 ‘Return your old phone to the MTN Service Provider.’

(280a) **Augment-permitting morphology**

uXolani u- dlala **no**- mfana (= na+umfana)
 1Xolani 1S- play NA.AUG- 1boy
 ‘Xolani is playing with a boy.’

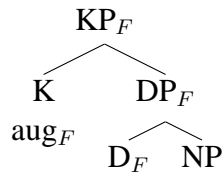
If the augment and the augment-permitting prefixes are both case heads, it is perhaps mysterious why they can combine on a single nominal – and why the augment and the augment-replacing prefixes cannot. One possible explanation for this difference would be to analyze augment-permitting morphology – but not augment replacing morphology – as prepositional, rather than as a case marker. With such an analysis, Zulu begins to look more uniform in certain respects. First, we can understand why the augment can combine with augment-permitting morphology, which attaches as a P^o outside of KP, but not with augment-replacing morphology, which is itself a K^o :

(302) **Augment-permitting morphology**

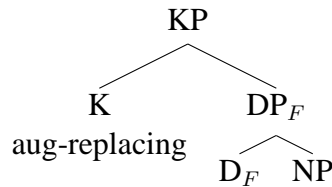


For comparison, the structures proposed for the other categories – augment, augment-replacing, and augmentless – are repeated below:

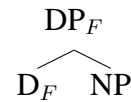
(294) a. **Agreeing KP**



b. **Non-agreeing KP**



c. **Augmentless**



Second, if only the augment and augment-replacing morphology correspond to a level of KP structure, then all K^o heads in Zulu are nominal licensers. Nominals that require structural licensing – both ‘plain’ augmentless nominals and those marked with augment-permitting prefixes – are missing this layer of structure. On this analysis, P^o would not be a nominal licenser in Zulu – in the same way that T^o and v^o are not licensers. This type of analysis may perhaps also shed light on the differences between augment-permitting morphology and quirky case in languages like Icelandic. Though the two have the same profile with respect to the Intrinsic and Agreeable properties discussed earlier in this chapter, quirky case in Icelandic is typically selected for by certain predicates. Zulu does not display that type of selection for augment-permitting morphology.

There are several additional respects in which augment-permitting morphology differs from augment-replacing morphology which might support an analysis of the augment-permitting prefixes as prepositions. First, as I noted in section 4.3.1, the augment-permitting prefix *na-* is involved in possessive and certain existential predication constructions (see Buell and de Dreu, 2011, for discussion).

- (303) a. **ngi- na-** bangane abaningi (= na+abangane)
 1sg- NA.AUG- 2friend 2REL.many
 ‘I have many friends.’
- b. **ngexa yeholide ku- ne-** siminyaminyanya sezimoto
 because.of 9.AUG.5holiday 17S- NA.AUG- 7crowd 7.AUG10cars
 ‘Because of the holiday, there’s a lot of traffic.’ (=na+isiminyaminyanya)

Neither the augment nor any augment-replacing morphemes I am aware of play any similar role. The use of augment-permitting morphology – and not of augment-replacing morphology – in these types of predication is expected if the augment-permitting prefixes prepositions as opposed to simply a case marker, following claims by Freeze (1992), Harley (2003), and others, who argue that exactly these constructions involve a prepositional element.

Another factor that suggests that augment-permitting morphology differs from augment-replacing morphology and the augment concerns tone patterns.⁸ As Mzolo (1968) describes, Zulu augments are high toned. When they combine with a low-toned stem, their high tone can spread into the stem. This tone pattern contrasts with an augmentless nominal, which remains fully low-toned:

- (304) a. **A- ngi- m- bon- i úmúntú**
 NEG- 1SG- 2O- see- NEG AUG.1person
 ‘I don’t see the person.’
- b. **A- ngi- bon- i mùntù**
 NEG- 1SG- see- NEG 1person
 ‘I don’t see anyone.’ (Mzolo, 1968, p. 204)

The augment-replacing prefixes that I have examined contribute a high tone, just like the augment:

- (305) **u-Sipho u- zo- thum- ela imali kú- múntú**
 AUG-1Sipho 1S- FUT- send- APPL AUG.9money KU- 1person
 ‘Sipho will send money to the person.’

⁸Thanks to Leston Buell for raising this issue.

This tone pattern persists even in environments where an augmentless nominal would be possible, which suggests that the high tone is coming from the prefix itself, rather than from a ‘hidden augment’ that contributes only tone, but not vowel quality:

- (306) u-Sipho a- ka- zu- thum- ela imali **kú- múnú**
 AUG-1Sipho NEG- 1S- FUT- send- APPL AUG.9money KU- 1person
 ‘Sipho will send money to anyone.’

The augment-permitting prefixes, by contrast, do not contribute a high tone. As the contrast in (307) illustrates, when augment-permitting prefixes combines with a low-tone stem without an augment, the whole word remains low-toned:

- (307) a. **ngi- khuluma nó- múnú**
 1SG- speak NA.AUG- 1person
 ‘I’m speaking with a/the person.’
 b. a- **ngi- khulum- i nà- múnú**
 NEG- 1SG- speak- NEG NA- 1person
 ‘I’m not speaking to anyone.’

By treating augment-permitting morphology as true prepositions, as opposed to K^o heads, we therefore not only gain an explanation for why they are able to combine with the augment, but we also gain new understanding on why the augment and augment-replacing prefixes share certain properties to the exclusion of the augment-permitting prefixes.

5.5.4 Case concord?

A final issue that I will briefly address in this section concerns the distribution of the augment inside complex DPs that contain relative clauses, possessors, and other types of adnominal dependents. While I have argued in this thesis that only a nominal that is most local to a licensing head may appear without its augment, Zulu does allow augmentless elements to appear *inside* DPs in positions that are not local to a licenser. In (308b), we can see that Zulu allows a possessor nominal in a possessive construction to appear without its augment:

- (308) a. *ngi- si- bon- ile isigqoko so- muntu*
 1SG- 7O- see- PFV AUG.7that 7POSS.AUG- 1person
 ‘I saw the person’s hat.’
- b. *a- ngi- bon- anga sigqoko sa- muntu*
 NEG- 1SG- see- NEG 7that 7POSS- 1person
 ‘I didn’t see anybody’s hat.’

In (308a), we can see the possessive prefix *sa-* combining with the augment *u-* to yield *so-*. In (308b), the augment is absent, leaving the possessive to surface as *sa-*. As we saw in chapter 3 constructions like those in (308) contain a single structural licenser, and so should only be able to license one augmentless nominal.

We find a similar situation in adjectival and relative clauses. For some speakers of Zulu,⁹ the initial vowel on certain adjectival modifiers or relative clauses can be left off:¹⁰

- (309) a. *a- ngi- bon- i abantu a- ba- dala /*badala*
 NEG- 1SG- see- NEG AUG.2people AUG.REL- 2- old /*2.old
 ‘I don’t see the old people.’
- b. *a- ngi- bon- i bantu (a-) badala*
 NEG- 1SG- see- NEG 2people (AUG.REL) 2.old
 ‘I don’t see any old people.’
- (310) a. *a- ngi- bon- i abantu abagqoka izigqoko ezibomvu*
 NEG- 1SG- see- NEG AUG.2people AUG.REL.2.wear AUG.8hat AUG.REL.8.red
 ‘I don’t see the people wearing red hats.’
- b. *a- ngi- bon- i bantu bagqoka zigqoko zibomvu*
 NEG- 1SG- see- NEG 2people 2.wear 8hat 8.red
 ‘I don’t see any people wearing any red hats.’

In (309b), the initial vowel of the modifying adjective, which is usually required, may be omitted when the nominal itself is augmentless. In (310b), we can see that this process

⁹In my experience with speakers of Durban Zulu, this construction was used and accepted more by older speakers than by younger speakers.

¹⁰At this time I am unsure of the factors that determine this distribution. While more investigation is needed, it appears that those that allow the vowel to be omitted are those that have a separate overt prefix, such as class 2 (*a- ba- → ba-*), while those that do not permit the vowel drop lack this prefix, such as class 1 (**o- → ∅*).

can even carry over to elements inside a relative clause (see Visser, 2008, for similar findings in Xhosa). While these augmentless elements may be surprising from a licensing point of view, it is perhaps better to understand them as a form of case concord (Norris, 2012). That is, the ability of a nominal (other than the head) inside a DP to appear without its augment is dependent on post-syntactic matching of the case value of the entire DP to elements within the DP. As (311) below illustrates, if an element following the head appears *with* its augment, subsequent elements must also have an augment:

- (311) a. * a- ngi- bon- i bantu abagqoka zigqoko (e)-
 NEG- 1SG- see- NEG AUG.2people AUG.2REL.wear 8hat (AUG.REL)-
 zibomvu
 8.red
 ‘I don’t see any people wearing any red hats.’
- b. * a- ngi- bon- i bantu bagqoka izigqoko zibomvu
 NEG- 1SG- see- NEG 2people 2.old AUG.8hat 8.red
 ‘I don’t see any people wearing any red hats.’

For Norris (2012), who discusses instances of case concord in Icelandic and Estonian, case concord originates from the K^o that takes the entire DP as its complement copying its features onto lower elements in its c-command domain – rather than from a direct relationship between the head nominal and other elements. Norris does not discuss optional case concord, but we could employ this same type of mechanism in Zulu: K^o optionally copies its [-aug] status onto elements in its c-command domain. If the optionality of feature copying is in terms of how far down the tree K^o chooses to spread, rather than in terms of K^o having separate relationships with each lower element, then we can perhaps understand the lack of ‘gaps’ in the apparent left-to-right spread of augmentlessness. In the case of the relative clause structures, it is fairly easy to see that elements farther to the right are more deeply embedded, since they are inside the relativized predicate. If the object of a relative clause, for example, is augmentless, then under this view the relative clause itself would have to lack an augment since it is closer to K^o than the object. Similarly, if a modifier inside the object is augmentless, the entire object would also have to be augmentless, since again K^o would find the entire DP before it can reach its contents.

In the case of multiple adnominal modifiers, there is some evidence that elements linearly closer to the head are structurally higher than those farther away. As Sabelo (1990) discusses, possessors typically must precede adjectives that modify the possessee:

- (312) a. inkomo yami e-bomvu
 AUG.8cow 9POSS.my 8REL-red
 ‘my red cow’
- b. indlu yami ya-matshe
 AUG.9house 9POSS.my 9POSS.AUG-6stones
 ‘my stone house’ (Sabelo, 1990)

In cases where it is possible to switch the order of adnominals, we see a difference in meaning:

- (313) a. idili la- bantwana lo- kuqala
 AUG.5party 5POSS.AUG- 2children 5POSS.AUG- 15start
 ‘the children’s first party’
- b. idili lo- kuqala la- bantwana
 AUG.5party 5POSS.AUG- 15start 5POSS.AUG- 2children
 ‘the first children’s party’

In these cases as well, we can understand the optional concord patterns in terms of how deeply K^o copies its [-aug] status. If it reaches all the way to the lowest – rightmost – modifier, all higher modifiers will necessarily be included. Similar cases of optionality are discussed by Ouwayda (to appear) and Pesetsky (2012), who look at optional agreement processes involving number agreement in Lebanese Arabic and gender agreement in Russian, respectively. Just as in Zulu, if a certain element displays agreement, all structurally higher elements must also agree. In these analyses, this effect is captured by the optional insertion of a head with the relevant features at different points in the structure. Once the head has been inserted, introducing those features into the syntax, agreement must occur on all higher heads. It is possible that this type of analysis can also give us a handle on these Zulu facts, though it is unclear to me what the relevant head would be in the Zulu constructions, and why it could be inserted just in the environments where the entire DP receives structural licensing. I leave this issue for future research, simply noting that my

current understanding of the facts suggests a more natural fit to a top-down case concord approach along the lines of Norris (2012).

5.6 Conclusion

Building on the previous two chapters, in this chapter, I have argued that in addition to the *structural case* requirement on nominals that I argued for in chapters 3 and 4, Zulu has a system of *nominal case morphology* akin to that of more familiar languages. I defined the properties of case in terms of two parameters, [\pm Intrinsic] and [\pm Agreeable]. Unlike previously described case systems, I argued that the augment in Zulu is a novel category of case, [+Intrinsic,+Agreeable], in that it intrinsically licenses nominals but also allows those nominals to agree. In the remainder of the chapter, I addressed some issues that arise from this analysis, including the relationship between different case markers and the relationship between morphological case and agreement.

Chapter 6

Optional agreement

In this chapter, I examine some novel patterns of subject agreement in Zulu. As I discussed in chapter 2, and as we have seen throughout this thesis, subject agreement in Zulu strongly correlates with movement out of *vP*: *vP*-internal subjects cannot agree with the verb, while *vP*-external subjects must agree. In this chapter, I discuss two exceptions to this pattern: complex NPs and raising-to-subject constructions. Both of these constructions allow what appears to be *optional* agreement. The verb can agree with the head noun of the complex NP or the raised subject when they are in Spec,TP, but another possibility is *ku-* agreement – even in the presence of a preverbal subject:

(314) Complex NPs: optional subject agreement

- a. [indaba y-okuthi w- a- thatha umhlala phansi] y- a- ngi-
AUG.9news 9-that 1- PST- take AUG.1sit down 9s- PST- 1sg.o-
mangaza
surprise
'The news that he retired surprised me.'
- b. [indaba y-okuthi w- a- thatha umhlala phansi] kw- a- ngi-
AUG.9news 9-that 1- PST- take AUG.1sit down 17s- PST- 1sg.o-
mangaza
surprise
'The news that he retired surprised me.'

(315) **Raised subject: optional subject agreement**

- a. **uZinhle** **u-** bonakala [ukuthi **u-** zo- xova ujeqe _____]
 AUG.1Zinhle 1s- seem that 1s- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’
- b. **uZinhle** **ku-** bonakala [ukuthi **u-** zo- xova ujeqe _____]
 AUG.1Zinhle 17s- seems that 1s- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’

I will refer to this type of variability as “optional agreement.” There are two senses of “optional” that are relevant here. One sense construes the choice of subject agreement morphology and *ku-* as a choice between full phi-agreement with the subject and no agreement at all, leading to the appearance of *ku-* as a default morpheme, as we saw in chapter 2. In the other sense, “optional agreement” reflects the choice between two potential targets of Agree – with *ku-* reflecting true agreement with some element other than the preverbal subject. I will argue that this second sense of “optional” – reflecting a choice between two different Agreement targets – is the correct understanding of the optional agreement constructions in (314) and (315) above. I first establish that in both of these constructions, the preverbal non-agreeing subject occupies the same Spec,TP, position that elsewhere requires agreement. I then argue that the *ku-* morphology alternative does in fact involve phi-agreement – with a CP. I propose that the reason that these two constructions allow both of these agreement patterns is because both involve a CP that is close enough to the verb to serve as an alternative target for agreement. In the case of complex NPs, I argue that the noun and its CP complement are equally close to the verb and thus are equally good targets for agreement. In the case of raising-to-subject, I propose that the *ku-* agreement pattern reflects the fact that T^o has agreed with the entire embedded CP. Only once this agreement takes place can the embedded subject be accessed by the matrix predicate (Rackowski and Richards, 2005). In the raising constructions, the matrix verb agrees with both the embedded CP and the embedded subject, and as a result, either agreement can be spelled out on the verb.

These phenomena are closely linked to the analysis of case and agreement in Zulu that I have been developing in previous chapters. As I will argue in this chapter, the optional

agreement effect for complex NPs is predicted by my claim that Zulu lacks structural case associated with Spec,TP. If nominals were dependent on Spec,TP, for licensing, optional CP agreement would be ungrammatical, since without agreement with T, the nominal would remain unlicensed. In addition, the analysis of optional agreement in raising-to-subject constructions that I develop here can shed light on a puzzle that emerged from the discussion of raising-to-subject constructions in chapter 2: why is raising permitted at all out of an agreeing, finite clause – a domain that typically prohibits such movement. On this analysis, the agreement with CP is what permits the subsequent raising to subject – building on the results of Rackowski and Richards (2005), who claim that agreement with an entire phase allows elements within the phase to be visible for subsequent agreement operations. The existence of this optional raising construction also gives us insight on the relationship between agreement and the EPP in Zulu, as I discuss in section 6.5.

6.1 Subject agreement: rule and exceptions

We saw in chapter 2 that subject agreement in Zulu correlates with movement of the subject out of ν P:

(316) Preverbal subjects: agreement is required

- a. uZinhle u- ya- pheka
 AUG.1Zinhle 1S- YA- cook
 ‘Zinhle is cooking.’
- b. *uZinhle ku- ya- pheka
 AUG.1Zinhle 17S- YA- cook

When the subject remains in its ν P-internal position, agreement with the subject is ungrammatical and class 17 *ku-* agreement appears instead:

(317) ν P-internal subjects: agreement prohibited

- a. *u- pheka uZinhle
 1S- cook AUG.1Zinhle
 *‘Zinhle is cooking.’ (OK: ‘He is cooking/grilling Zinhle.’)

- b. ku- pheka uZinhle
 17s- cook AUG.1Zinhle
 ‘Zinhle is cooking.’

The two exceptions to this pattern are *complex NP subjects* and *subjects of raising predicates*, repeated from above. With these exceptions, subject agreement with the preverbal subject is optional: either full agreement or default agreement is allowed. In the examples in (314), we can see that the predicate *mangaza* ‘surprise’ either allows class 9 agreement with the head of the complex NP *indaba* ‘news’, or *ku-* agreement.¹ In (315), the matrix predicate may either agree with the class 1 raised subject *Zinhle* or may bear *ku-* agreement.

(314) **Complex NPs: optional subject agreement**

- a. [**indaba** y-okuthi w- a- thatha umhlala phansi] y- a- ngi-
 AUG.9news 9-that 1- PST- take AUG.1sit down 9s- PST- 1sg.o-
 mangaza
 surprise
 ‘The news that he retired surprised me.’
- b. [**indaba** y-okuthi w- a- thatha umhlala phansi] **kw-** a- ngi-
 AUG.9news 9-that 1- PST- take AUG.1sit down 17s- PST- 1sg.o-
 mangaza
 surprise
 ‘The news that he retired surprised me.’

(315) **Raised subject: optional subject agreement**

- a. **uZinhle** u- bonakala [ukuthi u- zo- xova ujeqe]
 AUG.1Zinhle 1s- seem that 1s- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’
- b. **uZinhle** **ku-** bonakala [ukuthi u- zo- xova ujeqe]
 AUG.1Zinhle 17s- seems that 1s- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’

In this section, I will show that the preverbal nouns in both constructions are in the same structural position that requires subject agreement in other constructions and that these constructions thus pose a true puzzle for our understanding of agreement patterns in Zulu.

¹Note that the CP in these constructions bears a possessive-type concord controlled by the NP component. I return to this fact in section 6.2.2.

6.1.1 Complex NP subjects

It is fairly straightforward to see that complex NP subjects are a true exception to the generalization that preverbal subjects must agree. We can compare their behavior to simple NPs in the same environment and observe the contrast:

(318) **Complex NP: optional subject agreement**

- a. [indaba y-okuthi w- a- thatha umhlala phansi] y- a- ngi-
AUG.9news 9-that 1- PST- take AUG.1sit down 9S- PST- 1stSG.O-
mangaza
surprise
'The news that he retired surprised me.'
- b. [indaba y-okuthi w- a- thatha umhlala phansi] kw- a- ngi-
AUG.9news 9-that 1- PST- take AUG.1sit down 17S- PST- 1stSG.O-
mangaza
surprise
'The news that he retired surprised me.'

(319) **Simple NP: agreement required**

- a. [leyo ndaba] y- a- ngi- mangaza
9DEM 9news 9S- PST- 1stSG.O- surprise
'That news surprised me.'
- b. * [leyo ndaba] kw- a- ngi- mangaza
9DEM 9news 17S- PST- 1stSG.O- surprise

While the unexpected *ku-* agreement is grammatical with the complex NP subject in (318b), this type of agreement is ungrammatical with a simple NP, as in (319b). In (320) below, I show that the length or general complexity of the complex NP in (318) cannot account for this difference. The example in (320) involves a complex and lengthy relative clause, which contains a similar structure – a head noun followed by a large clause – to the complex NP in (318), but the non-agreeing version in (320b) is ungrammatical.²:

²Agreement with the subject inside the relative clause is also ungrammatical, though research in progress suggests that the situation is possibly different for relative copular clauses.

(320) **Relative clause: default agreement prohibited**

- a. [indaba e- wu- yi- bhal- e phansi izolo
AUG.9news REL- 2ndSG- 9O- write- PST down AUG.5yesterday
ekuseni esikoleni] y- a- ngi- mangaza
LOC.15morning LOC.7school 9S- PST- 1sg.O- surprise
'The news that you wrote down yesterday morning at school surprised me.'
- b. * [indaba e- wu- yi- bhal- e phansi izolo
AUG.9news REL- 2ndSG- 9O- write- PST down AUG.5yesterday
ekuseni esikoleni] kw- a- ngi- mangaza
LOC.15morning LOC.7school 17S- PST- 1sg.O- surprise
intended: 'The news that you wrote down yesterday morning at school surprised me.'

I conclude from these contrasts above that there is something specific about the complex NP construction that allows the optional agreement pattern shown in (318).

6.1.2 Raised subjects

As I showed in chapter 2, Zulu has optional subject-to-subject raising out of finite subjunctive and indicative clauses (Zeller, 2006; Halpert, 2012):

(321) **Raising out of subjunctives**

- a. ku- fanele [ukuthi uZinhle a- xov- e
17S- be.necessary that AUG.1Zinhle 1SJC- make- SJC
ujeqe manje]
AUG.1steamed.bread now
'Zinhle must make steamed bread now.'
- b. uZinhle u- fanele [ukuthi a- xov- e ujeqe
AUG.1Zinhle 1S- be.necessary that 1SJC- make- SJC AUG.1steamed.bread
manje]
now
'Zinhle must make steamed bread now.'

(322) **Raising out of indicatives**

- a. ku- bonakala [ukuthi **uZinhle** u- zo- xova ujeqe
 17S- seems that AUG.1Zinhle 1S- FUT- make AUG.1steamed.bread
 manje]
 now
 ‘It seems that Zinhle will make steamed bread.’
- b. **uZinhle** u- bonakala [ukuthi u- xova ujeqe manje]
 AUG.1Zinhle 1S- seem that 1S- make AUG.1steamed.bread now
 ‘Zinhle seems to be making steamed bread now.’

In chapter 2, we saw that in the non-raised version of these constructions, (321a) and (322a), the subject remains in the embedded clause and only agrees with the embedded verb. In the raised version, (321b) and (322b), the raised subject controls subject agreement on both the matrix and embedded verbs. In this chapter, I introduced a third option for raising-to-subject predicates: the subject can appear in the higher clause *without* agreeing with the matrix predicate:

(323) **Raised subject: non-agreeing matrix predicate**

- a. **uZinhle** ku- fanele [ukuthi a- xov- e
 AUG.1Zinhle 17S- be.necessary that 1SJC- make- SJC
 ujeqe manje]
 AUG.1steamed.bread now
 ‘Zinhle must make steamed bread now.’
- b. **uZinhle** ku- bonakala [ukuthi u- zo- xova ujeqe
 AUG.1Zinhle 17S- seems that 1S- FUT- make AUG.1steamed.bread
 manje]
 now
 ‘It seems that Zinhle will make steamed bread now.’

The constructions in (323) add further puzzles to the general issues surrounding raising constructions in Zulu. In this section, I will argue that the subjects in these constructions occupy Spec,TP, just as in the agreeing raising constructions – and not some other position at the left periphery. This analysis requires some argumentation because while these non-agreeing raised subjects appear to be in the same position as the preverbal agreeing subjects in (321a) and (322a), Zulu also allows long-distance dislocation from embedded predicates, as shown in (324b) below:

- (324) a. *ngi- cela ukuthi [uZinhle a- xov- e ujeqe namhlanje]*
 1stSG- request that AUG.1Zinhle 1SJC- make- SJC AUG.1bread today
 ‘I ask that Zinhle make bread today.’
- b. *uZinhle ngi- cela [ukuthi a- xov- e ujeqe namhlanje]*
 AUG.1Zinhle 1stSG- request that 1SJC- make- SJC AUG.1bread today
 ‘(As for) Zinhle, I ask that she make bread today.’

In (324b), the subject from the embedded predicate fronts to a preverbal position in the matrix clause, where it receives a topic interpretation. In this construction, the fronted embedded subject triggers agreement only in the embedded clause. The existence of this construction means that there are two possible structures that that could account for the constructions in (323): long-distance dislocation or subject-to-subject raising.

These two possible structures are distinguishable by a number of independent factors. If the long-distance dislocation construction is the correct structure for the appearance of *ku-* agreement with a preverbal subject, then the fronted subject should reliably behave like a dislocated topic. If the raising analysis is correct, the fronted subject should reliably pattern with agreeing subjects. Though the non-agreeing subjects in (323) may look more like dislocated topics on the basis of the agreement facts alone, in this section I show that on a variety of other measures, the fronted embedded subjects in (323) behave like a non-dislocated agreeing subject, and not like a dislocated element.³

Evidence from information structure

As we saw in chapter 2, preverbal dislocated nominals require a topic reading. This same topic requirement holds of long-distance dislocation, but not of subject-to-subject raising, as we can see in (325), where the agreeing raising-to-subject construction permits a new-information context with the raised subject, but a long-distance dislocation does not.

³It is also possible for non-agreeing fronted subjects to behave like dislocated elements, but I will not focus on this pattern here. Since such behavior could either arise through long-distance dislocation *or* through subsequent dislocation after the subject has first raised, these patterns do not give us new insight on the construction. I therefore ignore these patterns and focus instead on the existence of a non-dislocated parse for the non-agreeing subjects – in contrast to the absence of such a parse for clearly dislocated elements – which crucially tells us that a non-dislocated A-position is at least an option for these non-agreeing subjects.

(325) Q: kw- enzeka- ni?
 17S- happen- what
 ‘What’s happening?’

A1: **uZinhle** **u-** fanele ukuthi **a-** xov- e
 AUG.1Zinhle 1S- be.necessary that 1SJC- make- SJC
 ujeqe manje
 AUG.1steamed.bread now
 ‘Zinhle must make steamed bread now.’

A2: **uZinhle** **u-** bonakala ukuthi **u-** xova ujeqe manje
 AUG.1Zinhle 1S- seem that 1S- make AUG.1steamed.bread now
 ‘Zinhle seems to be making steamed bread now.’

A3: # **uZinhle** ngi- cabanga ukuthi **u-** xova ujeqe manje
 AUG.1Zinhle 1SG- think that 1S- make AUG.1steamed.bread now
 ‘(As for) Zinhle, I think that she’s making steamed bread now.’

Similarly, (326) shows that while idiomatic subjects are felicitous in subject-to-subject raising constructions, they are infelicitous in long-distance dislocation:

(326) a. **iqhina** **li-** bonakala ukuthi **li-** phuma embizeni
 AUG.5steinbok 5S- seem that 5S- exit LOC.AUG.9cooking.pot
 ‘The secret seems to be coming out.’

b. # **iqhina** ngi- cabanga ukuthi **li-** phuma embizeni
 AUG.5steinbok 1SG- think that 5S- exit LOC.AUG.9cooking.pot
 ‘(As for) the steinbok, I think that it’s exiting the cooking pot.’

If we apply these contexts to the non-agreeing fronted subjects in (323), we can see that they behave like the agreeing subjects in the raising constructions in (325) and (326) – and not like the long-distance dislocations:

(327) Q: kw- enzeka- ni?
 17S- happen- what
 ‘What’s happening?’

A1: **uZinhle** **ku-** fanele ukuthi **a-** xov- e ujeqe
 AUG.1Zinhle 1S- be.necessary that 1SJC- make- SJC AUG.1steamed.bread
 manje
 now
 ‘Zinhle must make steamed bread now.’

A2: **uZinhle** **ku-** bonakala ukuthi **u-** xova ujeqe manje
 AUG.1Zinhle 1S- seem that 1S- make AUG.1steamed.bread now
 ‘Zinhle seems to be making steamed bread now.’

- (328) a. **iqhina** **ku-** bonakala ukuthi **li-** phuma embizeni
 AUG.5steinbok 5S- seem that 5S- exit LOC.AUG.9cooking.pot
 ‘The secret seems to be coming out.’
- b. **iqhina** **ku-** fanele ukuthi **li-** phum- e embizeni
 AUG.5steinbok 5S- necessary that 5SJC- exit- SJC LOC.AUG.9cooking.pot
 ‘The secret seems to be coming out.’

The fronted subjects in (327) are felicitous in a new information context, just like the agreeing raised subjects. In (328), the non-agreeing fronted idiomatic subject still receives an idiomatic interpretation. In sum, the interpretive evidence suggests that the fronted subjects do not require a dislocated interpretation and are compatible with a non-dislocated subject interpretation.

Prosodic evidence

We saw in chapters 2 and 4 that Zulu marks the right edges of certain syntactic domains with a prosodic boundary, realized by penultimate lengthening and a pause (Cheng and Downing, 2009). While before I focused on the prosodic boundaries associated with the right edge of vP, here I will use the prosody of preverbal elements to distinguish between dislocated and non-dislocated positions. As Cheng and Downing (2009) show, preverbal topics require a prosodic boundary at their right edge, preverbal non-dislocated subjects need not have one.

The constructions in (323), like the agreeing raising constructions, may be pronounced without a prosodic break after the subject, as (329) shows:

(329) **Raising verb with fronted embedded subject: no pause**

- a. **amantombazane** a- fanele a- fund- e isiZulu namhla:nje)
AUG.6girl 6S- be.necessary 6SJC- study- SJC AUG.7Zulu today
'The girls must study Zulu today.'
- b. **amantombazane** ku- fanele a- fund- e isiZulu namhla:nje)
AUG.6girl 17S- be.necessary 6SJC- study- SJC AUG.7Zulu today
'The girls must study Zulu today.'

By contrast, with a long-distance dislocated topic, as in (330), the boundary must appear:

(330) **Long-distance topic fronting: obligatory pause**

- amantombaza:ne**) ngi- cabanga ukuthi a- funda isiZulu namhla:nje)
AUG.6girl 1SG- think that 6S- study AUG.7Zulu today
'(As for) the girls, I think that they are studying Zulu today.'

Since the fronted non-agreeing subjects do not require topic phrasing, this evidence also suggests that their structure is more in line with the agreeing raised subjects.

Syntactic evidence 1: multiple raising constructions

One piece of syntactic evidence that suggests that the non-agreeing constructions involve raising and not dislocation comes from the behavior of stacked raising predicates. If the optional agreement construction in (323) involves a dislocated A-bar position for the fronted subject, then we expect the fronted element to be unable to undergo further A-movement operations, since movement from an A-bar to an A position is typically ruled out.

With two raising predicates in a single construction, then, a topic dislocation analysis would predict that *ku-* agreement on the intermediate raising predicate would necessitate *ku-* agreement on the higher predicates, since as soon as *ku-* agreement appears, raising is no longer an option. By contrast, the raising analysis would not rule out an intermediate *ku-* agreement: if the preverbal subject of a non-agreeing raising predicate is in an A position, then it should be available for higher raising, even if *ku-* agreement appears.

As (331b) shows, the embedded subject can raise to preverbal position in the matrix clause *and* agree with the matrix predicate even if there is *ku-* agreement on the intermediate

predicate:

(331) **Multiple raising: ku- on intermediate predicate**

- a. **uThemba_i** **u-** bonakala ukuthi t_i **u-** fanele ukuthi t_i **a-** y- e
AUG.1Themba 1S- seems that 1S- be.necessary that 1SJC- go- SJC
esikoleni manje
.7school now
'Themba seems to have to go to school now.'
- b. **uThemba_i** **u-** bonakala ukuthi t_i **ku-** fanele ukuthi t_i **a-** y-
AUG.1Themba 1S- seems that 17S- be.necessary that 1SJC- go-
e esikoleni manje
SJC .7school now
'Themba seems to have to go to school now.'

This evidence thus suggests that the fronted subjects undergo A-movement, rather than A-bar movement.

Syntactic evidence 2: indicative clause extraction patterns

In this subsection, I turn to a variation in the speech of some Durban Zulu speakers for another diagnostic that can distinguish between long-distance dislocation and raising. For many speakers of Durban Zulu, long-distance topic dislocation is only permitted out of *subjunctive* complements, and not out of indicative complements.⁴ As (332) shows, for these speakers, long-distance dislocation from an indicative complement is ungrammatical:

(332) **Long-distance topic extraction: prohibited out of indicatives**

- a. ✓**Subjunctive extraction**
- uZinhle** ngi- cela [ukuthi **a-** xov- e ujeqe
AUG.1Zinhle 1SG- request that 1SJC- make- SJC AUG.1steamed.bread
namhlanje]
today
'(As for) Zinhle, I ask that she make steamed bread today.'

⁴Approximately 12 out of 30 speakers for whom I have comprehensive data on this phenomenon are unable to do long-distance dislocation out of indicatives.

b. ***Indicative extraction**

* **uZinhle** ngi- cabanga [ukuthi **u-** zo- xova ujeqe
 AUG.1Zinhle 1SG- think that 1S- FUT- make AUG.1steamed.bread
 namhlanje]
 today
 intended: ‘(As for) Zinhle, I think that she will make steamed bread today.’

Speakers of this variety of Zulu also restrict indicative complements in other ways as well. For these speakers, cross-clausal licensing of NPIs in the embedded clause by matrix negation – which we saw was possible in chapter 3 – is permitted only with subjunctive complements, and not with indicatives, as (333) shows.

(333) **Cross-clausal licensing of NPIs: prohibited into indicatives**

a. ✓**Subjunctive NPI licensing**

A- ngi- fun- i ukuthi uZinhle a- phek- e **lutho**
 NEG- 1SG- want- NEG that AUG.1Zinhle 1SJC- cook- SJC 11thing
 ‘I don’t want Zinhle to cook anything.’

b. ***Indicative NPI licensing**

* A- ngi- cabang- i ukuthi uZinhle u- pheka **lutho**
 NEG- 1SG- think- NEG that AUG.1Zinhle 1S- cook 11thing
 intended: ‘I don’t think that Zinhle is cooking anything.’

The restrictions on indicative complement clauses shown by these speakers also extend to the indicative complement of the raising verb *bonakala*. The examples in (334) and (335) show that long-distance dislocation and cross-clausal NPI licensing are both impossible with *bonakala* for these speakers.

(334) **Long-distance topic extraction prohibited with *bonakala***

* ujeqe ku- bonakala ukuthi uZinhle u- ya- wu- xova
 AUG.1steamed.bread 17S- seems that AUG.1Zinhle 1S- YA- 14O- make
 manje
 now
 intended: ‘(As for) steamed bread, Zinhle seems to be making it now.’

(335) **Cross-clausal licensing of NPIs prohibited with *bonakala***

- * a- ku- bonakal- i ukuthi uZinhle u- pheka lutho
 NEG- 17S- seem- NEG that AUG.1Zinhle 1S- cook 14thing
 intended: ‘It doesn’t seem that Zinhle is cooking anything.’

For these same speakers, however, *bonakala* does allow the embedded subject to be fronted *without* agreeing:

(336) **✓Fronting of embedded subject with *bonakala***

- a. **uZinhle** u- bonakala ukuthi u- xova ujeqe manje
 AUG.1Zinhle 1S- seem that 1S- make AUG.1steamed.bread now
 ‘Zinhle seems to be making steamed bread now.’
- b. **uZinhle** **ku-** bonakala ukuthi u- xova ujeqe manje
 AUG.1Zinhle 17S- seems that 1S- make AUG.1steamed.bread now
 ‘Zinhle seems to be making steamed bread now.’

Since raising complements seem to be treated the same as other indicative complements for these speakers, the fact that (336b) is possible cannot be because it involves a raising verb. Rather, this pattern can be understood as evidence that the fronted subject is not sensitive to restrictions on topic extraction shown by these speakers.

Syntactic evidence 3: relativization

The final piece of evidence that I discuss concerns relativization.⁵ In object relatives in Zulu, the subject of the relativized predicate can intervene between the head of the relative clause and the verb, as in (337), where the subject *Zama* intervenes between the head *indoda* ‘man’ and the verb.

(337) **Object relative: subject can intervene between head and verb**

- [indoda **uZama** a-yi-bon-ile] i-gqoka isikipa esibomvu
 AUG.9man AUG.1Zama REL.1S-9O-see-PFV 9S-wear AUG.7tshirt REL.7-red
 The man who Zama saw is wearing a red tshirt.

⁵Thanks to Jochen Zeller for suggesting these constructions.

By contrast, a dislocated topic cannot intervene. The example in (338a) shows that long-distance dislocation is permitted for for this particular predicate. Example (338b) shows that an object relative clause can be build around the same predicate. Example (338c) shows that it is ungrammatical to combine long-distance dislocation with the object relative.

(338) **Object relative: topic cannot intervene between head and verb**

- a. **uMpho** ngi- cabanga ukuthi **u-** zo- yi- thenga inyama
 AUG.1Mpho 1SG- think that 1S- FUT- 9O- buy AUG.9meat
 (As for) Mpho, I think that she will buy the meat.
- b. [inyama engi- cabanga ukuthi **uMpho** **u-** zo- yi- thenga]
 AUG.9meat REL1SG- think that AUG.1Mpho 1S- FUT- 9O- buy
 i-zo-biza imali enkulu
 9S-FUT-cost AUG.9money REL9big
 The meat that I think Mpho will buy will be expensive.
- c. * [inyama **uMpho** engi- cabanga ukuthi **u-**zo-yi-thenga]
 AUG.9meat AUG.1Mpho REL1SG- think that 1S-FUT-9O-buy
 i-zo-biza imali enkulu
 9S-FUT-cost AUG.9money REL9big

We can use this pattern to test the status of the non-agreeing subject in a raising construction. If the fronted subject is dislocated, it should be unable to intervene between the head and the verb, but if it is in a subject position, it should be able to intervene. In (339b), we see that it is able to intervene, just like the agreeing version in (339a).

(339) **Object relative: non-agreeing fronted subject can intervene between head and verb**

- a. inyama uMpho **a-** fanele a- yi- pheke i-si-thengiwe
 AUG.9meat AUG.1Mpho REL.1S- must 1SJC- 9O- cook 9S-now-bought
 The meat that Mpho must cook has now been bought.
- b. inyama uMpho e- **ku-** fanele a- yi- pheke i-si-thengiwe
 AUG.9meat AUG.1Mpho REL- 17S- must 1S- 9O- cook 9S-now-bought
 The meat that Mpho must cook has now been bought.

Again, the non-agreeing fronted subject behaves like a non-dislocated subject, and is not sensitive to restrictions on topic placement in relative clauses.

6.1.3 Summary

In this section I examined the optional agreement constructions introduced in this chapter to argue that they in fact involve non-agreeing subjects in non-dislocated Spec,TP, positions. While this conclusion was fairly straightforward in the case of complex NPs, the subject-to-subject constructions were amenable to two potential analyses: as long-distance dislocated topics or raised, non-dislocated subjects. Although the agreement facts were compatible with an analysis of this construction as long-distance dislocation, a variety of interpretive, prosodic, and syntactic tests allowed us to distinguish between preverbal subjects (both in monoclausal and agreeing raised constructions) and dislocated elements. The result of these diagnostics was that the non-agreeing preverbal nouns in the constructions in (323) pattern with subjects –and not with dislocated elements.

The conclusion of this section is therefore that these two optional agreement constructions are true exceptions to the typical agreement pattern in Zulu. In the next section I discuss the syntactic factors that account for this unexpected agreement pattern.

6.2 Understanding optional agreement

The constructions discussed in the previous section are exceptions to the general pattern of obligatory agreement with preverbal subjects in Zulu. Their existence raises several questions about the syntax of Zulu, including the question of what is it about these constructions that allows the absence of agreement and the question of why agreement with (the head of) a preverbal subject is *optional* in these cases. In this section, I propose that optional agreement constructions involve CPs that are accessible as alternative targets for the agreement operation. The *ku-* agreeing option results when CP agreement is realized on the verb. To reach this conclusion, I first show that Zulu allows clausal agreement in general, and that this agreement is realized as *ku-*. Then I argue that both complex NPs and subject-to-subject raising involve CPs that are local to T and thus can be targets for agreement.

6.2.1 Clausal agreement

Throughout this thesis, I have referred to class 17 *ku-* agreement marker as a ‘default’ agreement marker. As we first saw in chapter 2, this is the agreement morpheme that appears in constructions where the subject is *vP*-internal, as in (340), in constructions that have no thematic subjects, such as the weather predicate in (341), and in the non-raised version of raising predicates, as in (342):

(340) ***vP*-internal subject with *ku-* agreement**

ku- pheka uZinhle
17S- cook AUG.1Zinhle
‘Zinhle is cooking.’

(341) **Weather predicate with *ku-* agreement**

ku- ya- banda
17S- YA- be.cold
‘It’s cold.’

(342) **Raising predicate with non-raised subject**

ku- bonakala [ukuthi uZinhle u- zo- xova ujeqe]
17S- seems that AUG.1Zinhle 1S- FUT- make AUG.1steamed.bread
‘It seems that Zinhle will make steamed bread.’

In addition to these constructions where we might expect to find default agreement because no nominal is available to agree, *ku-* agreement also appears with CPs. It is easiest to see *ku-* signaling agreement with CPs in the context of object agreement. As I showed in chapter 4, CP complements may optionally agree with the verb. These agreeing CPs must appear *outside vP*, just as we saw with the subject agreement patterns, as (343) shows. In (343), we can use the presence or absence of the morpheme *-YA-* to tell whether the CP complement is dislocated – as we saw in chapter 4, agreeing CP complements must be dislocated, and therefore *-YA-* must appear on the verb.

(343) a. *ngi- ya- **ku-** cabanga* [ukuthi uMlungisi u- ya- bhukuda manje]
 1SG- YA- 17O- think that AUG.1Mlungisi 1S- YA- swim now
 ‘I think that Mlungisi is swimming now.’

b. **ngi- **ku-** cabanga* [ukuthi uMlungisi u- ya- bhukuda manje]
 1SG- 17O- think that AUG.1Mlungisi 1S- YA- swim now

As I discussed in chapter 2, a subject agreement morpheme is always present on the verb in Zulu – which is why *ku-* agreement appears in the absence of phi-agreement with an accessible nominal. Object agreement, by contrast, *only* appears when it is controlled by a true thematic object. When there is no agreeing object, object agreement morphology is simply missing and no default morpheme appears in its place.⁶ The example in (344) shows that *ku-* agreement is ungrammatical with an unergative predicate that lacks an accessible object for agreement:

(344) **ngi- ya- **ku-** gijima*
 1SG- YA- 17O- run

On the basis of these patterns, I conclude that the *ku-* agreement we find with dislocated CPs is true phi-agreement⁷ with those CPs. Some further evidence the object *ku-* in (343) is actual agreement – perhaps with the complementizer itself – comes from the fact that object agreement with a CP depends on the presence of a complementizer, as we saw in chapter 4. When the complementizer is dropped, agreement is impossible (though the CP can still dislocate):

⁶Following the diagnostics developed by (Preminger, 2009a) discussed in chapter 2, this absence of object agreement morphology when no object agreement occurs suggests that “object” agreement in Zulu may in fact be a clitic, rather than a true agreement morpheme. As ?? discusses, however, the status of the object marker in Zulu is somewhat unclear, since it exhibits both clitic-like and agreement-like behavior across a variety of diagnostics. While this is certainly an important issue, for the analysis in this chapter, what is most relevant is simply the fact that the object marker is able to track the phi-features of the CP that it depends on. I will thus set aside the question of the nature of this morpheme to focus on what it can tell us about the nature of CPs.

⁷Or at least a true reflection of the phi-features of a CP.

- (345) a. *ngi- ya- **ku-** funa [ukuthi uXolani a- win- e umjaho]*
 1sg- YA- 17O- want that AUG.1Xolani 1SJC- win- SJC AUG.1race
 ‘I (do) want Xolani to win the race.’
- b. **ngi- ya- **ku-** funa [uXolani a- win- e umjaho]*
 1sg- YA- 17O- want AUG.1Xolani 1SJC- win- SJC AUG.1race
- c. *ngi- (ya-) funa [uXolani a- win- e umjaho]*
 1sg- YA- want AUG.1Xolani 1SJC- win- SJC AUG.1race
 ‘I (do) want Xolani to win the race.’

Now note a consequence of this reasoning: if *ku-* agreement can be true phi-agreement with a CP object, it is also possible that *ku-* subject agreement could sometimes reflect true agreement with a CP, and not merely function as a default. Unlike a language like English, however, which permits CPs as sentential subjects, CPs in Zulu are resistant to occupying preverbal positions in Zulu. Speakers generally reject agreeing sentential subjects⁸, as the example in (346) shows:

- (346) * [*ukuthi uMpho u- zo- thenga inyama*] **ku-** zo- jabulisa
 that AUG.1Mpho 1S- FUT- buy AUG.9meat 17S- FUT- be.happy-CAUS
 umama
 AUG.1mother
 ‘That Mpho will buy meat will make mother happy.’

It is important, therefore, to separate the issue of whether CPs are potential targets for phi-agreement from the issue of whether they can appear in a particular agreeing position. The object agreement examples in (343) clearly show that CPs have accessible phi-features in Zulu. I will assume that these features are accessible for subject agreement as well as object agreement. The independent ban on CPs in preverbal subject position will have crucial consequences for the derivation of raising constructions, as I will show in section 6.2.3.

⁸They tend to ‘fix’ such examples by adding a head noun and turning it into a complex NP, though for a few speakers the CP subject construction is apparently marginally acceptable.

6.2.2 Complex NP subjects

Complex NPs, as repeated in (314) below, involve a noun component and a clausal component, as in the English sentence in (347).

(314) Complex NPs: optional subject agreement

- a. [indaba y-okuthi w- a- thatha umhlala phansi] y- a- ngi-
AUG.9news 9-that 1- PST- take AUG.1sit down 9s- PST- 1SG.O-
mangaza
surprise
'The news that he retired surprised me.'
- b. [indaba y-okuthi w- a- thatha umhlala phansi] kw- a- ngi-
AUG.9news 9-that 1- PST- take AUG.1sit down 17s- PST- 1SG.O-
mangaza
surprise
'The news that he retired surprised me.'

(347) The rumors that he retired surprise me.

One notable feature of this construction is that it involves what looks like the possessive concord: the head noun controls possessive morphology on the CP, exactly as possessees do on their possessors in Zulu:

(348) Possessive concord

- a.inja yo- mfana (= ya + umfana)
AUG.9dog 9POSS.AUG- 1boy
'the boy's dog.'
- b.isithuthuthu se- nkosikazi (= sa + inkosikazi)
AUG.7motorcycle 7POSS.AUG- 9woman
'the woman's motorcycle'

In fact, it is perhaps more accurate to characterize this "possessive" morphology as a general associative marker in Zulu. In addition to the use of this construction in possessives, we also find it in other instances that would correspond to *of* (Sabelo, 1990):

(349) **Associative use of possessive concord**

- a. indlu yami **ya-** matshe
 AUG.9house 9POSS.my 9POSS.AUG- 6stones
 ‘my stone house’ (Sabelo, 1990, p. 19)
- b. isiminyaminy **sa-** maphela (= sa + amaphela)
 AUG.7crowd 7POSS.AUG- 6cockroaches
 ‘a swarm of cockroaches’
- c. (i)ngenxa **yo-** laka luka- Siphon, a- ngi- thand-
 because.of 9POSS.AUG- 11temper 11POSS.AUG- 1Siphon NEG- 1SG- like-
 i uku- khuluma na- ye
 NEG INF- talk NA- 1PRO
 ‘Because of Siphon’s temper, I don’t like to talk to him.’

The parallel between complex NP structures and possessive/*of* structures in Zulu bears a striking resemblance to the *N of an N* construction in English and other languages (e.g. Bennis et al., 1998; Dikken, 1998; Matushansky, 2002):

- (350) a. You whining coward of a vampire!
 b. my dear fool of a mother (Matushansky, 2002, ex. (1))

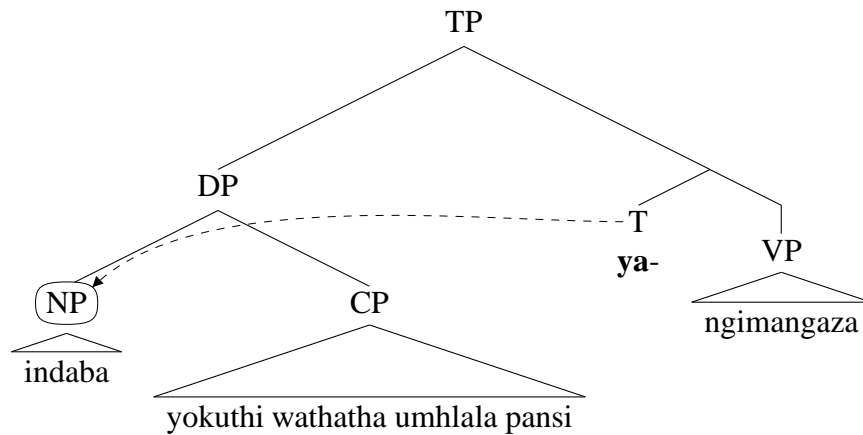
Matushansky argues that these constructions, though they may look similar to possessives in some languages or subordinating structures in general, in fact involve a modification relationship between the two elements. That this type of construction would appear in Zulu complex NPs is in line with Stowell (1981), who argues that [N CP] structures are best analyzed as appositives, with the clausal component essentially functioning as an appositive modifier to the nominal.⁹ In an appositive structure, the two components are equidistant from higher heads in the structure: as de Vries (2006) shows, while the noun and following clause form a constituent, there appears to be no clear c-command relationship between the two components.

⁹It is not clear, however, that all [N CP] structures function as appositives. While the ones discussed in this chapter involve CPs that play a purely modifying role, it is less clear that complex NPs like *The proof that the defendant is guilty* have the same type of appositive structure. In the absence of clear evidence from Zulu, I set aside this possibility for the moment.

If the nominal and clausal components of a complex NP are equally accessible to T^o , either one should be a potential target for agreement (Fitzpatrick, 2002).¹⁰ I propose that this equidistance is responsible for the optional agreement effect: the verb can either agree with the nominal or the clausal component of the complex NP, as schematized in (351) and (352).

(351) **Agreement with the nominal component:**

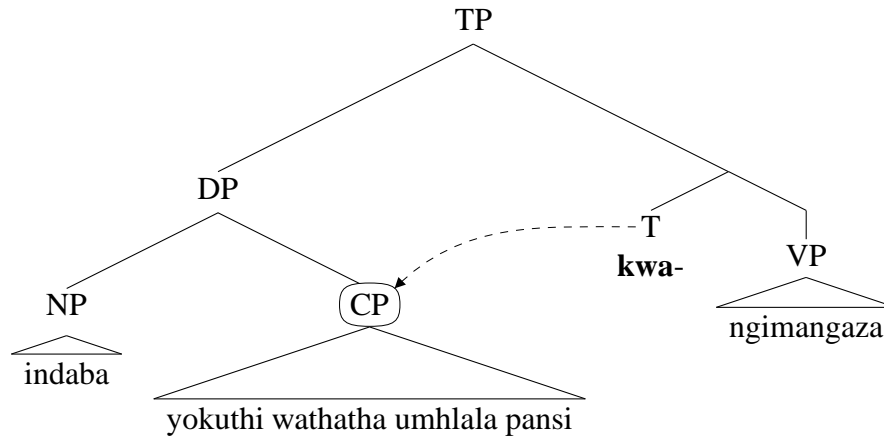
[**indaba** y-okuthi w- a- thatha umhlala phansi] y- a- ngi-
 AUG.9news 9-that 1S- PST- take AUG.1sit down 9S- PST- 1SG.O-
 mangaza
 surprise
 ‘The news that he retired surprised me.’



¹⁰A possible alternative would be to view the CP as the sole source of agreement in these constructions, with the fact that it bears both the phi-features of a CP and the noun class concord of the ‘head’ leading to the optionality. In other words, we could interpret the optionality in agreement as the result of an optionality in which features ‘project’ from the CP. We can rule out this construction on the basis that associative constructions in general do not show optional agreement effects, and on the basis of the morphosyntactic and interpretive evidence that suggests that the nominal component is the ‘head’ of this structure – and that the two elements are truly equidistant.

(352) **Agreement with the clausal component:**

[indaba y-okuthi w- a- thatha umhlala phansi] kw- a- ngi-
 AUG.9news 9-that 1S- PST- take AUG.1sit down 17S- PST- 1SG.O-
 mangaza
 surprise
 ‘The news that he retired surprised me.’



There is independent evidence that this type of analysis for complex NPs in Zulu, where T may target either the nominal or clausal component for agreement, is on the right track. In particular, appositive constructions that involve two nominals show exactly this type of optionality. Unlike in the complex NP cases, where my analysis of the optional agreement effects depends on understanding *ku-* agreement as agreement with a CP, rather than a default, these nominal-nominal appositives show unambiguous evidence for true optionality in phi-agreement:

(353) **Optional agreement with appositives**

- a. **intombi yami,** uThembi, **i-** thanda ukucula
 AUG.9girl 9POSS.mine AUG.1Thembi 9S- like INF.sing
- b. intombi yami, **uThembi,** **u-** thanda ukucula
 AUG.9girl 9POSS.mine AUG.1Thembi 1S- like INF.sing
 ‘My girlfriend, Thembi, likes to sing.’

- (354) a. **izinkomo zami,** uSikhonyane noMvula, **zi-** nhle
 AUG.10cattle 10POSS.mine AUG.1Sikhonyane and.AUG1Mvula 10S- beautiful
- b. izinkomo zami, **uSikhonyane noMvula,** **ba-** hle
 AUG.10cattle 10POSS.mine AUG.1Sikhonyane and.AUG1Mvula 2S- beautiful
 ‘My cattle, Sikhonyane and Mvula, are beautiful.’
- (355) a. uMadiba, **iqhawe lami,** **li-** y- indoda e-qhotho
 AUG.1Madiba AUG5.hero 5POSS.mine 5S- COP- AUG.9man 9-righteous
- b. ? **uMadiba,** iqhawe lami, **u-** y- indoda e-qhotho
 AUG.1Madiba AUG5.hero 5POSS.mine 1S- COP- AUG.9man 9-righteous
 ‘Nelson Mandela, my hero, is a righteous man.’

In the examples above, speakers allow the verb to agree in noun class with either nominal in the appositive subject.¹¹ The fact that we see two non-default options with this construction is evidence that when two agreeable elements are equidistant from T^o, either one can control agreement. I have argued in this section that when one of these elements is a CP, *ku-* agreement can result as an actual phi-agreement with the CP itself – and not as a default.

This pattern of optional subject agreement in appositives in Zulu contrasts with the pattern that we find in a language like English. In English, despite the fact that CP sentential subjects can appear in a preverbal subject position, a complex NP requires agreement with the nominal component:

¹¹While the optionality described in these specific examples is robust, the possibility for optional agreement with appositive constructions seems to depend on the specific noun classes involved, and sometimes on the order of the two nouns. For example, (1) below shows that with a different combination of noun classes, speakers tend to reject certain agreement options:

- (1) a. ukudla e-ngi-ku-thanda-yo, **inyama ya-ngaphakathi, i-** mnandi
 AUG.15food REL-1SG-15O-like-REL AUG.9meat 9POSS.NGA-inside 9S- nice
 ‘My favorite food, tripe, is nice.’
- b. * **ukudla e-ngi-ku-thanda-yo,** inyama ya-ngaphakathi, **ku-** mnandi
 AUG.15food REL-1SG-15O-like-REL AUG.9meat 9POSS.NGA-inside 15S- nice
 for: ‘My favorite food, tripe, is nice.’

At this time, I am unsure of whether there are systematic patterns that govern the agreement options with different noun classes. It is possible that these differences in agreement choice are related to the patterns of agreement resolution with conjoined DPs reported in Bosch (1985).

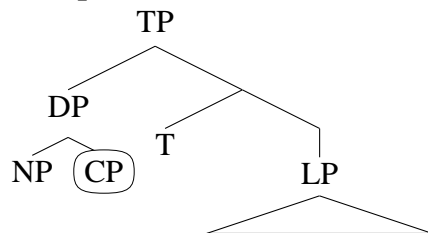
- (356) a. [That John is a murderer] is upsetting his mother.
 b. The claims that John is a murderer **are**/*is upsetting his mother.

This difference between English and Zulu is expected given the analysis of structural case in Zulu that I have developed in this thesis. That is, the fact that the actual subject nominal in a complex NP doesn't have to agree can be seen as a consequence of the lack of structural agreement associated with Spec,TP, in Zulu. Since agreement is not linked to case, as it is in English, there is no reason to rule out a structure in which the modifying component of an appositive structure controls agreement.¹²

6.2.3 Raised subjects

In the previous subsection, I argued that the availability of *ku*- agreement in complex NPs was due to the presence of a CP that was local to T°. The subject-to-subject raising constructions that I have also introduced in this chapter share a common element with the complex NPs discussed above: both contain a CP that is local to T°:

(357) **Complex NP**

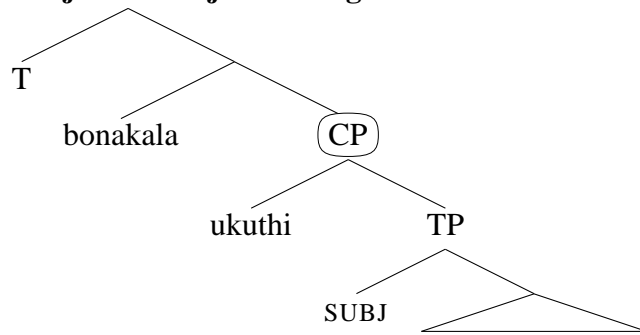


¹²This analysis does, however, raise the question of how both nominals in an appositive structure in languages like English get case. One possibility is that the modifying nominal in these constructions is eligible for *default* case, along the lines of Schütze (1997). This possibility is in line with agreement patterns – when the two nominals in an appositive trigger different agreement, speakers tend to prefer agreement with the “subject” and not the modifying component:

- (1) John's committee, his three favorite professors, **is**/*?are late for his defense.

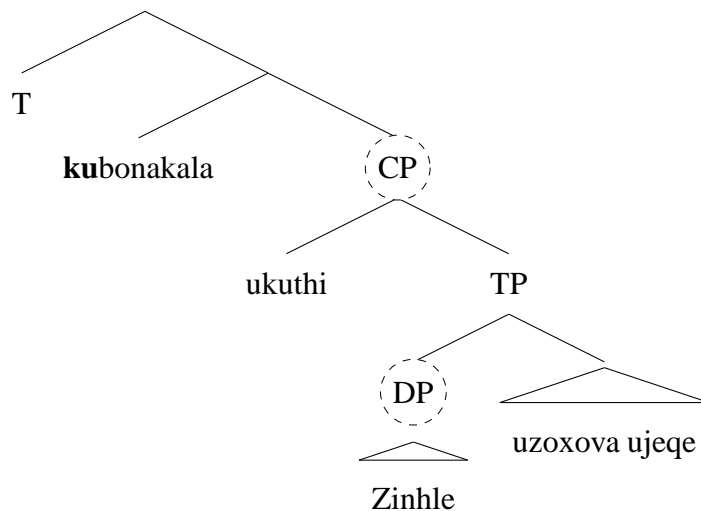
Another possibility is that T° in fact agrees with both elements in the appositive structure, which we see overtly in Zulu, but is less easy to detect in a language like English.

(358) **Subject-to-subject raising**



As the example in (357) shows, the CP and the nominal in complex nominals are equidistant from T^o , which I argued resulted in the optional agreement effect. The raising structure in (358), by contrast, does not involve two equidistant elements. Rather, while the CP is perhaps local to the matrix T^o , the embedded subject is *contained within* the CP – leading to an A-over-A configuration (Chomsky, 1964):

- (359) ku- bonakala [_{CP} ukuthi **uZinhle** u- zo- xova ujeqe]
 17S- seems [_{CP} that **AUG.1Zinhle** 1S- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’



While I have been treating the availability of CP agreement in these subject-to-subject raising constructions as unexpected, now that we have seen that CPs are capable of controlling phi-agreement, it is perhaps less surprising the *ku-* agreement would be possible in raising constructions as a result of T^o agreeing with the nearest phi-feature-bearing element, the CP. In addition, as I discussed in chapter 2, the fact that raising is possible at all out of these constructions is itself surprising. The Phase Impenetrability Condition (Chom-

sky, 2000) – which here emerges as a special case of the A-over-A Condition, since CP phases are viable goals for phi-agreement – typically governs such raising constructions cross-linguistically, ruling out raising of material in the complement of a phase head. In Zulu, as we first saw in chapter 2, finite CP complements do not seem to be subject to such restrictions. Thus the full range of raising-to-subject facts, as collected below, presents a puzzle from several angles:

- (360) a. **uZinhle** **u-** bonakala [ukuthi **u-** xova ujeqe]
AUG.1Zinhle 1S- seem that 1S- make AUG.1steamed.bread
'Zinhle seems to be making steamed bread now.'
- b. **ku-** bonakala [ukuthi **uZinhle** **u-** xova ujeqe
17S- seem that AUG.1Zinhle 1S- make AUG.1steamed.bread
'Zinhle seems to be making steamed bread now.'
- c. **uZinhle** **ku-** bonakala [ukuthi **u-** xova ujeqe]
AUG.1Zinhle 17S- seem that 1S- make AUG.1steamed.bread
'Zinhle seems to be making steamed bread now.'

The first puzzle is why the raising construction is optional in the first place. We have already seen part of the answer earlier – the lack of case assignment associated with subject positions and the ability of the augment to license any nominal, combined with the absence of Activity effects in non-licensed positions, allowed nominals to either raise or remain in situ. In the next section, I will discuss how the EPP might also play a role as a factor in this optionality of movement.

The second puzzle concerns the fact that raising is possible at all: as mentioned above, why is the embedded subject able to get out of the embedded CP. I will argue in this section that this puzzle is closely related to the third puzzle of why agreement is optional in this construction.

On the basis of evidence from Tagalog, Rackowski and Richards (2005) argue that PIC effects are obviated if a higher head first agrees with the *entire phase*, and then continues on to agree with an element *inside* the phase. That is, a phase-internal element is made available for outside processes if the entire phase first enters into an agreement relationship. The core proposals that they make about Agree are given below, the first four of which will be relevant to our understanding of the Zulu constructions:

(361) **Rackowski & Richards (2005) Mechanics of Agree:**

Relevant to Zulu:

- a. A probe must Agree with the *closest* goal α that *can move*.
- b. A goal α *can move* if it is a phase.
- c. A goal α is the *closest* one to a probe if there is no distinct goal β such that for some X (X a head or maximal projection), X c-commands α but not β .
- d. Once a probe P is related by Agree with a goal G, P can ignore G for the rest of the derivation (Richards, 1998; Hiraiwa, 2001).¹³

Not relevant to Zulu:

- e. v^o has a Case feature that is checked via Agree. It can also bear EPP-features that move active phrases to its edge.
- f. [+wh] C has a [+wh] feature that is checked via agree (and sometimes Move). (Rackowski and Richards, 2005, ex. (35))

The conclusion they reach from combining these principles is that only CPs and DPs that themselves undergo Agree for independent reasons will be transparent for extraction. The extraction that Rackowski and Richards focus on is *wh*-extraction in Tagalog. They show that in cases of long-distance *wh*-extraction in Tagalog, the matrix v^o , which typically agrees with an element that has shifted to its specifier, must agree with the embedded CP. This agreement is realized as a morpheme on the predicate that tracks the case of the agreed-with argument. In the following examples from Tagalog, we can see that the required case on the matrix predicate with long-distance *wh*-extraction is always the case of the entire embedded CP – and cannot be the case of another argument, like the subject.¹⁴

¹³Evidence for this claim comes from multiple *wh*-questions, where the higher *wh*-phrase (or its copy) does not act as intervenor for the lower *wh*-phase.

¹⁴I follow the convention in (Rackowski and Richards, 2005) of indicating the case agreement on the predicate in boldface and the agreed-with constituent in italics.

- (362) a. Kailan [sa-sabih-**in** ng sundalo [na Ø-u-uwi ang pangulo e
when ASP-say-ACC CS soldier that NOM-ASP-go.home ANG president
]]?

‘When will the soldier say *that the president will go home*?
b. * Kailan [**m**-agsa-sabi ang sundalo [na Ø-u-uwi ang pangulo
when NOM-ASP-say AND soldier that NOM-ASP-go.home ANG president
e]]?

‘When will *the soldier* say that the president will go home? Tagalog
(Rackowski and Richards, 2005, ex. (48))
- (363) a. Kailan [**i**-p-inangako ng sundalo [na Ø-u-uwi ang
when OBL-ASP-promise CS soldier that NOM-ASP-go.home ANG
pangulo e]]?
president
When did the soldier promise *that the president will go home*?
b. * Kailan [**n**-angako ang sundalo [na Ø-u-uwi ang
when NOM.ASP-promise CS soldier that NOM-ASP-go.home ANG
pangulo e]]?
president
‘When did *the soldier* promise that the president will go home? Tagalog
(Rackowski and Richards, 2005, ex. (49))
- (364) a. Kailan [p-in-aniwala-**an** ng sundalo [na Ø-u-uwi ang
when -ASP-believe-DAT CS soldier that NOM-ASP-go.home ANG
pangulo e]]?
president
‘When did the soldier believe *that the president would go home*?
b. * Kailan [**n**-aniwala ang sundalo [na Ø-u-uwi ang
when NOM.ASP-believe *ang* soldier that NOM-ASP-go.home ANG
pangulo e]]?
president
‘When did *the soldier* believe that the president would go home?’ Tagalog
(Rackowski and Richards, 2005, ex. (50))

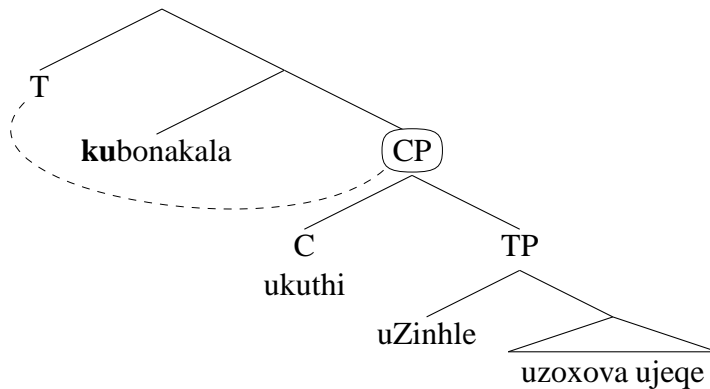
In examples (362)-(364), it is the fact that v^o agrees with the embedded CP that allows the CP to become transparent for *wh*-extraction. After v^o agrees with CP, it can then agree with the embedded *wh*-phrase inside CP and raise that *wh*-phrase to its specifier. From its

position as a specifier of the matrix v^o , the *wh*-phrase is ultimately accessible to Agree with the matrix C, which enables it to move to its scope position.

Rackowski and Richards (2005) explore their proposal in the context of A-bar extraction phenomena such as *wh*-extraction, but there is nothing in the principles they build from that suggests that this logic should not extend to A-movement phenomena as well. Indeed, as stated, the basic principles in (361) predict that the same considerations should apply to case of A-movement (and agreement) phenomena such as the raising process that I have focused on in this chapter. I therefore propose that this same type of process accounts for both the ability of nominals to raise out of finite complements in Zulu *and* the optional agreement effects that result.¹⁵ The optional agreement with raised subjects reflects the fact that the matrix T^o agrees *twice*: first with the entire embedded CP and then with the embedded subject.

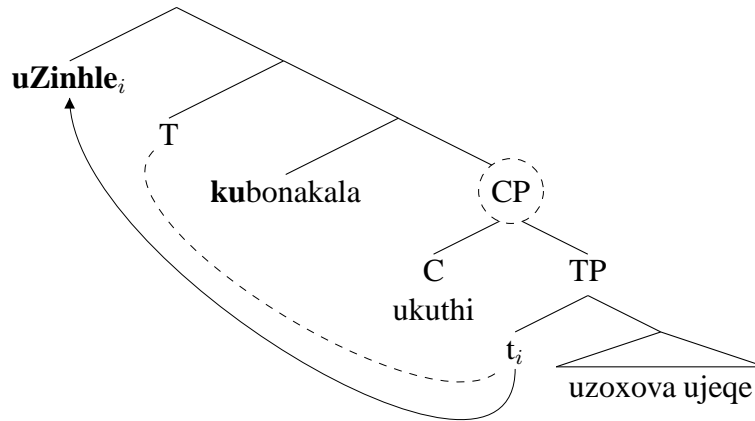
This process is outlined in the trees in (365) and (366) below. First, T^o probes and finds the CP as the closest bearer of phi-features. It agrees with the embedded CP, which remains in situ. Then, T^o probes again, for reasons I will discuss in section 6.3; this time it is able to ignore the already-agreed-with CP and agree with the embedded subject, which raises to matrix Spec,TP, as a result.

(365) **Step 1: T agrees with embedded CP**



¹⁵By the same token, we might wonder the extent to which their proposal applies to A-bar movement processes in Zulu as well. I will not address this question at all here, but I will note that if elements that undergo long-distance A-bar extractions in Zulu first move to the edge of an embedded CP, then the CP itself (or perhaps the relevant C head) would not act as an intervenor and thus the question would not arise.

(366) **Step 2: T agrees with and fronts embedded subject**



Because T^o has agreed twice, first with the CP and then with the embedded subject, it can optionally realize the morphology of *either* agreement operation. The non-agreeing raised subjects we saw in (323) are the result of T^o spelling out the morphology from the first agreement operation with CP.

On this analysis, the choice of *ku-* or agreement with the raised subject in any particular raising predicate would have no impact on the agreement possibilities of subsequent agreement operations: with both raising predicates T^o would agree with both the embedded CP and the raised DP and choice of morphological spellout for any particular instance of T^o would be unrelated to any other instance. This result is necessary given the multiple raising data in (331).

To summarize the proposal given in this section, the optional agreement involving subject-to-subject raising results from T^o agreeing *twice*, first with CP and then with DP. I argued that this type of multiple agreement can not only account for the optional agreement effect, but is what allows the embedded subject DP to raise at all. The fact that this analysis depends on T^o agreeing twice, it raises the question of why this type of multiple agreement happens in Zulu. In the next section, I address this issue and propose that the multiple agreement process results from the way the EPP works in the language.

6.3 EPP insights

In the straightforward agreement cases in Zulu that we saw in chapter 2, agreement always tracks the element (not necessarily the logical subject) that surfaces in Spec,TP.¹⁶ Crucially, agreed-with elements *must* satisfy the EPP: agreement with *in situ* arguments is ungrammatical, unlike in English:

- (367) a. ***u-** pheka uZinhle kahle
 1s- cook AUG.1Zinhle well
- b. **ku-** pheka uZinhle kahle
 17s- cook AUG.1Zinhle well
 ‘Zinhle cooks well.’
- (368) a. There *are* two bunnies in the garden.
- b. * There *is* two bunnies in the garden.

This direct correspondence between subject agreement and EPP effects in Bantu has been a focus of various proposals that argue that while in some languages agreement is linked to case assignment, in Bantu it is only linked to the EPP (e.g. Baker, 2003b, 2008; Carstens, 2005). In this chapter, however, I have explored some counter-examples to the generalization that agreeing nominals satisfy the EPP and that nominals that satisfy the EPP always agree.

The basic puzzles that I discussed in this chapter involve nominals that occupy Spec,TP, thus satisfying the EPP, but do not control agreement:

- (314b) [**indaba** y-okuthi w- a- thatha umhlala phansi] **kw-** a- ngi- mangaza
 AUG.9news 9-that 1- PST- take AUG.1sit down 17s- PST- 1sg.o- surprise
 ‘The news that he retired surprised me.’
- (315b) **uZinhle** **ku-** bonakala [ukuthi **u-** zo- xova ujeqe]
 AUG.1Zinhle 17s- seems that 1s- FUT- make AUG.1steamed.bread
 ‘It seems that Zinhle will make steamed bread.’

With appositive structures, including complex NPs I focused on, either element in the complex subject may agree, so agreement is merely targeting a subpart of the complex

¹⁶Recall that this element can be *pro* if the argument is *pro*-dropped.

entity that fulfills the EPP.¹⁷ With subject-to-subject raising constructions, the pattern is more mysterious: here we get a situation where the preverbal (raised) element that satisfies the EPP is not connected to the *ku*-agreement morphology at all.

I proposed in the previous section that these raising constructions result from multiple agreement: T^o agrees with CP *and* the embedded subject. This proposal left open the question of why multiple agreement can occur in these cases. In this section I will argue that agreement in Zulu is driven purely by the EPP and will show how such a proposal will account for the multiple agreement pattern.

First, the EPP in Zulu simply states that the specifier of TP must be occupied, either by an overt nominal or by *pro*.¹⁸ Any nominal that enters Spec,TP, through movement can only do so if that nominal agrees with T^o . In every Zulu construction, T^o can satisfy the EPP in one of two ways: by movement or via an expletive *pro* that can be freely inserted in non-theta positions.

(369) **Two ways to satisfy the EPP in Zulu:**

- a. Insert *pro*_{EXPL} directly in Spec,TP
- b. Search for an argument of the verb and move it to Spec,TP

¹⁷A similar thing may be happening in some cases of conjoined subjects. Bosch (1985) discusses the range of agreement patterns that result in these constructions; some of which involve only one element of the conjunction.

¹⁸The account that I develop here is compatible with instantiations of the EPP as a *syntactic* phenomenon (e.g. Chomsky, 1995; Bobaljik and Jonas, 1996; Alexiadou and Anagnostopoulou, 1998; Richards, 2011, and others), since, as we will see below, it is crucial for me that the EPP can drive (agreement-yielding) movement operations in the syntax that would otherwise not be necessary. By contrast, theories that as opposed to theories that conceive of the EPP as a purely phonological mechanism (e.g. Landau, 2007) fail to allow for the EPP to be the engine of syntactic movement and additionally incorrectly predict that *pro* will not satisfy the EPP. The account – as well as the empirical patterns – discussed in this chapter is also incompatible with “reverse agree” approaches that seek to reduce the EPP to the requirement that goals c-command their probes in order for valuation to take place (e.g. Bošković, 2007; Wurmbrand, 2011, 2012; Zeijlstra, to appear). Such approaches fall short because they also disallow the possibility of the EPP as an engine in the syntax. More significantly, if the analysis of optional agreement as agreement with the embedded CP is correct, these Zulu constructions stand as a counterexample to reverse agree: the embedded CP agrees with matrix T^o but *cannot* raise to c-command it.

If the first option is chosen, T^o does not probe and instead default *ku*-agreement appears instead. When the second option is chosen, T probes the structure to find the closest element with phi-features, agrees with that element, and raises it to Spec,TP.

What happens in a construction where the closest phi-bearing element is CP? While we saw in section 6.2.1 that CPs are able to serve as targets for agreement, I also showed that Zulu speakers reject CPs in preverbal subject position. I will not attempt to explain this restriction here, but I will simply take it as an independent prohibition that prevents CPs from raising to Spec,TP. In a raising construction, then, if T^o chooses to fulfill the EPP by searching for an element to raise, it will first encounter the embedded CP and agree with it in its quest to fulfill the EPP. Even though agreement has taken place, the independent prohibition will prevent CP from raising to fulfill the EPP. Now T^o has agreed with the CP but still has not satisfied its EPP requirement. At this point it simply starts the process again, choosing between simply inserting a *pro*_{EXPL} and probing for an element to raise. If it chooses to probe for a second time, it can now access the embedded subject, agree with it, and raise it to matrix Spec,TP to satisfy the EPP. Since agreement has happened twice, either morpheme may surface. It is crucial to the derivation, therefore, that the EPP is perseverant: an initial failure to satisfy it leads to a second attempt, rather than global failure (or accommodation). Since on this view agreement with T^o is essentially a byproduct of the EPP, it is perhaps unsurprising that T^o agrees multiple times only in cases where the EPP is not satisfied on the initial attempt.

An account in which subject-to-subject raising is brought about by an EPP requirement for T can perhaps help us to understand a gap in the Zulu raising data. Subjects can in general occupy either Spec, ν P or Spec,TP in Zulu. In raising, as I noted in chapter 2, the subject can occupy one of three positions, despite the fact that two clauses are involved: embedded Spec, ν P, embedded Spec,TP, or matrix Spec,TP:

(370) **Three subject positions with raising predicates**

- a. ku- bonakala [ukuthi **ku-** zo- xova **uZinhle** ujeqe
 17S- seems that 17S- FUT- make AUG.1Zinhle AUG.1steamed.bread
 manje]
 now
 ‘It seems that Zinhle will make steamed bread.’

- b. ku- bonakala [ukuthi **uZinhle** u- zo- xova ujeqe
 17S- seems that AUG.1Zinhle 1S- FUT- make AUG.1steamed.bread
 manje]
 now
 ‘It seems that Zinhle will make steamed bread.’
- c. **uZinhle** u- bonakala [ukuthi u- xova ujeqe manje]
 AUG.1Zinhle 1S- seem that 1S- make AUG.1steamed.bread now
 ‘Zinhle seems to be making steamed bread now.’

The ‘missing’ position in which raised subjects generally cannot appear is matrix Spec,vP:

- (371) * ku- bonakala **uZinhle** [ukuthi u- zo- xova ujeqe
 17S- seems AUG.1Zinhle that 1S- FUT- make AUG.1steamed.bread
 manje]
 now
 ‘It seems that Zinhle will make steamed bread.’

This gap is predicted on an account where raising is driven purely by the EPP needs of the matrix T^o : since the embedded subject is licensed by the augment, it does not depend on the matrix L for licensing and its only impetus to raise will be matrix T^o .

6.3.1 Exotic cases of raising: English and Greek

In this section, I have argued that raising out of finite clauses in Zulu is possible for two reasons. First, as we’ve seen throughout this thesis, there is no case licensing associated with Spec,TP, in Zulu. Consequently, nominals in these positions remain Active for further agreement. Second, the matrix T^o first agrees with the entire embedded CP, which obviates PIC effects and allows the embedded subject to be targeted by subsequent agreement with T^o . I argued that these properties of Zulu raising followed straightforwardly from treating the PIC as a specialized case of the A-over-A Condition, as proposed by Rackowski and Richards (2005). One might ask, however, why the Zulu pattern is not more widely attested outside of Bantu (as we have seen in this thesis Harford Perez, 1985; Diercks, 2012, show that raising out of finite clauses seems to be fairly common within the Bantu family). In this subsection, I briefly examine how this theory interacts with some better-known patterns of raising, including English, which systematically lacks raising out of finite clauses, and

Greek, which, as noted by Zeller (2006), shares with Zulu the possibility of raising out of an agreeing embedded clause.

In English, as we have seen, raising is required out of a nonfinite complement but prohibited out of a finite, agreeing complement:

- (372) a. Siphon_i seems [t_i to be making bread].
b. * It seems [Siphon to be making bread].
c. * Siphon_i seems [that t_i is making bread].
d. It seems [that Siphon is making bread].

It is standardly assumed that the contrasts in (372) result from nonfinite CP lacking nominative case on its subject *and* lacking phasehood, while finite CP has both of these properties. In other words, (372a) occurs because the embedded clause is not a phase – so the embedded subject is thus accessible to the matrix T^o – and the embedded subject remains Active due to a lack of case assignment in the embedded clause (which rules out the construction in (372b)). The example in (372c), on this view, is doubly ruled out – by both Activity and the PIC.

The major difference that we have seen throughout this thesis between English and Zulu is that English displays distributional properties in line with nominal licensing in finite Spec,TP, while Zulu does not. If in English, as I have argued for Zulu, the Activity Condition prevents further A-movement of nominals in licensed positions, then whether or not the phasehood of finite and nonfinite CPs in fact differs, the subject of a finite clause will be able to undergo further A-movement. The reason to posit that certain nonfinite clauses are not phasal in English is to account for why nominals may raise out of these constituents. If the same CP-agreement process that I argued for in Zulu occurs in English, then this distinction may not be necessary. In other words, if the matrix T^o first agrees with the embedded CP in English, then the only factor determining whether the embedded subject will raise is Activity.

Another way in which English differs from Zulu is that it allows CPs in what appears to be preverbal subject position.¹⁹ And indeed, while *seem* does not allow a CP complement

¹⁹Though I will return to the issue of whether this is true CP subjecthood in a moment.

to fulfill the EPP, *be likely* does:

- (373) a. * [That Sipho is making bread]_i seems t_i.
b. [That Sipho is making bread]_i is likely t_i.
c. [That Sipho is making bread] and [that he is sleeping] are equally likely.

We could imagine that this same CP agreement is occurring with infinitival clauses, but that in these cases, the second instance of agreement – with the embedded subject – is what surfaces due to the case needs of that subject.

One reason to be skeptical of such an approach, however, is work on the nature of CPs that suggests that these elements cannot function as true subjects. For example, Koster (1978) and Adger (2003) argue that CPs do not in fact occupy Spec,TP, and Iatridou and Embick (1997) argue that CPs lack the phi-features necessary for agreement (contrary to what I have claimed in this chapter). If in addition to differing from Zulu in the structural configurations associated with licensing, English also differs from Zulu in whether CPs bear phi-features, then it is possible that English embedded CPs do not instantiate the A-over-A Condition in the first place. While Rackowski and Richards (2005) assume that all CPs are potential goals (in the *wh*-constructions they focus on) simply because they have the ability to move, we could imagine relativizing the goal-hood of CPs in a raising construction to whether or not they have phi-features – the specific features targeted by T°. That is, perhaps CPs are never barriers to raising (though theoretically they could be barriers to other Agree processes) because CPs in English lack the relevant features.

To summarize the situation for English, the analysis that I propose here for Zulu is at least minimally compatible with current views of English, which assume a systematic difference in phasehood between finite and nonfinite clauses to account for the raising facts. Perhaps more interestingly, the analysis that I develop contains two avenues through which we could simplify the account of English by eliminating this difference in phasehood – either by agreement with CPs as in Zulu or by relativizing the notion of a barrier to specific sets of features and probing operations.

In Greek, the situation is rather different than in English. As Iatridou (1993) and Alexiadou and Anagnostopoulou (1999) have noted, Greek appears to lack truly nonfi-

nite clauses, though it does have raising constructions. Iatridou (1993) first notes that all embedded clauses appear to agree with their subjects, regardless of whether those subjects receive case in the matrix clause:

- (374) a. *vlepo ton Kosta na tiganizi psaria*
 see.1SG DET Kosta.ACC C fries.3SG fish
 ‘I see Kostas fry fish.’
- b. *elpizo o Kostas na tiganizi psaria*
 hope.1SG DET Kosta.NOM C fries.3SG fish
 ‘I hope Kostas fries fish.’ (Iatridou, 1993, 3x. (1),(4))

In (374), the ACC case is assumed to come from the matrix clause, while NOM is assumed to be assigned within the embedded clause. Iatridou shows that this difference in case assignment corresponds with the ability of the embedded verb to bear (past) tense. The non-case assigning predicates, as in (374a) are incompatible with past, as (375a) shows, while the case assigning predicates, as in (374b) allow it (375b):

- (375) a. **idha/ vlepo ton Kosta na tighanize psaria*
 saw.sg/ see.1SG DET Kosta.ACC C fried.3SG fish
- b. *elpizo o Kostas na tiganize psaria*
 hope.1SG DET Kosta.NOM C fried.3SG fish
 ‘I hope Kostas fried fish.’ (Iatridou, 1993, ex. (1’), (4’))

Extending this contrast in (375), Alexiadou and Anagnostopoulou (1999) argue that the primary difference between the matrix predicates in the ‘a’ and ‘b’ examples above is that the complements of the ‘b’ predicate always contain semantic tense, while the complements of the ‘a’ predicate do not. They argue that it is this property of semantic tense (following Martin, 1996; Varlokosta, 1994) that is linked to case assignment and show that like the ‘a’ predicates above, the complements of raising verbs in Greek lack semantic tense:

- (376) a. ta pedhia arxisan na trexoun
 DET children.NOM started.3PL C run.3PL
 ‘The children started to run.’
- b. *o eaftos tu arxizi na ton anisixise
 DET self his.NOM begin.3SG C CLITIC.ACC worry.3SG.PAST
 ‘He started being worried about himself. (Alexiadou and Anagnostopoulou, 1999, ex. (11),(30a))

Given that there is an independent way to predict whether an embedded predicate will assign nominative case (the presence of semantic tense), we can understand the difference in whether an embedded subject raises or not as one of whether it has received case in the lower clause. With respect to the PIC, the choices for how to understand its relevance are essentially the same as in English above. Since much of the evidence against CPs bearing phi-features that Iatridou and Embick (1997) give comes from Greek, it is perhaps more desirable to take the approach that the PIC is globally irrelevant for CPs when higher phi-agreement is involved, because CPs lack the relevant features altogether and thus do not intervene. To summarize, while Greek shared with Zulu the superficial property of allowing raising out of agreeing clauses, independent evidence suggests that agreeing embedded clauses contrast in Greek with respect to licensing properties – with raising only occurring out of those clauses that do not assign nominative.

This comparison of English, Greek, and Zulu suggests that the case-assigning property of T^o varies quite a bit across languages. In English, it appears that all agreeing T^o heads appear to assign case; in Greek, only some T^o heads that agree are case-assigners; and in Zulu, *none* of the agreeing T^o heads assign case. In this regard, we can perhaps consider Zulu to be the natural endpoint of a continuum if T^o ’s case-assigning properties.

6.4 Conclusion

In this chapter, I presented novel data on Zulu optional subject agreement constructions. I showed that Zulu allows optional agreement with preverbal subjects in constructions that involve complex NP subjects and raised subjects. I presented some diagnostics that differentiate between preverbal subjects and preverbal topics in these constructions and proposed

that the restriction of optional agreement to these environments is due to the availability of CP goals for agreement in both constructions.

The result of agreement with a CP goal is the same *ku-* agreement that we find in cases where we expect default agreement. In complex NP constructions, the clausal and nominal components of the subject are equidistant from T, and so either may be a target for agreement. In raising constructions, the matrix T^o first agrees with the entire embedded CP. Subsequent agreement with the embedded subject causes the subject to raise to preverbal position in the matrix clause, but the verb may spell out either agreement relationship.

This analysis provides a unified explanation for these two exceptions to the requirement that preverbal subjects agree in Zulu. It also sheds some light on why subjects may raise out of finite (phasal) CPs in Zulu and gives us new insights on the relationship between agreement and the EPP in the language.

Chapter 7

Conclusion

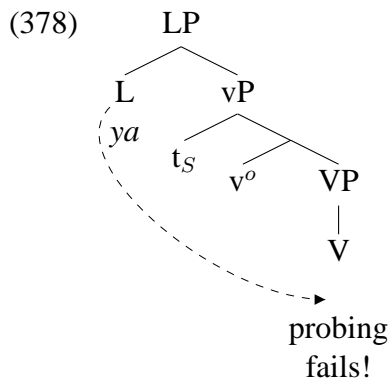
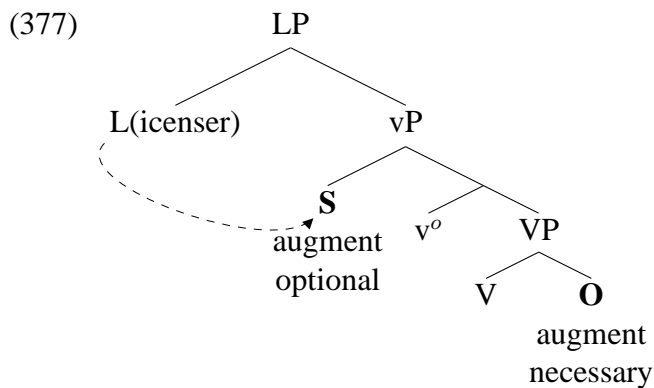
In this thesis I have argued that some of Zulu's most exotic-seeming properties, such as its apparent absence of any case effects and its optional raising out of finite complements, should in fact be understood as being deeply familiar, boiling down to a few well-attested properties combining in novel ways. At the same time, these novel instantiations of familiar properties give us insight on the nature of syntactic variation and on the organization of the grammar. In this concluding chapter, I summarize what we have learned from Zulu and discuss some ways in which we can use these discoveries about Zulu to learn about the core properties of syntax.

7.1 Summary of the main points

In chapter 2, I established some basic facts about agreement and position of arguments in the structure. I showed that while Zulu subjects display a fair amount of flexibility in terms of the syntactic position in which they may appear, agreeing subjects must always surface outside of vP – vP -internal subjects cannot control agreement in Zulu. I also showed a particularly puzzling instance of optionality in Zulu syntax: in raising constructions in Zulu, a nominal may *optionally* raise out of an agreeing finite clause into an agreeing position in the matrix clause. This puzzle raised the question of whether notions such as abstract case and the PIC, which are commonly assumed to play a role in ruling out such raising constructions, play any role in Zulu syntax. In the following chapters, I investigated

these questions.

In chapters 3-5, I focused on the puzzle of Zulu's relatively unrestricted nominal distribution patterns, raised initially in chapter 2. I argued that Zulu in fact has a system of structural licensing and case morphology parallel to that of more familiar case languages like Icelandic. Evidence for structural licensing came from the behavior of *augmentless* nominals, which I showed display restrictions to specific syntactic positions that went beyond the known licensing conditions previously assumed to account for their distribution. In particular, I argued in chapter 3 that augmentless nominals are licensed in two ways: through a maximally local relationship to a licensing head L^o or by V^o in conjunction with a specifier-taking CAUS or APPL head. In chapter 4, I tied this distribution to the seemingly unrelated syntactic phenomenon of the *conjoint/disjoint* alternation and argued that the conjoint/disjoint alternation is a morphological spell out of the licensing process.



Both of these processes – the licensing of augmentless nominals and the conjoint/disjoint alternation – have the unusual property that they appear to be sensitive to *surface* position of arguments. I establish in chapters 3 and 4 that we can in fact distinguish these processes

from truly surface-oriented ones and argue that they should therefore be captured in the syntax. I propose that their apparent surface-oriented properties arise from the ability of the licensing relationship to be freely ordered with respect to A-movement, which allows arguments to move before they can be structurally licensed. I attribute the absence of the opposite order of operations – in which arguments would first be licensed by L^o and subsequently move – to the Activity Condition (Chomsky, 2001). I argued that once a nominal is licensed by L^o , it is inactive for all further A-processes. Phi-agreement, by contrast, following Carstens (2011), does not inactivate nominals.

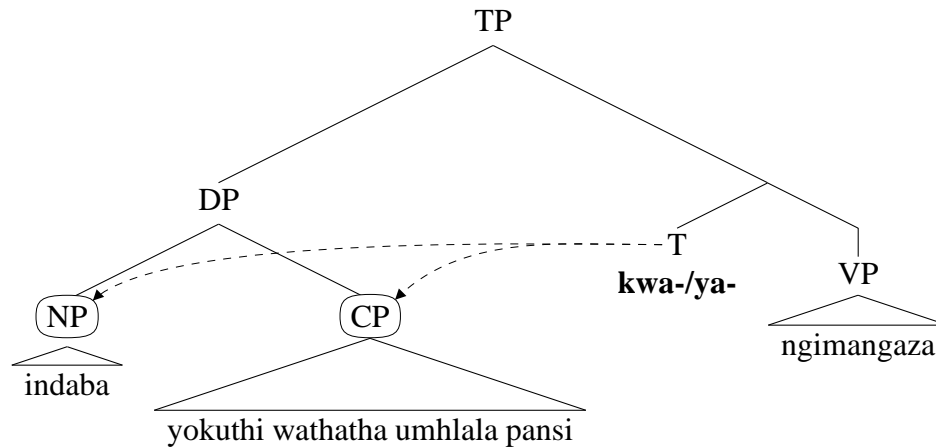
In chapter 5, I returned to the question of why not all nominals in Zulu require structural licensing. I argued that the *augment* vowel that marks most nominals functions as an intrinsic case licenser, allowing nominals that it marks to appear in unlicensed positions – as well as licensed ones. By comparing the augment vowel to oblique morphology in Zulu, I showed that Zulu has a familiar system of case morphology that corresponds to the *structural*, *quirky*, and *inherent* cases found in languages like Icelandic (e.g. Schütze, 1997). At the same time, I argued that the augment itself was evidence of a new type of case – one that inherently licenses nominals but is able to agree with the verb – that is a logical combination of the two parameters that seem to delineate the typology of case [\pm Intrinsic] and [\pm Agreeable].

+ intrinsic + agreeable augment	– intrinsic + agreeable (“ <i>structural</i> ”) augmentless
+ intrinsic – agreeable (“ <i>inherent</i> ”) aug-replacing	– intrinsic – agreeable (“ <i>quirky</i> ”) aug-permitting

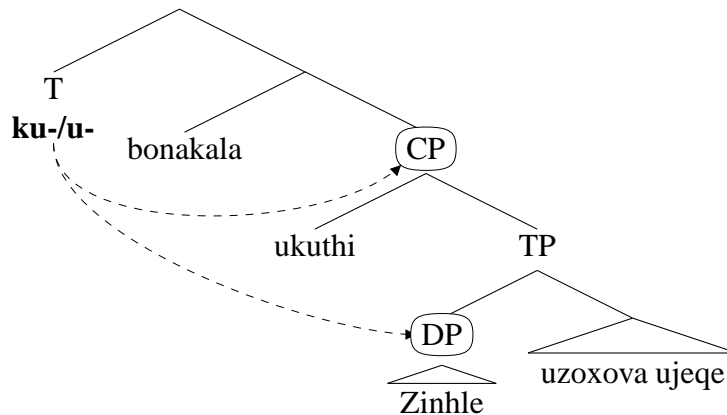
Table 7.1: Licensing strategies and nominal morphology in Zulu

Finally, in chapter 6 I addressed two novel constructions in Zulu that involve *optional* agreement of T^o with the nominal in its specifier: *complex NP* subject constructions and *raising-to-subject* constructions. I showed that both of these constructions are true exceptions to the pattern established in chapter 2, that preverbal nominals must control agreement on T^o . I argued that the ‘default’ agreement option in these constructions does not result from an absence of agreement with T^o . Rather, I proposed that both of these constructions involve a configuration where T^o can either spell out the result of a phi-agreement relationship with a CP or with the expected nominal.

(379) **Agreement possibilities with a complex NP**



(380) **Multiple agreement operations in a raising construction**



This analysis relies on the ability of CPs to control phi-agreement, which I motivated in chapters 4 and 5. In complex NP constructions, I argued that the CP complement and the nominal head are *equidistant* from T^o and thus either can serve as a goal. In raising-to-

subject constructions, I argued that CP agreement results from agreement with the embedded CP itself and that this step of agreement is necessary in order to obviate the PIC (following Rackowski and Richards, 2005) and to therefore enable the matrix T^o to access the embedded subject. After T^o agrees with the CP, which cannot raise for independent reasons, it may continue on to agree with the embedded subject in order to satisfy the EPP. As a result of this second agreement operation, the embedded subject must raise but the result of either agreement operation may be spelled out. In this way, I was able to account for both the unusual agreement pattern and the outstanding puzzle of what permitted the raising construction out of a finite clause in the first place.

7.2 Surveying the theoretical landscape

Throughout the dissertation, I have noted how the analysis of Zulu that I have pursued relates to our current understanding of syntax and the nature of syntactic variation. Here I collect some of these observations and comment on how we might further use Zulu as a tool to understand syntactic patterns and explore the syntax of other languages.

7.2.1 Zulu and the organization of the grammar

The grammatical phenomena that I focus on in this thesis primarily concern the relationship between nominals and predicates. Because of this focus, the grammatical components that commonly mediate these relationships – case, agreement, and the EPP – were at the center of my investigations.

Case

Perhaps one of the most surprising conclusions of this thesis is the discovery that Zulu has a system of case-licensing, realized both in terms of structural licensing and case morphology on nominals. As noted above, this conclusion goes against the prevailing view that case is not relevant in the grammar of Bantu languages (Harford Perez, 1985; Baker, 2003a, 2008; Carstens and Diercks, forthcoming; Diercks, 2012, and others). Despite the familiar profile

of its global patterns, there are a number of interesting differences between the case system I uncovered in Zulu and the more familiar systems of languages like Icelandic and English.

In terms of structural licensing, I showed that the positions in which structural licensing occur in Zulu are *not* the familiar positions of structural licensing. Strikingly, none of the heads that we associate with structural licensing in a language like English – T^o , v^o , and P^o – are licensors in Zulu. First, while finite T^o is *not* a case licensor in Zulu, I introduced a lower L(icensing) head – above vP but below T^o – that is a licensor. While I argued that evidence in favor of such a functional head in the structure comes from the conjoint/disjoint alternation, it is still somewhat mysterious what precise function this head plays – if any – in addition to licensing nominals. Second, while the other position in which nominals could be licensed – as in situ direct objects – is familiar as the location of accusative case in NOM-ACC case systems, the circumstances under which direct objects are licensed in Zulu are somewhat different. Specifically, if the direct object is highest in vP , it can be licensed by L directly. If it is not the highest in vP , the only circumstance in which it can be licensed is in the presence of an APPL or CAUS head. While this seems like a novel condition on object licensing, it is eerily similar to a familiar one: Burzio’s Generalization. Burzio’s Generalization ties the ability of an object to be structurally licensed to the specifier-taking property of v^o . When v^o does not take a specifier, the object cannot be licensed. In Zulu, while the status of v^o itself seems to be irrelevant, what APPL and CAUS share with transitive v^o is that they too take a specifier argument. Finally, as we saw in chapters 4 and 5, P^o also does not serve to license its nominal complements. Nominals inside PPs in Zulu are subject to the same broader licensing conditions as ‘plain’ nominals, as the behavior of augment-permitting prefixes showed.

In chapter 3 I described the ability of CAUS and APPL to license “accusative” case in conjunction with V^o as “Burzio plus” – in that something beyond a simple transitive v^o was needed to license a direct object. It is possible that this insensitivity of licensing to v^o is systematically connected to other aspects of Zulu syntax. In particular, one thing that we have seen throughout the dissertation is that Zulu is perhaps unusually permissive in allowing multiple arguments – up to three in a ditransitive expletive or “triple object” structure – to remain in vP . This type of behavior is typologically unusual, and unexpected

on syntactic accounts that prohibit multiple DPs within a single phase (e.g. Alexiadou and Anagnostopoulou, 2001, 2006; Richards, 2010). At the same time, as I discussed in my account of the timing patterns involved in licensing, the analysis of Zulu proposed here exploited the ability of ν P-internal arguments to move around the L head – a logic that dependent on the operations taking place within a single phase. If ν P is simply never a phase in Zulu, then we can perhaps understand the properties of timing, the absence of standard “accusative” and the grammaticality of multiple ν P-internal arguments as part of a larger pattern. While this idea requires much development, I suggest that it may arise naturally from the various unusual properties of Zulu discussed in this dissertation.

We also saw some interesting properties emerge in the domain of morphological case. In particular, I argued that the augment vowel in Zulu functions as a freely-applying intrinsic licenser, which can ‘rescue’ a nominal in any position but does not impinge on the nominal’s ability to agree. Exactly this type of freely-applying case has been ruled out by various theories (e.g. Schütze, 2001) on the grounds that it would render the Case Filter vacuous. That particular worry seems to justify such an analysis of the augment, since this investigation began with the observation that it is difficult to find any evidence of case with augmented nominals in Zulu.

Finally, Zulu also showed evidence for a novel interaction between case and agreement. While Zulu shows the same surface ban on oblique-marked nominals controlling agreement that we find in languages like Icelandic, it resolves potential violations in a different way – by simply removing the oblique morphology. I return to this difference in the discussion of Icelandic in section 7.2.2 below.

Agreement

Agreement truly seems to be at the heart of Zulu syntax. Phi-agreement is entangled in virtually all movement processes in the language and concord with the full phi-features of nominals is pervasive in all sorts of constructions. One thing that is clearly illustrated in this thesis is that phi-agreement in Zulu has no syntactic overlap with structural licensing. We saw in chapters 3 and 4 that the outcome of structural licensing does not involve any visible phi-agreement. As I argued in chapter 4, structural licensing prevents nominals

from engaging in higher phi-agreement operations due to the Activity Condition – though phi-agreement does not render a nominal inactive for future licensing operations. While the idea that case and agreement are not linked to each other in Bantu has been suggested by Baker (2003a, 2008) and others, this observation rested on the assumption that case was playing little to no role in the first place. While Zulu points to the same higher-level conclusion, it does so by showing that case and agreement can both be active in a language yet not overlap or show any dependencies. Like Baker (2003a, 2008), I conclude that agreement in Zulu is closely linked to the EPP. In particular, we learned in chapter 6 that agreement crucially depends on the EPP, as I discuss next.

EPP

While agreement is perhaps the most visible aspect of Zulu syntax, chapter 6 arrived at the conclusion that the EPP functions as the driving engine for many of the processes we have seen throughout the dissertation. In chapter 2, we saw that when T^o agrees with a nominal, that nominal must raise to Spec,TP (and sometimes moves further to a dislocated position). When T^o does not agree, no nominal occupies Spec,TP. This type of pattern is exactly what proponents of “reverse agree” theories have used to argue that the EPP should be reduced to a byproduct of the agreement process (e.g. Bošković, 2007; Wurmbrand, 2011; Zeijlstra, to appear). These theories propose that all valuation of unvalued features – such as the phi-features on a head like T^o – must be accomplished in a downward fashion, with the source of the features c-commanding the unvalued element. To achieve this downward relationship, therefore, agreeing elements must move to c-command their probe, yielding obligatory spec-head agreement. This type of configuration also achieves an EPP effect: if a head must always have its features valued by a c-commanding element, then there will always be some element in a local c-commanding position.

In chapter 6, however, we saw that while T^o can successfully agree with an embedded CP in Zulu, that CP *cannot* raise – in other words, unlike agreeing nominals in Zulu, which always surface above the probe T^o , agreeing CPs can remain in situ below T^o . Moreover, I argued that in these constructions, T^o can probe a *second* time – something we do not see elsewhere in the language – to find the embedded subject. I argued that this second instance

of probing is driven purely by the EPP, since T^o 's needs are satisfied by the first instance of agreement. In fact, in this way of looking at Zulu, it perhaps does not make sense to say that T^o agreement is at all necessary – rather we can consider it to be merely a byproduct of the EPP, arising only when the EPP is satisfied through movement (and not, say, through an expletive). Thus a more accurate way to describe a dependency between the EPP and agreement in Zulu would be to have agreement arise as a consequence of the EPP rather than the other way around.

As I discussed in chapter 6, another upshot of the EPP behavior that we see in the optional agreement constructions is that the EPP in Zulu cannot be a post-syntactic PF phenomenon – rather, it appears to be capable of driving syntactic movement. Moreover, while PF theories of the EPP (such as Landau, 2007) tend to require that the EPP be satisfied by *phonologically overt* material, Zulu appears to allow *pro* to satisfy the EPP – something that is in line with syntactic theories (and is especially predicated by theories such as Richards, 2011) but incompatible with the PF approach.

7.2.2 Some final thoughts: Zulu and the nature of syntactic variation

In the previous subsection I discussed some of the insights we gain on case, agreement, and the EPP from this investigation of Zulu grammar. I will close the thesis by examining these issues from the point of view of direct comparison between languages to see what might be gained in terms of knowledge of syntactic variation and avenues for future research.

Zulu vs. Icelandic

One language that emerged at multiple points during this dissertation as a point of comparison was Icelandic. Icelandic is a striking counterpoint to Zulu because while both share properties of rich agreement, Icelandic wears its complex and robust case system on its sleeve. Nevertheless, we saw several points of similarity between the languages. Both languages have a system of structural licensing that intersects with a system of morphological case. Both languages have restrictions on the types of morphological case that can undergo agreement.

Icelandic	Zulu
NOM in Spec,TP	no NOM in Spec,TP licensing within complement of L ^o
ACC from transitive <i>v</i> ^o	“ACC” from CAUS or APPL
DAT can move around phi-probe	S or O can move around L probe
structural, quirky, and inherent case	structural, quirky, inherent, and <i>augment</i>
no agreement with quirky/inherent oblique acts as intervenor	no agreement with quirky/inherent oblique morphology is dropped

Table 7.2: Case and agreement in Icelandic and Zulu

Many of the differences between Zulu and Icelandic listed in table 7.1 seem to boil down to fairly superficial variation – differences in the location of case-licensing heads, a gap in the typology of morphological case. One difference that is worth highlighting here due to the theoretical conclusion it prompts is the “resolution” of oblique nominals in agreeing positions. As I showed in chapter 5, both Zulu and Icelandic prohibit subject agreement with oblique-marked nominals. While the unattested agreement pattern does not surface in either language, the output of a structure where an oblique nominal is located in a position that would otherwise yield agreement is interestingly different. In Icelandic, agreement simply does not occur, and the oblique nominal acts as an intervenor for lower potential goals. On the basis of this fact Bobaljik (2008) argued that phi-agreement is necessarily post-syntactic: he claimed that morphological case in Icelandic can be captured as a post-syntactic process and that phi-agreement clearly follows the realization of oblique case, which places phi-agreement outside of narrow syntax. In Zulu, by contrast, oblique nominals in agreeing positions *do* agree, but omit their oblique morphology. This reordering of agreement *before* morphological realization of case suggests that both of these processes are best dealt with in syntax, exactly as argued by Preminger (2011) on the basis of similar ordering variations.

Zulu and the rest of Bantu: what to expect

In this thesis, I have developed a specific view of how nominal licensing and agreement operate in Zulu. Many of the constructions I have investigated here have not been systematically approached in other Bantu languages, if they have been documented at all, so it is

not yet clear how this story will fare across the family. Given the broad similarities that prevail throughout the Bantu family, one would hope that many of the points of analysis that I have argued for in Zulu would carry over into other Bantu languages.

At the same time, the amount of variation present in the family suggests that we might in fact gain more from investigating the ways that Zulu differs from other Bantu languages as a means of achieving more precision in our understanding of the relevant syntactic mechanisms driving the Zulu constructions. There are three areas of documented variation that I believe could be particularly informative for cross-Bantu investigations of the constructions and proposals I have covered in this dissertation: the distribution of the augment, the distribution of ν P-internal subjects, and the nature of default agreement.

The variation in the augment vowel is well-documented in the Bantu family (see Katamba, 2003, for an overview of some of this variation). Certain languages lack an augment altogether, and as we saw briefly in chapter 3, for those languages that do have an augment, its distribution can vary quite a bit. As I showed in that chapter, the augment in Kinande has a distribution similar to Zulu in some respects, but different in others – notably in that it is not restricted to NPI-type contexts. Given the crucial role that the augment vowel played in my analysis of Zulu, it will be important to see what parallels can be drawn to languages that have a similar augment distribution, and whether there are any systematic differences in syntax that correlate with differences in the distribution of the augment. In languages that lack an augment altogether, the crucial question will be whether there is some other means of signaling licensing types or if, in these languages, case is truly inoperative.

Another area in which Bantu languages show wide variation is in the behavior of ν P-internal subjects. As I demonstrated in this thesis, Zulu is quite permissive of ν P-internal subjects – they can appear in a variety of constructions, and can co-occupy the ν P with multiple other arguments. At the same time, Zulu is rather conservative with its inversion constructions, allowing only very limited cases of locative and instrument inversion and disallowing all types of object inversion. In many other Bantu languages, low subjects in fact require inversion of other arguments (e.g. Marten, 2006; Marten et al., 2007; Ndayiragije, 1999). In the previous section, I suggested that the ability of multiple arguments to “crowd” into ν P in Zulu might be related to the phase hood properties of ν^o and perhaps

also to the case licensing patterns involving the direct object. If other Bantu languages display different patterns with respect to the grammaticality of multiple ν P-internal arguments then we might expect some of these other properties to co-vary.

Finally, a last potential area of variation would be in the behavior of CP complements. As I noted in chapter 2, different Bantu languages use different noun classes as the “default” agreement class. I argued in Zulu that the default class coincides with the class that corresponds to phi-agreement with CPs – class 17. One way to strengthen and expand upon this story would be to investigate languages in with differing default patterns to see if there is any correlation between default agreement and the nature of the CP (or of the particular complementizers). One good candidate for such an investigation would be Lubukusu, which has been shown to have multiple ‘default’ agreement markers, used in different environments, and has also been shown to have multiple types of CPs that display different syntactic behavior (Diercks, 2010; Baker and Safir, 2012).

By targeting these areas of known variation for future research, we stand to gain a much more nuanced understanding of the theory that I have proposed here.

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