

Licensing arguments

by

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Abstract

The central claim of the dissertation is that the syntactic distribution of arguments depends on abstract nominal licensing. All nominals must be (i) assigned a thematic role (Chomsky, 1981) and (ii) licensed via abstract φ -agreement (Chomsky, 2000, 2001); these requirements hold of nominals in every language, including those with no Case or agreement morphology (Vergnaud, 1977; Sigurðsson, 1989; Sheehan & van der Wal, 2018). Languages differ, however, in their functional vocabulary (Borer, 1984), including which heads are able to assign thematic roles and check φ -features. Every language has Voice (Kratzer, 1996), which introduces and assigns a thematic role to agents, but not every language has Appl, which introduces high applicatives (Pylkkänen, 2002, 2008). Similarly, I propose that Voice is a nominal licenser in every language, but Appl (in languages that have it) is not universally a nominal licenser. In languages where Appl is a licenser, such as Kinyarwanda, all high applied arguments will have their φ -features checked; applied arguments will therefore be able to stack or recurse freely in the clause. In those languages where Appl is not a licenser, such as Zulu and Tagalog, applied arguments must compete for licensing by the Voice head; thus only one applied argument will be able to be licensed, precluding the possibility of applicative recursion in the language.

Voice plays a privileged role in nominal licensing in being an obligatory licenser (Levin & Massam, 1985; Rezac, 2011) and in delimiting the licensing domain of the clause, such that all nominals must be licensed within VoiceP. I argue that this domain-delimiting status is not an inherent property of the Voice head but only arises when it is the thematic head that is most local

to T. More precisely, then, it is Voice under T which defines the licensing domain of the clause. Voice under T is also special in being able to license two arguments: its external argument and an internal argument. Because of its ability to license two arguments, Voice under T is the locus of transitivity alternations, such as the Agent Voice \sim Patient Voice alternation in Philippine-type voice languages and the ergative \sim antipassive alternation in ergative languages, and is also responsible for assigning ergative and accusative Case (Legate, 2014).

While Voice defines licensing domains, events define thematic domains, such that the addition of an event means the addition of a new thematic domain. I demonstrate this using evidence from affixal causative constructions, which languages can form in one of two ways, via (i) the addition of a causer argument (Alexiadou et al., 2006, 2015; Schäfer, 2008; Nie, 2020), or (ii) the addition of a causing event (Harley, 1995, 2013; Pylkkänen, 2008). Languages which allow multiple events in causatives also allow multiple causees, indicating that events define domains of thematic interpretation.

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List of Abbreviations

<>	infix	DAT	dative Case
1 / 2 / 3	1st / 2nd / 3rd person	DEF	definite
1 – 16	noun class (Bantu)	DET	determiner
X/Y	portmanteau agreement	DYN	dynamic indicative
ABS	absolutive Case/agreement	ERG	ergative Case/agreement
ACC	accusative Case	F	feminine
ADV	adverb	FUT	future tense
ANTIP	antipassive	FV	final vowel
APPL	applicative	GEN	genitive Case
ASP	aspect	H	human
AUG	augment	IND	indicative
AUX	auxiliary	INSTR	instrumental applicative/marker
AV	Agent Voice	INTR	intransitive
BEN	benefactive	IPFV	imperfective
CAUS	causative	LNK	linker
COM	comitative	LOC	locative
CORE	core argument marker	LV	Locative Voice
CV	Circumstantial Voice	M	masculine

NEG	negation	REAL	realis
NOM	nominative Case	RED	reduplication
NONH	non-human	SG	singular
NONVOL	Non-volitional Voice	S / SM	subject marker/agreement
O / OM	object marker/agreement	TE	<i>te</i>
OBJ	objective Case/agreement	TOP	topic
OBL	oblique Case	TR	transitive
P	preposition		
PAG	<i>pag</i>		
PART	participle		
PFV	perfective		
PL	plural		
PN	proper noun		
POSS	possessive		
PRS	present tense		
PST	past tense		
PV	Patient Voice		

Chapter 1

Introduction

Pylkkänen (2002, 2008), in her seminal work *Introducing arguments*, distinguishes two types of applied arguments based on their syntactic and semantic properties. Benefactive and instrumental applicatives are compatible with unergative predicates and stative transitive predicates, as shown in (1) from Zulu.

- (1) a. u-Mlungisi u-gijim-el-a u-Ntombi
AUG-1.Mlungisi 1SM-run-APPL-FV AUG-1.Ntombi
'Mlungisi is running for Ntombi.'
- b. u-Mfundo u-phath-el-a u-mama i-ngane
AUG-1.Mfundo 1SM-hold-APPL-FV AUG-1.mother AUG-9.child
'Mfundo is holding the baby for mother.'
- (Halpert, 2015, 48)

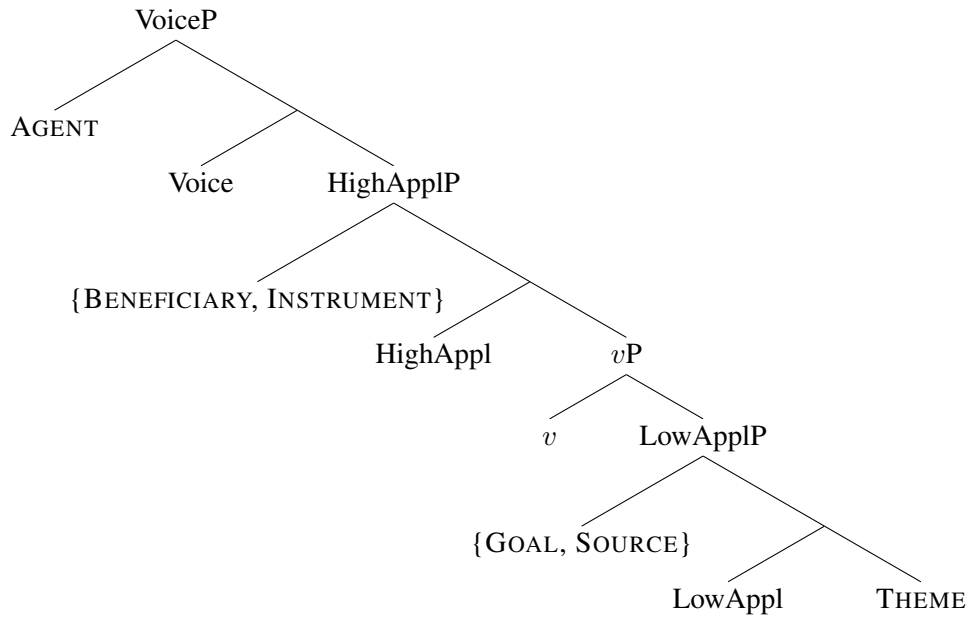
Recipients or goals, as in (2) from Zulu, usually involve transfer of possession and can only be added to dynamic transitive predicates.

- (2) u-Mfundo u-nik-e u-mntwana u-jeqe.
AUG-1.Mfundo 1SM-give-PFV AUG-1.child AUG-1.steamed.bread
'Mfundo gave the child steamed bread.'
- (Halpert, 2015, 183)

Pylkkänen proposes that benefactive and instrumental arguments are introduced in the specifier of a high applicative head (HighAppl), which takes a *vP* as its complement. Recipient/goal

and source arguments are introduced in the specifier of a low applicative head (LowAppl), which takes a DP complement, creating a small clause-like structure. Along with Voice, which introduces the agent (Kratzer, 1996), the proposed hierarchy of external argument introducing heads is illustrated in (3). The verb is notated here and throughout as *v*.

(3) Applicative introduction



Given that Zulu has both high and low applicatives, the structure in (3) is expected to be possible in the language. That is, according to this functional sequence of argument introducing heads, we would expect it to be possible for high and low applicatives to co-occur in Zulu. However, as shown in (4), this prediction is not borne out.

- (4) *u-Mfundo u-nik-el-e u-mama u-mntwana u-jeqe.
 AUG-1.Mfundo 1SM-give-APPL-PFV AUG-1.mother AUG-1.child AUG-1.steamed.bread
 Intended: ‘Mfundo gave the child steamed bread for mother.’ (Halpert, 2015, 183)

It is similarly impossible in Zulu to have two high applied arguments or two low applied arguments in the same clause. In fact, it has been observed that in most languages with both high and low applicatives, only one applied argument is permitted in any given clause (Marantz, 1993; McGinnis,

1998; Peterson, 2007). Thus Zulu and many other languages lack the ability to stack or ‘recurse’ applied arguments. No one, as far as I am aware, has offered an explanation for why this is so.

This is the central question of this dissertation: What governs the availability of argument recursion cross-linguistically? I argue that argument recursion depends not only on thematic introduction but also on abstract licensing. All nominals must be licensed, and any nominal left unlicensed at the end of a syntactic derivation causes the derivation to crash (Vergnaud, 1977; Sigurðsson, 1989; Sheehan & van der Wal, 2018). I propose that only one applied argument may be licensed in Zulu; any additional applied arguments that merge into the structure, while perfectly well-formed semantically, would remain unlicensed and therefore result in a failed derivation.

1.1 Problems of recursion

The need for a syntactic explanation for the lack of applicative recursion in Zulu becomes clearer once we consider the fact that a small subset of the world’s languages *do* allow applicatives to combine. An example is given in (5) from Kinyarwanda containing one low applicative (a goal) and two high applicatives (a benefactive and an instrument).

- (5) Umukozi y-a-h-eesh-er-eje umugore umwaana ibiryo ikanya.
 worker 1S-PST-give-INSTR-APPL-ASP woman child food fork
 ‘The worker gave the food to the child for the woman with a fork.’ (Ngoboka, 2005, 91)

Thus Kinyarwanda allows applicative recursion, while Zulu does not. This difference cannot feasibly be explained by semantic (or phonological) differences between the two languages. Applicative recursion must therefore be a point of syntactic variation; any differences between languages regarding applicative recursion must be due to the differences in the syntax of these languages.

I propose that the difference between recursive and non-recursive applicative languages lies not in whether applicative heads can merge into the structure, but whether the arguments they introduce can be licensed. In other words, all languages that have applicative heads will allow them

to freely merge, but the resulting structure may be ill-formed in some languages because not every argument is licensed. I suggest that languages with the same inventory of thematic heads (Voice, Appl, *v*) may nonetheless differ in which of these heads are also nominal licensors. I propose that applied arguments are always able to be licensed in Kinyarwanda, but not in Zulu, where they compete for licensing by Voice. As a consequence, Zulu can only license one applied argument per clause, while Kinyarwanda can license arbitrarily many. The availability and identity of nominal licensors, then, are what constrain applicative recursion across languages.

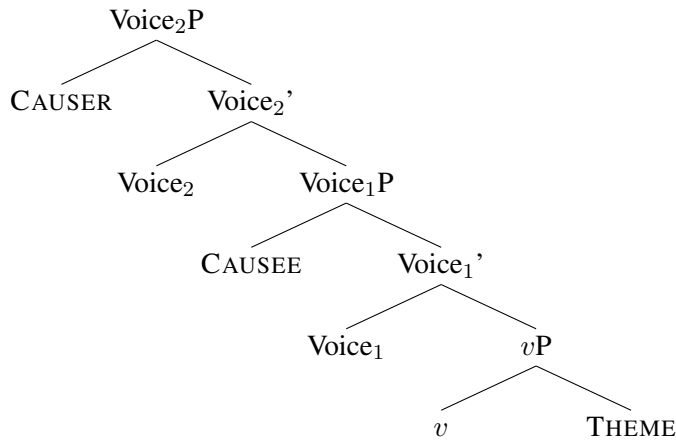
If Appl can recurse in some languages, can other external argument introducing heads do the same? In particular, is there any evidence across languages that Voice may recurse? Wood & Marantz (2017) suggest that one of the syntactic functions of Voice, apart from introducing an external argument, is to close off the thematic domain of the verb such that no additional arguments may be introduced; thus they preclude the possibility of Voice merging with another VoiceP. Others have argued using evidence from causatives that Voice only ever merges with ApplP, and that causees must be introduced by Appl rather than an embedded Voice (Kim, 2011a,b; Legate, 2014; Massam, 2015). Many linguists therefore assume that Voice recursion is impossible.

However, I will show that causative constructions in many languages do indeed involve the recursion of Voice (Bjorkman & Cowper, 2013; Nash, 2017; Nie, 2017a, 2020; Sigurðsson & Wood, 2020; Akkuş, accepted). Nie (2020), for instance, argues that in Tagalog causatives, both the causer and the causee are introduced by a Voice head, diagnosed by the fact that both external arguments can be targeted for modification by agent-oriented adverbials.

- (6) a. P<in>a-iyak-Ø ko si Kiko nang sinasadya.
 <PFV>CAUS-cry-PV 1SG.GEN NOM.PN Kiko ADV deliberately
 Available interpretations:
 ‘I deliberately made Kiko cry.’
 ‘I made Kiko deliberately cry.’ (Nie, 2020, 114)

Causatives in Tagalog therefore have a structure as in (7), where the causee is introduced by a lower Voice head, and the causer is introduced by the higher Voice head.

(7) Causative Voice recursion



Like Appl, then, Voice is also able to recurse. This result further highlights the parallel behaviour of different external argument introducing heads (Wood & Marantz, 2017).

Voice recursion is not the only way to build causatives cross-linguistically. Causatives have traditionally been thought of involving added events. Japanese *-(s)ase* causatives, for instance, are described as having multiple events (Kuroda, 1965a,b; Shibatani, 1972; Miyagawa, 1984; Harley, 1995, 2008). Because events are spatial-temporal entities, we expect to be able to modify them temporally. As shown in (8), it is possible to temporally modify the causing event independently of the caused event, confirming the presence of two events in *-(s)ase* causatives.

- (8) George-ga getsuyoubi-ni Ken-ni suiyoubi-ni tabako-o
 George-NOM Monday-DAT Ken-DAT Wednesday-DAT cigarette-ACC
 suw-ase-ta.
 smoke-CAUS-PST
 ‘George on Monday made Ken smoke a cigarette on Wednesday.’

By contrast, such independent temporal modification is impossible in Tagalog causatives, which only involve added external arguments and not added events (Nie, 2020).

The evidence from Japanese has led to proposals that causatives in at least some languages involve event recursion. In a theory where the little *v* head introduces events, this means that *v* can select for another *v*P (Harley, 1995, 2008). As Key (2013) points out, allowing one *v*P to embed another *v*P opens the door to unlimited recursion of events. However, Key claims that the unlimited recursion of events in affixal causatives is unattested cross-linguistically (see also Svenonius 2005), suggesting that no language with affixal causative morphology ever encodes more than two events in a causative (one causing event and one caused event). Key therefore argues against the possibility of *v*P embedding, and proposes instead that causatives obey a fixed universal functional hierarchy where a dedicated Caus head associated with a causing event selects for a *v*P associated with the caused event. Because there is no category recursion under this approach, there is no event recursion either.

As I will demonstrate, however, causatives do indeed exhibit further embedding of events in some languages. An example is given in (9) from Hokkaido Japanese, which shows that there are three events available for independent temporal modification in the syntax. The structure of the causative would involve a causing event which embeds another causing event, which in turn embeds the caused event.

- (9) George-ga getsuyoubi-ni Naomi-ni kayoubi-ni Ken-ni suiyoubi-ni
 George-NOM Monday-DAT Naomi-DAT Tuesday-DAT Ken-DAT Wednesday-DAT
 tabako-o suw-ase-sase-ta.
 cigarette-ACC smoke-CAUS-CAUS-PST
 ‘George on Monday made Naomi make Ken on Tuesday smoke a cigarette on Wednesday.’

Thus some languages do allow the recursion of events in causatives, in support of a *v*P embedding view of causatives and contra Key’s universal syntactic hierarchy.

This dissertation provides a framework for understanding these issues of argument recursion, which are rarely addressed in the literature and have not been resolved. Drawing on typological work as well as novel empirical evidence, I will show that the availability of argument recursion follows from differences in abstract nominal licensing across languages. This investigation of re-

cursion will shed light on not only the nature of nominal licensing but also the interaction between argument structure and event structure.

1.2 Main claims and assumptions

The central claim of this dissertation is that the syntactic distribution of arguments depends on abstract nominal licensing. All nominals bear φ -features that must be checked in the syntax via an agreement relation with a nominal licensing head (Chomsky, 2000, 2001). In the proposed system, then, every nominal must be (i) assigned a thematic role (Chomsky, 1981) and (ii) licensed via abstract φ -agreement; these requirements hold of nominals in every language (Vergnaud, 1977; Sigurðsson, 1989; Sheehan & van der Wal, 2018). Languages will differ, however, in their functional vocabulary (Borer, 1984), namely, in which heads are able to assign thematic roles and check φ -features. Thus it is the properties of functional heads that determine the distribution of nominals in the syntax. Pylkkänen (2002, 2008) claims, for example, that every language has Voice, which introduces the agent, but not every language has HighAppl, which introduces high applicatives. Similarly, I propose that Voice is an obligatory nominal licenser in every language, but HighAppl (in languages that have it) is not universally a nominal licenser. In languages where HighAppl is a licenser, all high applied arguments will have their φ -features checked and will therefore be able to freely co-occur. In those languages where HighAppl is not a licenser, applied arguments must compete for licensing by a higher head, namely Voice; thus only one applied argument will be able to be licensed, precluding the possibility of applicative recursion in the language.

The notion of abstract licensing developed in this dissertation is distinct from abstract Case or morphological case. Following many others, I assume that there is no universal abstract Case Filter; that is, a nominal's lack of Case assignment does not generally lead to a crash (Zaenen et al., 1985; Sigurðsson, 1989; Marantz, 1991; Schutze, 2001; McFadden, 2004; Bobaljik, 2008; Levin, 2015, a.o.). Non-specific themes in differential object marking (DOM) languages, for instance,

are morphologically caseless, as shown in (10b) from Turkish. Recent work has argued that non-specific objects in DOM languages are not assigned abstract Case at all (Massam, 2001; Danon, 2006; Preminger, 2014; Lyutikova & Pereltsvaig, 2013, a.o.). Thus many languages tolerate Caseless nominals. From the perspective of the current approach, non-specific objects are abstractly licensed but not assigned Case.

- (10) a. Ali bir kitab-ı aldı.
 Ali.NOM one book-ACC bought
 ‘Ali bought a certain book.’
 b. Ali bir kitap aldı.
 Ali.NOM one book bought
 ‘Ali bought some book or other.’ (Enç, 1991, 5)

On the other hand, languages exhibit restrictions on arguments even when Case is clearly assigned. This is seen, for instance, in the Person-Case Constraint (PCC) in Catalan, where a third person direct object clitic can co-occur with a first person indirect object clitic (11a), but not the other way around (11b). Nominals therefore require additional licensing that is not satisfied by Case assignment.

- (11) a. El director, me l’-ha recomanat la Mireia.
 the director 1SG 3SG.ACC-has recommended the Mireia
 ‘As for the director, Mireia has recommended him to me.’
 b. *A-l director, me li ha recomanat la Mireia.
 to-the director 1SG 3SG.DAT has recommended the Mireia
 ‘As for the director, Mireia has recommended me to him.’ (Bonet, 2008)

It has also been shown that abstract licensing constrains derivations in languages completely lacking morphological case (van der Wal, 2015; Sheehan & van der Wal, 2018). Thus Case is neither necessary nor sufficient to account for the syntactic distribution of nominals. Rather, DOM and PCC effects suggest that nominal licensing is driven by the need to check φ -features (Danon, 2006;

Rezac, 2011; Kalin, 2019, a.o.), which I assume include person, number and gender as well as animacy and specificity specifications (see Kalin, 2019). Sigurðsson (2012) thus proposes that an account of nominal licensing can be broken down into a number of different relations: thematic licensing, φ -licensing and Case assignment. I assume that thematic role assignment and abstract φ -licensing are universal requirements of languages, while Case assignment is language-specific. By focusing on nominal licensing, we will be able to see how arguments in ergative languages, nominative–accusative languages and symmetrical voice languages behave in much the same way, despite their different Case patterns.

I assume that all (finite) clauses have one obligatory nominal licenser (Levin & Massam, 1985; Bobaljik, 1993; Rezac, 2011; Kalin, 2018) and propose that this head is Voice. Voice also defines the licensing domain of the clause (Legate, 2014), such that all nominals must be licensed within VoiceP. I argue that this domain-delimiting status is not an inherent property of the Voice head (cf. Wood & Marantz, 2017) but only arises when it is the thematic head that is most local to T. This is evidenced by the fact that Voice without T, as in gerunds, do not have the same licensing properties as Voice under T. Similarly, embedded VoicePs in causatives do not exhibit the same behaviour as the highest VoiceP. Rather than distinguish embedded Voice and non-embedded Voice in the lexicon, as Legate (2014) does, I propose that the status of non-embedded Voice as the licensing domain head derives simply from the fact that it is the highest thematic head under T. More precisely, then, it is *Voice under T* which is an obligatory nominal licenser and defines the licensing domain of the clause, such that all nominals must be licensed within the highest VoiceP.

This means that the inventory of nominal licensing heads across languages are limited to those that merge within VoiceP. I propose that the inventory of nominal licensing heads in a language are a subset of the inventory of the thematic heads of the language. For example, if a language has Voice, HighAppl, LowAppl and *v* as thematic heads, it may have anywhere between one (just Voice) to all four of these heads available as nominal licensers. Fewer nominal licensers result in fewer arguments in the clause, since in general, each nominal licensing head can only

license one argument. Voice under T, however, is special in being able to license two arguments: its external argument and the highest argument it c-commands that has not already been licensed, such as a theme or applied argument. Because of its ability to license one or two arguments, Voice under T is the locus of transitivity alternations, such as the Agent Voice ~ Patient Voice alternation in Philippine-type voice languages and the ergative ~ antipassive alternation in ergative languages, and is also responsible for assigning ergative and accusative Case (Legate, 2014).

Another series of claims to be made in the dissertation pertains to the representation of events in the syntax. Following Irwin & Kastner (2019), I assume that events are introduced by lexical roots, which are verbalised by adjunction to a syntactic categorising head *v* (Marantz, 1997). I argue that events define thematic domains, so that the addition of an event means the addition of a new thematic domain. I demonstrate this using evidence from causative constructions, which languages can form in one of two ways, via (i) the addition of an external argument (Alexiadou et al., 2006, 2015; Schäfer, 2008; Nie, 2020), or (ii) the addition of a causing event (i.e. a causative root) into the syntax (Harley, 1995, 2013; Cuervo, 2003; Folli & Harley, 2005; Pylkkänen, 2008; Legate, 2014). In line with what I call the principle of Thematic Uniqueness, where a thematic role can only be assigned to one argument (Fillmore, 1968; Perlmutter & Postal, 1977; Chomsky, 1981), languages which only add an external argument in causatives permit one causee per clause. By contrast, languages which add events allow as many causees as there are events in the clause. Thematic Uniqueness therefore seems to hold within *events* as opposed to clauses. Consequently, languages with event recursion may also allow greater external argument recursion, modulo the availability of nominal licensing in the clause.

A final contribution of this dissertation is its analysis of the argument structure of Tagalog. I show that the symmetrical voice system of Tagalog can be better understood within the proposed theory of Voice and nominal licensing. I argue that Tagalog has non-licensing applicative heads, which explains the lack of recursion and other syntactic and morphological properties of applicative constructions in the language. I also provide the first detailed empirical presentation

and analysis of Tagalog causatives, showing that they involve added external arguments rather than events.

1.3 Overview of dissertation

1.3.1 Chapter 2: Voice and v

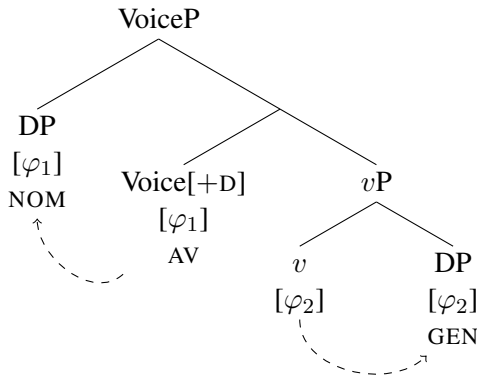
I start by providing a framework for understanding transitivity phenomena cross-linguistically. I distinguish the verbal projection *v*, associated with the event, from Voice, associated with external argument introduction and syntactic transitivity (Marantz, 1997; Pytkänen, 2002, 2008; Cuervo, 2003; Alexiadou et al., 2006, 2015; Schäfer, 2008; Harley, 2013, 2017; Legate, 2014). Verb roots adjoin to the *v* head (Harley & Noyer, 1999; Harley, 2014), which mediates the introduction and licensing of the theme. Verb roots may select for one of three lexical variants of Voice (+D, −D or \emptyset), which differ in their argument introduction properties (Kastner, 2016, 2018). Some roots are compatible with more than one variant of Voice, giving rise to valency alternations such as the causative–anticausative alternation.

Many languages also exhibit alternations based on nominal licensing rather than valency. In Tagalog, transitive verbs display morphology tracking the grammatical relation of the most prominent argument of the clause, which is interpreted as specific and assigned nominative Case. Agent Voice marking appears on the verb when the external argument is prominent (12a), while Patient Voice marking is triggered when the internal argument is prominent (12b).

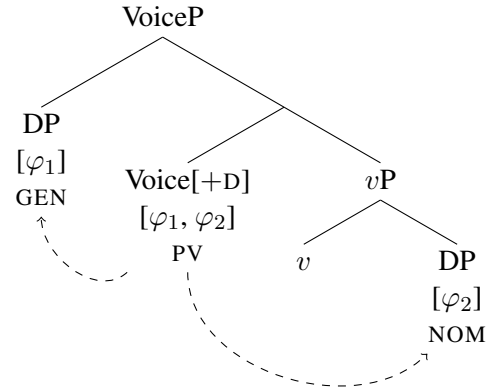
- (12) a. **Nag**-sulat [ang guro] [ng liham].
AV.PAG.PFV-write NOM teacher GEN letter
 ‘The teacher wrote a letter.’ Voice[+D], Agent Voice
- b. S<in>ulat-Ø [ng guro] [ang liham].
 <PFV>write-**PV** GEN teacher NOM letter
 ‘A/the teacher wrote the letter.’ Voice[+D], Patient Voice

I propose that such alternations are cross-linguistically the result of differences in nominal licensing via φ -agreement. In the Agent Voice, v licenses the theme while Voice licenses the agent; Voice ends up with one set of φ -features (13). In the Patient Voice, Voice licenses both arguments and therefore ends up with two sets of φ -features (14).

(13) Agent Voice



(14) Patient Voice



I argue that ergative languages and nominative–accusative languages also utilise these two basic licensing configurations. The configuration in (13) gives rise to antipassive constructions, as well as constructions with non-specific themes in differential object marking languages. The configuration in (14), where Voice acquires two bundles of φ -features, gives rise to “dependent” Case and agreement phenomena (Marantz, 1991): ergative Case is assigned upwards by Voice with two bundles of φ -features, while accusative Case is assigned downwards.

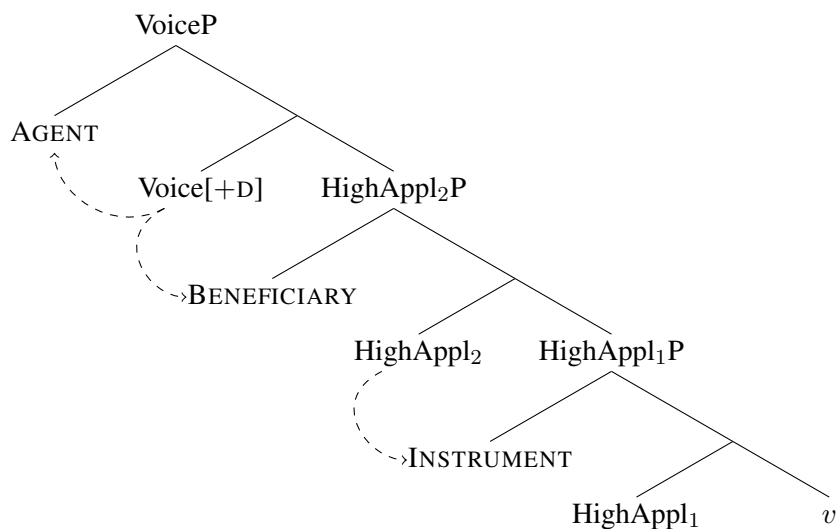
1.3.2 Chapter 3: Applicatives

Next I turn to applicatives, focusing on languages with overt applicative morphology on the verb. Some languages, such as Kinyarwanda and Xhosa, allow stacking or recursion of multiple applicatives in a single clause; however, most languages do not. I argue that the availability of applicative recursion is not a basic syntactic parameter across languages but is a consequence of differences in

nominal licensing, namely whether the applicative heads in a given language are nominal licensors. I propose that languages in which Appl is a nominal licensor will allow applicative recursion. Conversely, languages in which Appl is not a nominal licensor will not allow applicative recursion.

The licensing properties of a recursive applicative language is illustrated in (15) for the derivation of an unergative predicate with two high applicatives, here a beneficiary and an instrument. Voice, being able to license its external argument and the highest argument it c-commands, licenses the agent and the higher of the two applied arguments. Voice licenses downwards to the applied argument much like it does with themes in simple transitive clauses. HighAppl₂ is a nominal licensor and thus licenses the lower applied argument.

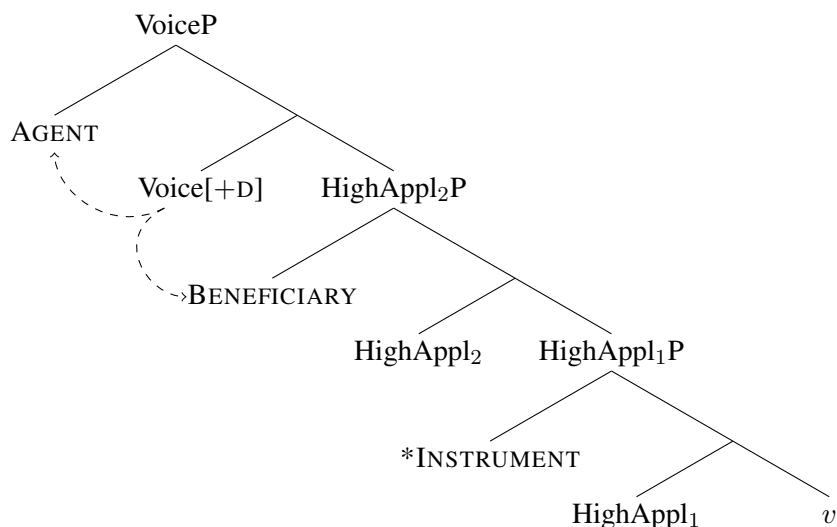
(15) Recursive applicative language



Because the Appl heads are nominal licensors in this structure, all applied arguments that are introduced receive licensing, deriving the possibility of applicative recursion.

In languages in which applicative heads are not nominal licensors, by contrast, the higher applied argument may be licensed by Voice, but the lower applied argument remains unlicensed. This is shown in (16).

(16) Non-recursive applicative language



Since Appl heads are not licensers in non-recursive languages, applied arguments introduced into the structure have to compete for licensing by Voice. However, Voice only licenses the most local argument c-commands; thus the single locus of applicative licensing in non-recursive languages is derived.

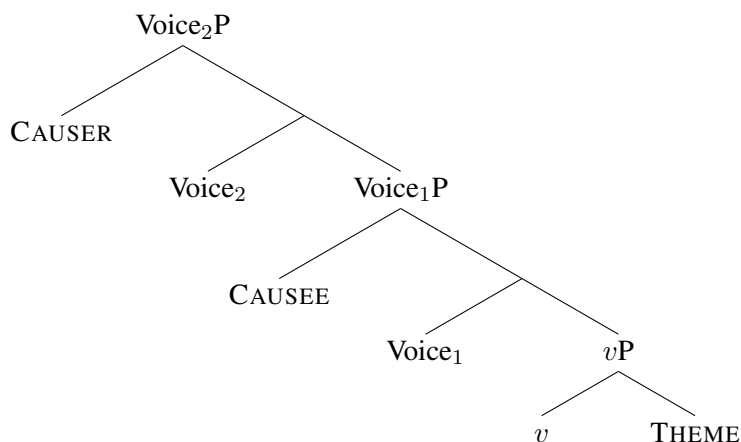
In many languages, the applied argument is not licensed in situ and must raise into a derived position just below Voice, sometimes called a “raising applicative” position (Collins & Thráinsson, 1996; Baker & Collins, 2006; Georgala et al., 2008; Georgala, 2012; Paul & Whitman, 2010; Deal, 2013; Massam, 2015; Nie, 2019). I show that movement to this position derives a number of apparently unrelated phenomena: symmetric applicative constructions commonly found in Bantu languages, applicative “voice” marking in Tagalog and cross-linguistic variation in how applicatives and causatives may combine. I also demonstrate how nominal licensing factors can conspire to create templatic effects such as rigid Causative-Applicative morpheme order found in many Bantu languages (Hyman, 2003).

1.3.3 Chapter 4: Causatives

In Chapter 4, I discuss the argument structure and event structure of causatives. I argue that productive affixal causatives may be built in one of two ways cross-linguistically: via (i) the addition of a causer argument introduced by Voice (Nash, 2017; Nie, 2017a, 2020; Sigurðsson & Wood, 2020; Akkuş, accepted) or (ii) the addition of a causing event introduced by a verbalised causative root (Harley, 1995, 2013; Cuervo, 2003; Folli & Harley, 2005; Pylkkänen, 2008; Legate, 2014).

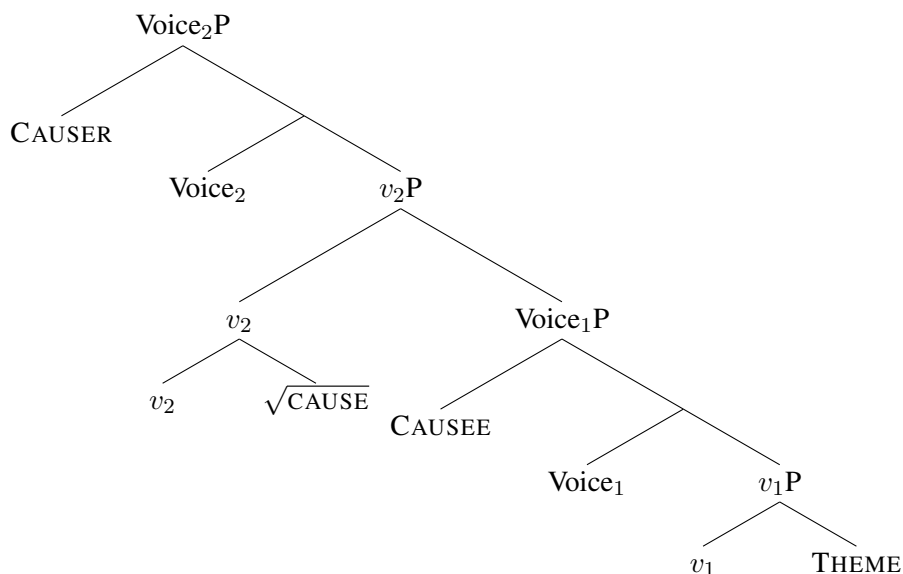
Productive causatives which only involve an added external argument, such as in Tagalog, will be shown to have the same number of events as so-called “lexical” causatives found in causative–anticausative alternations of the English *break* type (Nie, 2020). I refer to these causatives as monocausal causatives. I propose that monocausal causatives involve recursion of VoicePs, as shown in (17). I argue that causatives *always* embed VoiceP and need not vary arbitrarily in the size of their embedded complement (VoiceP vs *v*P), as Pylkkänen (2008) suggests. Rather, the syntactic differences between causative types derive from independent properties of the lexical flavours of Voice (+D, −D or \emptyset) and nominal licensing in the language, which has implications for the syntax and interpretation of the causee.

(17) Monocausal causative



Bicausal causatives such as Japanese *-(s)ase* causatives, by contrast, have an additional argument *and* an additional causing event not found in their lexical causative counterparts. Assuming that the causing event is introduced by a $\sqrt{\text{CAUSE}}$ root adjoined to v , I propose that bicausal causatives involve recursion of v Ps, as shown in (18).

(18) Bicausal causative



The v P-embedding analysis correctly predicts that bicausal causatives allow unlimited recursion of causing events, contra Key (2013). The introduction of multiple events in turn allows the introduction of multiple causees in the structure, indicating that events are what delimit domains of thematic interpretation.

Finally, Chapter 5 concludes with a summary of the dissertation and its contributions.

Chapter 2

Voice and *v*

Since Kratzer (1996), it has been widely accepted that external arguments are not true arguments of a verb itself, but are rather introduced into the syntax by a series of functional heads along the extended projection of the verb (e.g. McGinnis, 2001; Pylkkänen, 2002, 2008; Kim, 2011a; Wood & Marantz, 2017). A significant body of research (Pylkkänen, 2002, 2008; Cuervo, 2003; Alexiadou et al., 2006, 2015; Schäfer, 2008; Harley, 2009, 2013, 2017; Legate, 2014; Wood, 2015) has argued for the distinctness of the functional head Voice (Kratzer, 1996), which introduces the external argument, from the verbal head *v* associated with the lexical root (Marantz, 1997), which introduces the internal argument and determines the kind of eventuality denoted by the resulting predicate (Harley, 1995).

Recent cross-linguistic work has shown that there are three lexical variants of Voice (Kastner, 2016, 2018; Oseki, 2017): (i) [+D], requiring a DP to merge as its specifier, as in transitive predicates; (ii) [−D], prohibiting a specifier, as in unaccusative predicates; and (iii) unspecified Voice, compatible with or without a specifier. In Tagalog Agent Voice constructions, for example, Voice[+D] is restricted to unergative and transitive predicates and is spelled out by *nag-* in the perfective (19a), while Voice[−D] is restricted to unaccusative predicates and is spelled out as *na-* (20a). Voice[∅], which is spelled out as the infix <*um*>, is compatible with any kind of predicate,

as shown in (19b) and (20b). Some roots are compatible with more than one variant of Voice, giving rise to valency alternations.

- (19) a. **Nag**-bagsak [ang guro] [ng mag-aaral].
 AV.PAG.PFV-fall NOM teacher GEN student
 ‘The teacher flunked a student.’ Voice[+D]
- b. B<**um**>agsak [ang mag-aaral].
 <AV.PFV>fall NOM student
 ‘The student flunked.’ Voice[Ø]
- (20) a. **Na**-basag [ang plorera].
 AV.NONVOL-shatter NOM vase
 ‘The vase shattered.’ Voice[−D]
- b. B<**um**>asag [ang bata] [ng plorera].
 <AV.PFV>shatter NOM child GEN vase
 ‘The child shattered a vase.’ Voice[Ø]

The three lexical variants of Voice reflected overtly in verbal morphology determine not only whether an external argument is permitted but assign different thematic interpretations to their external argument, if any (Kastner, 2016, 2018, also Oseki 2017).

Many languages additionally exhibit overt morphological distinctions based on nominal licensing. In Tagalog, transitive verbs display so-called “voice morphology” tracking the grammatical relation of the most discourse prominent argument of the clause (Schachter & Otones, 1972; Schachter, 1976; Foley & van Valin Jr, 1984, a.o.), which is interpreted as specific and assigned nominative Case. Agent Voice marking appears on the verb when the external argument is prominent, as in (21a). Patient Voice marking appears when the internal argument is prominent, as in (21b). The non-nominative argument in these examples receives genitive Case

- (21) a. **Nag**-bagsak [ang guro] [ng mag-aaral].
 AV.PAG.PFV-fall NOM teacher GEN student
 ‘The teacher flunked a student.’ Voice[+D], Agent Voice

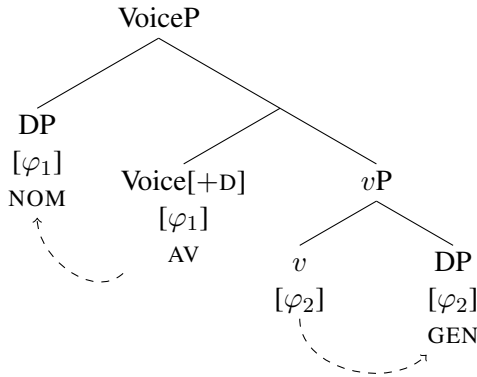
- b. B<in>agsak-Ø [ng guro] [ang mag-aaral].
 <PFV>fall-**PV** GEN teacher NOM student
 ‘A/the teacher flunked the student.’

Voice[+D], Patient Voice

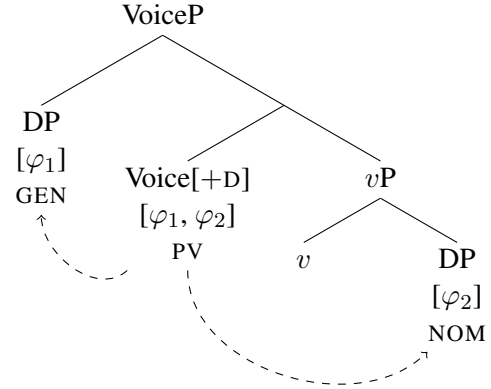
While both constructions in (21) are semantically transitive, Patient Voice clauses are considered “syntactically transitive,” and Agent Voice clauses “syntactically intransitive.”

In this chapter, I argue that Voice is the locus of syntactic transitivity alternations cross-linguistically (Legate, 2014). Voice alternations such as those in Tagalog are the result of the interaction between Voice and nominal licensing via φ -agreement. Agent Voice is spelled out when Voice only licenses and acquires the φ -features of one argument, the agent in (22); v licenses the theme. Patient Voice is spelled out when Voice licenses and acquires the φ -features of two arguments, both the agent and the theme in (23).

(22) Agent Voice



(23) Patient Voice



I demonstrate that these two configurations derive a number of core transitivity alternations across languages. Constructions that are traditionally considered syntactically intransitive, such as Agent Voice or antipassive constructions, have the configuration in (22), where Voice has a single set of φ -features. Syntactically transitive constructions, such as Patient Voice or ergative construction, have the configuration in (23) involving Voice with two sets of φ -features (Deal, 2010). Following Legate (2014), I propose that Voice with two sets of φ -features is responsible for ergative

Case/agreement in ergative languages as well as Burzio’s (1986) Generalisation in nominative–accusative languages; Voice thus assigns a so-called “dependent” Case (Marantz, 1991) if it bears two sets of φ -features.

Voice is therefore associated with both the introduction of external arguments and with nominal licensing. In this chapter, I develop a theory of the interaction of these two properties, resulting in an expanded system of Voice, varying along two dimensions: (i) external argument introduction, which is lexically specified on Voice, and (ii) the presence of φ -features, which are derived in the syntax via nominal licensing. I lay out my assumptions about the syntactic and semantic properties of v in Section 2.1, before turning to the proposed typology of Voice in Section 2.2. I show how this typology applies to Tagalog voice morphology in Section 2.3, morphologically ergative languages in Section 2.4 and nominative–accusative languages with differential object marking in Section 2.5.

2.1 Properties of v

In Distributed Morphology (Halle & Marantz, 1993), verbs are composed of an acategorical root adjoined to a syntactic categorising head v (Marantz, 1997; Harley & Noyer, 1999; Harley, 2014). I assume that while roots lack a syntactic category, they are semantically specified for whether they obligatorily take an internal argument (see also Marantz, 2013; Coon, 2019; Irwin & Kastner, 2019). Transitive and unaccusative roots would thus have denotations which take a theme as an argument, as in (24) and (25), respectively, while unergative roots would have denotations as in (26).¹

$$(24) \quad \llbracket \sqrt{\text{hit}} \rrbracket = \lambda x \lambda e. \text{hit}(e) \ \& \ \text{THEME}(x, e)$$

¹Thus while roots lack a syntactic category, they are specified for one of (at least) two semantic types (Levinson, 2007, 2014; Irwin & Kastner, 2019): (i) $\langle e, \langle s, t \rangle \rangle$, which specifies for an obligatory internal argument, as in transitives and unaccusatives; or (ii) $\langle s, t \rangle$, which does not, as in unergatives. The variable e ranges over individuals, s ranges over eventualities and t ranges over truth values.

$$(25) \quad \llbracket \sqrt{\text{arrive}} \rrbracket = \lambda x \lambda e. \text{arrive}(e) \ \& \ \text{THEME}(x, e)$$

$$(26) \quad \llbracket \sqrt{\text{jump}} \rrbracket = \lambda e. \text{jump}(e)$$

We know, however, that some verbs can appear with or without an object in the syntax; unergative roots, for example, can take cognate objects, and verbs of ingestion such as *eat* and explicit creation verbs such as *bake* and *cook* may occur with or without the created object. Irwin & Kastner (2019) thus propose that there are two lexical variants of the verbal categorising head to which roots adjoin: one which adds an internal argument (27a) and one which does not (27b).

(27) Denotations for *v*:

$$\text{a. } \llbracket v_{\text{TR}} \rrbracket = \lambda x \lambda e. \text{THEME}(x, e)$$

$$\text{b. } \llbracket v \rrbracket = \lambda P_{\langle s, t \rangle}. P$$

As a result, Irwin & Kastner (2019, 12) point out, “there may be more than one reason for the [semantic] transitivity of a verb phrase. In other words, a *vP* might be transitive because it is built from a root that requires an argument ... [or] because it is built with a verbalizer that requires an argument”. Voice then merges with *vP* and may add an external argument to the structure, depending on the flavour of Voice, as we will see in Section 2.2.

In this system, the verb root itself introduces a variable which ranges over eventualities, including both states and dynamic events; unless otherwise specified, the term “event” will be used to refer to any kind of eventuality. I assume that event variables are generally only introduced into the syntax by roots (Levinson, 2007, 2014; Irwin & Kastner, 2019); the categoriser *v* has a purely syntactic function and no semantic content (Borer, 2005). This contrasts with Harley (1995), who proposes the existence of several lexical “flavours” of little *v*, which introduce event variables that determine the type of eventuality denoted by the predicate. I suggest that apparent verbal flavours arise due to the lexical semantics of the root adjoined to *v*, not *v* itself. This is evidenced by light verb constructions, such as *take a shower* or *take a hike* in English, and especially in Persian (Mohammad & Karimi, 1992; Folli et al., 2005), where the non-verbal root supplies the event.

Apart from roots, however, eventualities may have one additional source: themes of change of state predicates (Marantz, 2013; Wood & Marantz, 2017). Change of state predicates such as *open* can be decomposed into two eventualities: a result state and a dynamic event which brings that state about (Jackendoff, 1972; Dowty, 1979; Parsons, 1990b; Levin & Rappaport Hovav, 1994, a.o.). This can be demonstrated using *again*-attachment, which diagnoses event decomposition in the syntax (McCawley, 1986; Dowty, 1979; von Stechow, 1996). Change of state predicates with *again* are ambiguous between two readings, as illustrated in (28). In (28a), *again* scopes over just the result state, which presupposes only that the door was previously in a state of being open. In (28b), *again* scopes over both the dynamic event and the result state, which presupposes that the door has previously undergone a dynamic event of opening. The interpretation of (28b) entails that of (28a), indicating that the result state is introduced lower in the structure than the dynamic event.

(28) The door opened again.

a. EVENT > *again* > STATE

Context: The door was open when Luz arrived at the office. She shut the door, but a few minutes later the wind blew it open.

b. *again* > EVENT > STATE

Context: The door was shut when Luz arrived at the office. She opened the door and then closed it after she left the office. A few minutes later the wind blew the door open.

Thus *again*-attachment diagnoses the presence of two eventualities in change of state predicates. I assume that the dynamic event is introduced by the root adjoined to *v*, and *again* is able to attach above or below the *v* and root complex (Marantz, 2013). As noted above, the result state must somehow be introduced lower in the structure than the dynamic event. I adopt the proposal in Wood & Marantz (2017, 271) that a semantic “coercion rule [applies at LF] such that the internal argument of a change of state is interpreted as a result state,” and the *v* and root complex provides the predicate for this state; the interested reader is referred to their paper for a technical implemen-

tation of this coercion rule. The crucial assumption here is that the change of state theme provides an additional source of a stative eventuality.²

With the exception of the result state found in change of state predicates, then, events are only introduced by roots. This predicts that constructions which share a single root, as in the English causative–anticausative alternation in (29), should also have the same event structure. As many have noted (von Stechow, 1996; Higginbotham, 1997; Alexiadou et al., 2006, 2015; Ramchand, 2008; Schäfer, 2008), this prediction is borne out: causatives in English encode the same number of events as their anticausative counterparts, contra predicate decomposition approaches, which would expect an additional causing event (Jackendoff, 1972; Levin & Rappaport Hovav, 1994, a.o.). This point is elaborated upon in Chapter 4.1.

- (29) a. The door opened.
b. Luz opened the door.

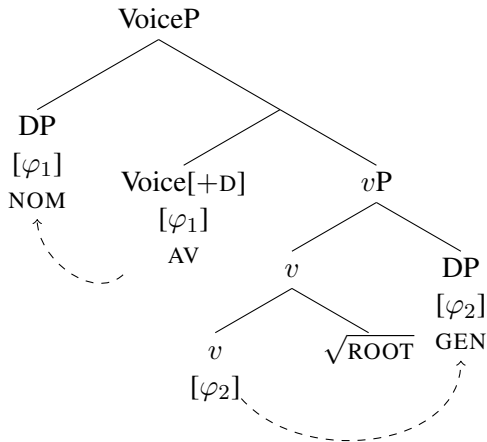
Conversely, complex predicates with more than one event are predicted to involve more than one root merged in the syntax. Bicausal causatives of the ‘X cause Y to do Z’ type, for example, encode two events: a causing event and a caused event. Under the assumption that roots introduce events, bicausal causatives must therefore have two roots (and their accompanying *v* categorisers): $\sqrt{\text{CAUSE}}$ or another similar root, depending on the language, which introduces the causing event, and another lexical root which introduces the caused event. Causatives are the focus of Chapter 4, where I also provide evidence that the extended projection of a *v* and root complex defines both an event domain and a thematic domain.

I have so far shown that the *v* and root complex is responsible for the introduction and interpretation of the theme in transitive and unaccusative predicates. I propose that the *v* complex is also a nominal licenser in many languages and may also assign Case to the theme. For example,

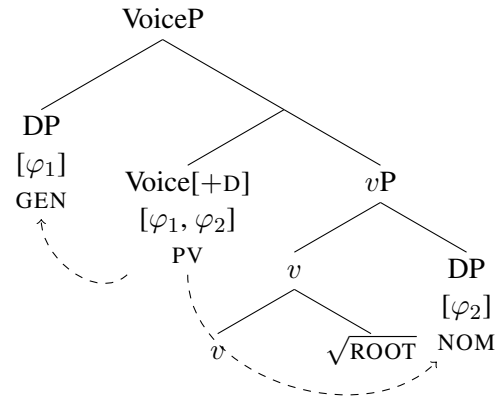
²Similarly, in Ramchand (2008), themes of change of state predicates are introduced by Res(ult)Ps.

in Agent Voice transitives in Tagalog, *v* licenses the theme via φ -agreement and assigns it genitive Case; this is sketched in (30).

(30) Agent Voice



(31) Patient Voice



Recall that Agent Voice themes, which are marked genitive, have a non-specific interpretation. Interestingly, genitive Case in Tagalog and other Austronesian languages appears in a wide range of syntactic positions and is often considered a kind of unmarked Case (Donohue & Donohue, 2010; Erlewine et al., 2017). Agent Voice themes in Tagalog thus display many parallels to non-specific themes in languages with differential object marking (DOM), which also tend to be morphologically unmarked. In this chapter, I will argue that Agent Voice themes, antipassive themes in ergative languages, and non-specific themes in DOM languages—nominals that are low in specificity and animacy (e.g. Silverstein, 1976)—are all licensed by *v*.

By contrast, themes that are high on the specificity and animacy hierarchy are licensed by Voice. This includes themes in the Patient Voice construction in Tagalog, as shown in (31), as well as absolutive themes in ergative languages, and specific DOM themes. Therefore *v* has the ability to license and assign Case, but need not exercise this ability in every derivation. If *v* does not license the theme, then Voice does so instead.

2.2 Properties of Voice

Just as there are lexical variants of *v* which differ in whether the verb introduces an internal argument, so there are lexical variants of Voice which differ in whether they introduce an external argument (Alexiadou et al., 2006, 2015; Schäfer, 2008; Wood, 2015; Kastner, 2016, 2018; Oseki, 2017). Voice also defines the licensing domain of the clause, such that all nominals must be licensed within VoiceP (see also Legate, 2014). I propose that this domain-delimiting status is not an inherent property of the Voice head, but arises because it is the thematic head that is most local to T. Furthermore, unlike other nominal licensing heads, Voice is able to license two arguments: its external argument and the highest argument it c-commands that has not already been licensed, such as a theme or applied argument. Because of its ability to license one or two arguments, Voice is the locus of transitivity alternations, such as the Agent Voice \sim Patient Voice alternation in Philippine-type voice languages and the ergative \sim antipassive alternation in ergative languages, and is also responsible for assigning ergative and accusative Case (Legate, 2014).

In this section, I show how the features of external argument introduction on Voice interact with its nominal licensing properties, with consequences for both overt morphology on the verb and semantic interpretation of arguments. What emerges is an explicit typology of Voice which captures the major distinctions in semantic transitivity (that is, valency) as well as syntactic transitivity across the world's languages.

2.2.1 Trivalent Voice

A growing body of work attributes many properties of semantic transitivity to the featural properties of Voice (Alexiadou et al., 2006, 2015; Schäfer, 2008; Wood, 2015; Kastner, 2016, 2018; Oseki, 2017). Investigations into the verbal morphology of Hebrew (Kastner, 2016, 2018) and Japanese (Oseki, 2017) have indicated the need for three lexical specifications of Voice. Kastner (2016, 2018), for instance, shows that Hebrew verbs in the *heXYiZ* template always have an ex-

ternal argument (32a), while verbs in the *niXYaZ* template never have an external argument (33a). Kastner proposes that the *heXYiZ* template spells out Voice[+D], which requires a DP specifier, and the *niXYaZ* template spells out Voice[−D], which prohibits a specifier.

- (32) a. ha-agronomit **hegdil**-a et ha-jevul
the-agronomist increased-F.SG ACC the-crop
‘The agronomist increased the crops.’ *heXYiZ*, Voice[+D]
- b. ha-jevul **gadal** pi eser
the-crops grew times ten
‘The crops grew tenfold.’ *XaYaZ*, Voice[Ø]
- (33) a. ha-ʃa’ar **niftax**.
the-gate opened from-itself
‘The gate opened.’ *niXYaZ*, Voice[−D]
- b. josi **patax** et ha-ʃa’ar.
Yossi opened ACC the-gate
‘Yossi opened the gate.’ *XaYaZ*, Voice[Ø]
- (Kastner, 2018, 579–580)

The *XaYaZ* template, by contrast, can occur with an external argument (33b) or without one (32b), suggesting that Voice in *XaYaZ* constructions is unspecified for external arguments (see also Doron 2003; Arad 2005; Borer 2013). The patterns of external argument introduction in Hebrew can therefore be captured by positing three featural variants of Voice: [+D], [−D] and unspecified, which I will notate as [Ø]. I assume that roots are able to select for one or more variants of Voice (Harley & Noyer, 2000), although how exactly this happens is not crucial. As shown in the above examples, roots that are compatible with more than one variant of Voice can give rise to valency alternations, i.e. semantic transitivity alternations.

The three lexical variants of Voice reflected overtly in verbal morphology have implications for not only whether an external argument is permitted but also for the thematic interpretation of the external argument (Kastner, 2016, 2018; Oseki, 2017). External arguments in the specifier

of Voice[+D] are always interpreted as the agent of a change of state predicate, while external arguments in the specifier of Voice[\emptyset] may receive a range of interpretations. Voice[−D] prohibits a DP from merging in its specifier, although I will show that it may be compatible with an implicit agent when modified by an agentive $\sqrt{\text{ACTION}}$ root (Kastner, 2017). The inventory of lexical variants of Voice assumed in this dissertation is given in Table 2.1.³

Type	DP in Spec-VoiceP	Semantics
Voice[+D]	Required	$\lambda x \lambda e. \text{Agent}(x, e)$
Voice[−D]	Prohibited	$\lambda P_{\langle s, t \rangle}. P$
Voice[\emptyset]	Unspecified	Underspecified

Table 2.1: Three lexical variants of Voice

(adapted from Kastner, 2018, 579)

I assume that every verb comes with some flavour of Voice. This includes unaccusative predicates, which take a theme but no external argument. Unaccusative predicates are therefore built with Voice[−D] or Voice[\emptyset], as shown in (34). I refer to these two flavours collectively as non-active variants of Voice. In these and subsequent trees I abbreviate the *v* and root complex as just *v* for simplicity.

(34) Unaccusative predicates take Voice[−D] or Voice[\emptyset]



³In Hebrew and Japanese, the external argument of Voice[+D] may be an inanimate causer rather than an animate agent. Kastner (2018) therefore provides the following denotation: $\llbracket \text{Voice}[+D] \rrbracket = \lambda x \lambda e. \text{Cause}(x, e)$, and suggests that variants of Voice in Hebrew may further be modified by an $\sqrt{\text{ACTION}}$ root, which entails that the external argument is an animate agent. The precise semantic restrictions on the specifier of Voice[+D] may be a point of variation across languages; as I show in Section 5.2, the external argument of Voice[+D] in Tagalog is obligatorily an animate agent.

By contrast, Alexiadou et al. (2015) suggest that unaccusatives do not have a Voice layer and only consist of a *v*P. The lack of Voice in unaccusatives is intended to capture the contrast between passives, which have Voice and therefore allow an implicit agent, and unaccusatives, which do not. Their approach predicts that verbs with dedicated unaccusative morphology such as the Hebrew *niXYaZ* template in (33a) should never be compatible with a passive-like interpretation. However, this prediction is not borne out. In Tagalog, for instance, roots involving external causation have an implicit agent in their Voice[−D] form. The presence of an implicit agent is diagnosed by its incompatibility with the non-assistive adverbial *nang mag-isa* ‘by itself’ in (35b) (Levin & Rappaport Hovav, 1995).

- (35) a. **Na-tunaw** [ang ice cream ng bata] nang mag-isa.
 NONVOL.PFV-melt NOM ice cream GEN child by.itself
 ‘The child’s ice cream melted of its own accord.’
- b. **Na-gupit** [ang buhok ng bata] (*nang mag-isa).
 NONVOL.PFV-snip NOM hair GEN child by.itself
 ‘The child’s hair got cut (*of its own accord).’

Following Kastner (2017), I assume that an agentive root $\sqrt{\text{ACTION}}$ can adjoin to Voice[−D] and impose the semantic requirement of an agentive external argument. However, because Voice[−D] syntactically prohibits a specifier, the external argument cannot be syntactically represented. The combination of Voice[−D] and $\sqrt{\text{ACTION}}$ thus gives rise to an implicit reading; I assume that the agent thematic role is existentially closed. While the $\sqrt{\text{ACTION}}$ root appears to be null in Tagalog, it is realised overtly in Hebrew as what is known as the “intensive middle” template when combined with Voice[−D] (Kastner, 2017).

Unergative predicates are in principle compatible with Voice[+D] or Voice[∅], both of which allow a DP specifier (36). In Hebrew, unergatives can appear with morphology associated with either variant (Kastner, 2018). In Section 2.3.1 I show that this is also true of Tagalog.⁴

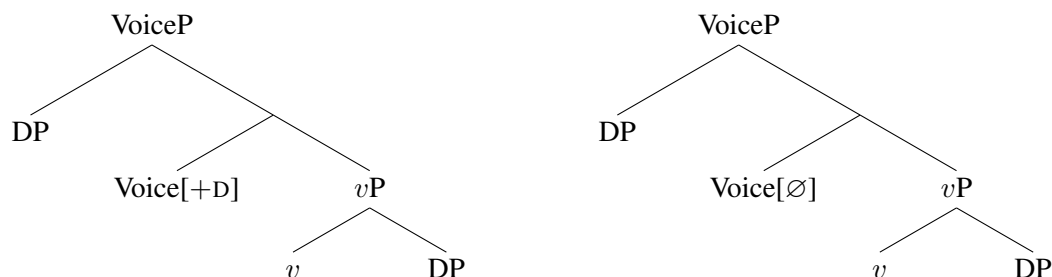
⁴There does seem to be some cross-linguistic variation in the encoding of unergatives. Oseki (2017) shows that unergatives in Japanese may only surface with Voice[∅] morphology and not Voice[+D]. Voice[+D] is reserved

(36) Unergative predicates take Voice[\emptyset] or Voice[+D]



Transitive predicates can take Voice[+D] or Voice[\emptyset], since both allow external arguments, as shown in (37).

(37) Transitive predicates take Voice[+D] or Voice[\emptyset]



In sum, we have seen evidence that languages can exhibit a three-way morphological distinction on verbs that correspond to different properties of external argument introduction. Voice[+D] requires a DP to merge as its specifier, as in transitive predicates. Voice[−D] prohibits a specifier, as in unaccusative predicates. Voice[\emptyset] is compatible with any argument structure configuration. This inventory of Voice heads are distinguished in the lexicon and, in conjunction with *v*, govern the semantic transitivity of predicates.

2.2.2 Licensing and transitivity

The aim of this chapter to is connect the above work developed on semantic transitivity to the vast literature on syntactic transitivity. Many languages exhibit verbal alternations based on the

exclusively for transitive predicates, usually those characterised as causative. What makes the Japanese Voice[+D] different from that of Hebrew and Tagalog would be an interesting topic for further research.

syntactic transitivity of the clause. In Halkomelem (Salish; British Columbia, Canada), for example, transitive predicates can be either marked by the transitive suffix *-t* and an ergative agreement marker (38b) or expressed in an antipassive construction where the verb is marked by the antipassive suffix *-əm* and the theme is demoted to an oblique (38c).

(38) Halkomelem

a. niʔ ʔiməʃ tθə swiwləs.

AUX walk DET boy

‘The boy walked.’

(Gerdts, 2004, 769)

b. niʔ qʷəl-t-əs θə sʔeniʔ tθə səplil.

AUX bake-TR-3ERG DET woman DET bread

‘The woman baked the bread.’

c. niʔ qʷəl-əm θə sʔeniʔ ʔə tθə səplil.

AUX bake-ANTIP DET woman OBL DET bread

‘The woman baked the bread.’

(Gerdts, 1980, 300)

This difference in verbal morphology and case marking between (38b) and (38c) cannot be due to a contrast in their semantic transitivity, since the same predicate with the same number and kinds of participant roles are involved. Antipassive constructions are frequently characterised as being syntactically intransitive; however this cannot be strictly true, given that truly intransitive predicates receive no valency marking on the verb in Halkomelem (38a). This suggests that transitive and antipassive clauses in Halkomelem involve the same lexical Voice head, either Voice[+D] or Voice[Ø], depending on the predicate. I will propose that the two constructions differ in their licensing properties, particularly in the licensing of the object (Bok-Bennema, 1991; Bittner, 1994; Aldridge, 2004, 2012; Woolford, 2006; Legate, 2008; Deal, 2010; Spreng, 2012).

Eastern Canadian Inuktitut (Eskimo-Aleut) displays a similar contrast between a canonical transitive clause and an antipassive. In the transitive construction in (39a), both the ergative agent and the absolutive patient trigger agreement on the verb. In the antipassive construction in (39b), the patient can be implicit or oblique, and only the absolutive agent controls agreement on the

verb. As shown by the translation in (39b), antipassives are often interpreted as imperfective, with non-specific objects (Bok-Bennema, 1991; Bittner, 1994; Spreng, 2012).

(39) Inuktitut

- a. anguti-up arnaq kunik-taa.
man-ERG woman.ABS kiss-PART.3SG/3SG
'The man kissed the woman.'

- b. anguti kunik-si-vuq (arna-mik).
man.ABS kiss-ANTIP-IND.3SG woman-OBL
'The man is kissing someone/a woman.'

(Spreng, 2012, 13)

While antipassive objects obligatorily take narrow scope in some Inuit languages such as Kalaallisut (Bittner, 1994), Yuan (2018) shows that antipassive objects in Inuktitut can take wide scope.

(40) Inuktitut []

- marruuk surusiit niri-qqau-jut pingasu-nit sivalaar-nit.
two.ABS child.PL.ABS eat(.ANTIP)-REC.PST-3PL three-PL.OBL cookie-PL.OBL
'Two children ate three cookies.'

Available interpretations: Surface scope ($2 > 3$) or inverse scope ($3 > 2$) (Yuan, 2018, 69)

Beach (2003) also shows that the floating quantifier *atuniit* 'each', which has been noted to take obligatorily wide scope cross-linguistically (Beghelli & Stowell, 1997), can be construed with either a transitive theme (41a) or an antipassive theme (41b). He also demonstrates that *atuniit* can similarly be construed with either an ergative agent or an antipassive agent.

(41) Inuktitut

- a. arna-up anguti-it taku-laur-ta-ngit atuniit.
woman-ERG man-PL.ABS see-PST-IND-3SG/3PL each
'The woman saw each of the men.'

- b. arnaq anguti-nik taku-laur-tuq atuniit.
woman.ABS man-PL.OBL see-PST-IND.3SG each
'The woman saw each of the men.'

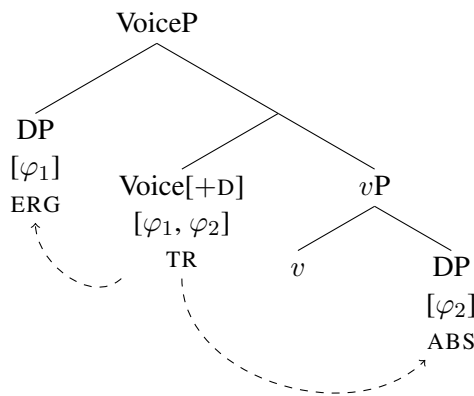
(Beach, 2003, 8)

This indicates that arguments in ergative constructions and those in antipassive constructions occupy in the same structural positions (Yuan, 2018).

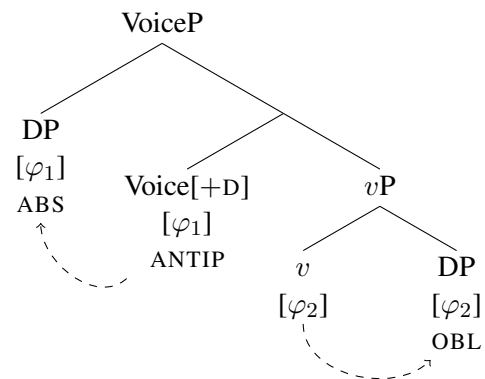
I propose that the ergative \sim antipassive alternation and other syntactic transitivity alternations result from differences in the nominal licensing behaviour of Voice. All nominals bear φ -features that must be checked in the syntax via φ -agreement with a nominal licensing head (Chomsky, 2000, 2001). Voice can license one or two arguments via φ -agreement, resulting in two possible syntactic configurations for the same semantically transitive predicate.

In the ergative construction, illustrated in (42), the theme is not licensed by v and must be licensed by a higher head in order for the derivation to converge. Voice probes downwards and licenses the theme via φ -agreement, copying its φ -features and assigning it absolutive Case. Voice then introduces and licenses its specifier and ends up with two sets of φ -features. I propose that Voice with two sets of φ -features is able to assign ergative Case to its specifier. In Inuktitut, which has overt agreement morphology, Voice with two bundles of φ -features is spelled out with a portmanteau subject and object agreement morpheme. In languages with transitivity morphology like Halkomelem, the two bundles of φ -features are spelled out by the transitive marker.

(42) Ergative construction



(43) Antipassive construction



In the antipassive, illustrated in (43), the theme is licensed by v , which copies its φ -features and assigns it oblique Case; similar proposals have been previously made for Inuit languages (Bok-

Bennema, 1991; Bittner, 1994; Spreng, 2012). The Activity Condition (Chomsky, 2000, 2001) renders the theme inactive for further probing. Voice[+D] thus only licenses its specifier and ends up with a single bundle of φ -features. Voice[+D] with a single set of φ -features is spelled out by the antipassive marker in Inuktitut and Halkomelem, as well as subject agreement in Inuktitut. Thus the transitive and antipassive involve the same set of functional heads but are distinguished by differences in nominal licensing. Furthermore, neither construction is derived from the other (Maclachlan, 1996).

My approach differs from some previous analyses of the ergative \sim antipassive alternation in having Voice license and assign Case to both arguments, instead of a higher projection in the clause, such as T or C. However, recent work has also argued for ‘low’ licensing in at least some ergative languages (e.g. Legate, 2008; Coon, 2013). Following Legate (2014), I assume that Voice delimits a cyclic syntactic domain as in Chomsky (2000) and determines the syntactic transitivity of the clause. I propose that Voice under T is an obligatory licenser and that all nominals must be licensed within VoiceP; Voice thus defines the licensing domain of the clause. This domain-delimiting status is not an inherent property of the Voice head, as suggested by Wood & Marantz (2017), but only arises when Voice is the highest thematic head in the clause and therefore is able to inherit features of licensing and subjecthood commonly attributed to T or C (see Legate, 2005).⁵ This is evidenced by the fact that Voice without local T, found for example in gerunds, have limited licensing abilities compared to Voice under T (Hsieh & Nie, 2020). Similarly, embedded VoicePs in causatives do not exhibit the same behaviour of the highest VoiceP, as I will show in Chapter 4. Rather than distinguish embedded Voice and non-embedded Voice in the lexicon, as Legate (2014) does, I propose that the status of non-embedded Voice as the licensing domain head derives simply from the fact that it is the highest thematic head under T. More precisely, then, it is *Voice under T* which defines the licensing domain of the clause, such that all nominals must be licensed within the highest VoiceP.

⁵This may be parameterised to finite T in some languages (Legate, 2008).

I have also assumed that while all other nominal licensers can only license one argument, Voice under T is able to license two arguments: its external argument and, optionally, an argument it c-commands. Syntactic transitivity alternations arise as a consequence of the ability of Voice to license either one or two arguments. By identifying these alternations as a consequence of nominal licensing, my proposal derives the distinction between the transitive ergative and antipassive constructions solely by abstract agreement relations in the syntax. We do not have to posit a dedicated antipassive Voice or *v* head in the lexicon, as suggested by e.g. Aldridge (2004, 2012) and Coon (2019). This is an important advantage because the antipassive crucially alternates with the transitive. That is, only verbs that have a transitive form—say, with Voice[+D]—can also have an antipassive form. This is expected if the antipassive also employs Voice[+D]. If, on the other hand, antipassive was an additional flavour of Voice, then we might expect it to participate in any number of arbitrary alternations across languages, for instance with intransitive Voice[−D], such that only predicates that have an unaccusative form will also have an antipassive form. This possibility is unattested, as far as I am aware.

The trivalent Voice system adopted here also predicts that languages may have more than one kind of antipassive, or another semantically transitive but syntactically intransitive construction. As noted in Section 2.2.1, transitive predicates may take either Voice[+D] or Voice[∅], which are distinguished overtly in a language with voice morphology. If antipassives are simply transitive predicates with oblique licensing of the object, then we would expect some languages to similarly distinguish antipassives with Voice[+D] and those with Voice[∅]. This prediction will be shown to be correct for Tagalog, Halkomelem and Inuktitut.

Having established the basic system of functional heads and their argument introduction and nominal licensing properties, I show in the rest of the chapter how this system derives the properties of Tagalog voice morphology (Section 2.3) and ergative languages (Section 2.4). I also demonstrate how this analysis can be extended to nominative–accusative languages with different object marking (Section 2.5).

2.3 Tagalog voice morphology

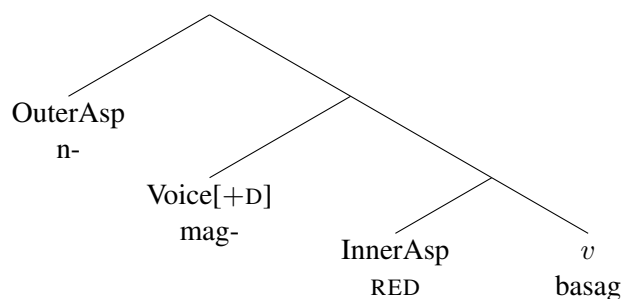
Tagalog and other Philippine-type languages are famous for their so-called “voice” alternations. The morphological and syntactic variation within a given voice, however, is frequently ignored. Agent Voice forms in particular are extremely heterogeneous. Three basic variants of Agent Voice can be identified, traditionally known as *um*-, *mag*- and *ma*- forms, based on their affixes in the infinitive. They are shown in their various aspectual forms in Table 2.2. There are several additional realisations of Agent Voice, but these generally appear to be derived from a combination of affixes, e.g. *maka*- from *ma*- and a sort of resultative marker *ka*- (Schachter & Otones, 1972).

Root	Infinitive	Perfective	Imperfective	Irrealis
basa ‘read’	b<um>asa	b<um>asa	b<um>a~basa	ba~basa
basag ‘shatter’	mag-basag	nag-basag	nag-ba~basag	mag-ba~basag
hulog ‘fall, fail’	ma-hulog	na-hulog	na-hu~hulog	ma-hu~hulog

Table 2.2: Tagalog Agent Voice variants

Following Travis (2010), I assume that the *n*- associated with the perfective and imperfective aspects spells out an OuterAspect projection, and reduplication associated with imperfective and irrealis spells out InnerAspect. In this chapter, I focus on the variants of Voice and for the most part set aside the aspectual system of the language. For completeness, however, the full morphosyntactic decomposition of *nagbasag* is given in (44).

(44) nag-ba~basag ‘AV.PFV-RED~shatter’



There is extensive documentation of the different functions of the three classes of verbs. Pittman (1966), for example, identifies a host of interpretative differences between *um* and *mag-* when they appear on the same or different stems; some are given in Table 2.3. To my knowledge, however, no formal analysis of the three major Agent Voice variants has been proposed in the literature on Tagalog. In this section, I show that the properties of these Agent Voice variants is neatly captured in the trivalent Voice system introduced in Section 2.2. The properties of argument introduction and nominal licensing of the three Voice heads give rise to the transitivity alternations typical of Philippine-type voice systems. My approach derives the heterogeneity amongst Agent Voice forms as well as the status of Agent Voice and Patient Voice transitives both as basic clause types (Maclachlan, 1996).

<i>um</i>	<i>mag-</i>
Non-reflexive/non-reciprocal	Reflexive/reciprocal
Non-causative	Causative
Impulsive	Deliberate

Table 2.3: Tagalog *um* vs *mag-* verbs

(Pittman, 1966, 11)

2.3.1 Agent Voice

Tagalog verbs can be divided into several verb classes according to their argument structure alternations as well as their overt verbal marking. These verb classes are most clearly observed in the Agent Voice construction, where the pivot of the clause is the subject of an intransitive predicate or the external argument of a transitive predicate—S and A in Comrie’s (1978) notation. These are the *um-*, *mag-* and *ma-* verbs, known as such based on their affixes in the infinitive. Note that a given root may be compatible with more than one Agent Voice affix, suggesting that the affixes are not a property of the roots themselves but spell out functional structure around them.

We begin with *mag-* verbs, which require an external argument. Transitive *mag-* verbs are generally causative, conveying an externally-caused change of state (45a). The external argument of a *mag-* verb must also be animate; inanimate causers are not possible (45b). The prefix *mag-* may be decomposed into an aspectual marker *m-* and *pag-*, the latter of which can surface in non-Agent Voice forms (Wolff, 1973); *mag-* forms are therefore glossed as PAG throughout.

- (45) a. **Nag**-basag [ang bata] [ng bintana].
AV.PAG.PFV-shatter NOM child GEN window
‘The child broke a window.’
- b. ***Nag**-basag [ang hangin] [ng bintana].
AV.PAG.PFV-shatter NOM wind GEN window
Intended: ‘The wind broke a window.’

Some agentive unergative predicatives (46) and ditransitive predicates also generally take *mag-* in the Agent Voice (47). Note that ditransitives typically convey caused transfer of possession.

- (46) **Nag**-trabaho [ang bata].
AV.PAG.PFV-work NOM child
‘The child worked.’
- (47) **Nag**-bigay [si Kiko] [sa bata] [ng libro].
AV.PAG.PFV-give NOM.PN Kiko OBL child GEN book
‘Kiko gave the child a book.’

Thus *mag-* has all the hallmarks of Voice[+D]: it requires an external argument and assigns it agentive semantics. When in a transitive construction, Voice[+D] typically has a causative interpretation (Kastner, 2016, 2018), which accords with Travis’s (2000) analysis of *mag-* as a causative marker; see Nie (2020) and Chapter 4 for evidence that causative and Voice morphology in Tagalog are one and the same.

Interestingly, the *mag-* prefix also forms reflexives; examples are given in (48) and (49). The fact that naturally reflexive verbs are formed with *mag-* suggests that they are syntactically unergative or transitive in Tagalog—both plausible strategies cross-linguistically (e.g. Alexiadou et al., 2015).

- (48) **Nag-ahit** [si Kiko].
 AV.PAG.PFV-shave NOM.PN Kiko
 ‘Kiko shaved (himself).’

- (49) **Nag-kamot** [ang bata].
 AV.PAG.PFV-scratch NOM child
 ‘The child scratched himself.’

The status of *mag-* as Voice[+D] therefore explains its distribution in transitives and unergatives, as well as ditransitives and reflexives.

While *mag-* verbs require an overt external argument, *ma-* verbs prohibit them. Thus *ma-* verbs mark unaccusative and anticausative predicates, and are often considered non-volitional forms (NONVOL).⁶ The absence of a syntactically represented external argument is diagnosed in (50) with the non-assistive modifier *nang mag-isa* ‘by itself’; see Levin & Rappaport Hovav (1995) for discussion of this test.⁷

⁶The prefix *ma-* was historically morphologically complex and arose as a phonologically reduced version of Proto-Austronesian **k<um>a-*; see Zeitoun & Huang (2000); Kaufman (2009b, 2012, 2018) and references therein for the development of **ka-*.

⁷Adding an overt external argument to a *ma-* form results in a Patient Voice structure with an unintentional causer interpretation (Dell, 1983), as shown in (1). I assume that these constructions have a different structure from the Agent Voice *ma-* forms and set them aside for the purposes of this discussion.

- (50) **Na-tunaw** [ang ice cream ng bata] nang mag-isa.
 NONVOL.PFV-melt NOM ice cream GEN child by.itself
 ‘The child’s ice cream melted of its own accord.’

However, the *ma-* forms of some roots obligatorily encode an implicit agent, as shown by their incompatibility with *nang mag-isa* (51). Thus *ma-* can mark a passive-like interpretation of the verb.

- (51) **Na-gupit** [ang buhok ng bata] (*nang mag-isa).
 NONVOL.PFV-snip NOM hair GEN child by.itself
 ‘The child’s hair got cut (*of its own accord).’

I suggest that *ma-* spells out Voice[–D] in Tagalog: it prohibits a DP specifier. However, *ma-* is also compatible with an implicit external argument. Following Kastner (2017), I assume that these passive-like interpretations are derived from an agentive root $\sqrt{\text{ACTION}}$ which adjoins to Voice[–D] and requires an agent theta role to be saturated. However, this agent crucially cannot be syntactically represented, as it would violate the syntactic prohibition of Voice[–D] against specifiers. I assume for simplicity that the agent role is existentially closed, although the precise analysis of implicit arguments is not crucial here.⁸ What is important is that Tagalog has an overt reflex of Voice[–D], which can take an implicit argument.

The *um* class of verbs is the least restricted of the verb classes. The *<um>* infix can appear on intransitive predicates, including both canonical unaccusatives (52) and unergatives (53), as well as transitive predicates (54). The *um* verbs therefore allow but do not require an external argument.

-
- (1) **Na-tunaw** [ang ice cream ng bata] [ng babae].
 NONVOL.PFV-melt NOM ice cream GEN child GEN woman
 ‘The woman accidentally melted/managed to melt the child’s ice cream.’

⁸Another possibility proposed by Legate (2014) for other Austronesian languages is that the interpretation of the implicit argument arises due to restrictive φ -features that merge on the Voice head. These restrictive features would satisfy the semantic agent requirement but do not need to be licensed.

- (52) B<um>agsak [ang baso].
 <AV.PFV>drop NOM vase
 ‘The vase fell.’
- (53) T<um>akbo [ang bata].
 <AV.PFV>run NOM child
 ‘The child ran.’
- (54) K<um>ain [ng adobo] [ang bata].
 <AV.PFV>eat GEN adobo NOM child
 ‘The child ate some adobo.’

The subject of intransitive *um* verbs can be inanimate, as shown in (52) and (55). This is true for some transitive *um* verbs as well; an inanimate causer is permitted as the subject of (56). Transitive *um* verbs therefore differ from *mag-* verbs, which always require animate external arguments, as shown in (45b) above.

- (55) L<um>apit [ang ulap] [sa araw].
 <AV.PFV>approach NOM cloud OBL sun
 ‘The cloud approached the sun.’ (Schachter, 1976, 498)
- (56) T<um>usok [ang pako] [ng gulong].
 <AV.PFV>pierce NOM nail GEN tire
 ‘The nail punctured some tires.’

Thus *um* has all the characteristics of Voice[\emptyset]: it is compatible with any kind of external argument or no external argument at all.

Some transitive *um* verbs, however, do seem to require an agent. The root *basag* ‘shatter,’ for example, has transitive *mag-* and *um* forms, both of which require an agentive external argument. I suggest that the agentive requirement on the *um* form, as shown in (57a, b), derives from the combination of Voice[\emptyset] and the $\sqrt{\text{ACTION}}$ modifier.

- (57) a. B<um>asag [ang bata] [ng bintana].
 <AV.PFV>shatter NOM child GEN window
 ‘The child broke a window.’

- b. *B<um>asag [ang hangin] [ng bintana].
 <AV.PFV>shatter NOM wind GEN window
 Intended: ‘The wind broke a window.’
- c. *B<um>asag [ang bintana].
 <AV.PFV>shatter NOM window
 Intended: ‘The window got shattered (by someone).’

Interestingly, it appears that the $\sqrt{\text{ACTION}}$ modifier on *um* verbs must be satisfied by an overt agent and cannot be satisfied by an implicit argument as in *ma-* verbs; this is shown in (57c). One way of interpreting this restriction is that the agentive requirement imposed by $\sqrt{\text{ACTION}}$ must be satisfied overtly if the syntax allows it, as with Voice[\emptyset], and can only be satisfied with an implicit argument if its overt counterpart is not allowed, as with Voice[$-D$]. How this intuition may be formalised, however, is beyond the scope of this work and is left for future research.

The trivalent Voice system of Tagalog is summarized in Table 2.4. This represents the first attempt to present a formal analysis of verb classes in Tagalog based on their argument introduction characteristics. Many roots are compatible with more than one Agent Voice variant, resulting in valency alternations.

Type	DP in Spec-VoiceP	Semantics	Form	Gloss
Voice[+D]	Required	$\lambda x \lambda e. \text{Agent}(x, e)$	<i>mag-</i>	AV.PAG
Voice[$-D$]	Prohibited	$\lambda P_{\langle s, t \rangle}. P$	<i>ma-</i>	NONVOL
Voice[\emptyset]	Unspecified	Underspecified	< <i>um</i> >	AV

Table 2.4: Three lexical variants of Agent Voice in Tagalog

So far we have focused on verb forms which appear in the Agent Voice construction, where the pivot is the highest argument of the verb, i.e. S or A (Comrie, 1978). In the other so-called “voices” in the Philippine-type voice system, it is a lower argument that is the pivot, i.e. P or an applied argument. In the next section, I show how the variants of Voice in transitive clauses (Voice[+D] and Voice[\emptyset]) interact with nominal licensing to derive the voice system of Tagalog.

2.3.2 Licensing and “voice”

Languages with Philippine-type voice systems such as Tagalog are known as symmetrical voice languages, having two or more basic transitive sentences (e.g. Maclachlan, 1996; Himmelmann, 2002; Foley, 2008; Riesberg, 2014). As shown in (58) from Tagalog, morphology on the verb tracks the most prominent argument in the clause, often referred to as the pivot (Dixon, 1979; Schachter & Otanes, 1972; Schachter, 1976; Foley & van Valin Jr, 1984; Kroeger, 1991, a.o.), which is always marked with *ang* or nominative Case and interpreted as specific. Agent Voice marking, for example, appears on the verb when the pivot is the agent of the clause (58a), while the Patient Voice construction is used when the pivot is a theme or patient (58b). Non-pivot agents and themes are marked with *ng* or genitive Case.

- (58) a. **Nag**-sulat [ang babae] [ng liham].
 AV.PAG.PFV-write NOM woman GEN letter
 ‘The woman wrote a letter.’ Agent Voice
- b. S<in>ulat-Ø [ng babae] [ang liham].
 <PFV>write-**PV** GEN woman NOM letter
 ‘A/the woman wrote the letter.’ Patient Voice

Non-pivot themes (i.e. themes of Agent Voice clauses) are usually interpreted as indefinite and non-specific, though not always (see Sabbagh, 2016). Non-pivot agents (i.e. agents of Patient Voice clauses) may be interpreted as specific or non-specific. Note that the Agent Voice \sim Patient Voice alternation privileges the specificity of the theme: specific themes are obligatorily assigned nominative Case marking, while nominative seems optional for specific agents. This suggests that the voice alternation is governed specifically by the properties of the internal argument.

Despite their difference in interpretation, the Agent Voice \sim Patient Voice alternation is considered “symmetrical” by many scholars (e.g. Maclachlan, 1996; Himmelmann, 2002; Foley, 2008; Riesberg, 2014) because both variants are equally marked, and one variant is not clearly

derived morphologically from the other, as shown in the Agent Voice and Patient Voices of *sulat* ‘write’ in all of their aspectual forms in Table 2.5.

Root	Voice	Infinitive	Perfective	Imperfective	Irrealis
sulat ‘write’	Agent	mag-sulat	nag-sulat	nag-su~sulat	mag-su~sulat
	Patient	sulat-in	s<in>ulat-Ø	s<in>u~sulat-Ø	su~sulat-in

Table 2.5: Paradigm of *sulat* ‘write’

Both transitive *mag-* verbs and *um* verbs undergo the Agent Voice ~ Patient Voice alternation, as shown in the parallel between (58) and (59). In the trivalent Voice system, this means that structures with Voice[+D] or Voice[Ø] can participate in the voice alternation.

- (59) a. B<um>asa [ang babae] [ng liham].
 <AV.PFV>read NOM woman GEN letter
 ‘The woman read a letter.’ Agent Voice
- b. B<in>asa-Ø [ng babae] [ang liham].
 <PFV>read-PV GEN woman NOM letter
 ‘A/the woman read the letter.’ Patient Voice

However, only semantically transitive predicates undergo the voice alternation. (60) shows that the internal argument of an unaccusative *um* verb obligatorily co-occurs with Agent Voice, even when it is specific; the Patient Voice form in (60b) can only be interpreted as transitive, as the counterpart of the transitive *mag-* version of the verb, *magbagsak* ‘slam down’.

- (60) a. B<um>agsak [ang baso].
 <AV.PFV>drop NOM vase
 ‘The vase fell.’
- b. #B<in>agsak-Ø [ang baso].
 <PFV>drop-PV NOM vase
 Intended: ‘The vase fell.’
 Available: ‘Someone slammed down the vase.’

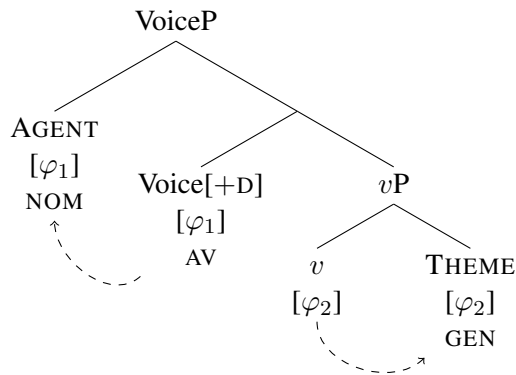
Patient Voice clauses are thus obligatorily transitive, requiring an internal and an external argument.

Philippine-type voice languages have generated considerable debate due the symmetrical nature of their voice systems (e.g. Maclachlan, 1996; Himmelmann, 2002; Foley, 2008; Riesberg, 2014). I follow Maclachlan (1996) in taking both the Agent Voice and Patient Voice constructions in Tagalog to be basic; neither is derived from the other (see also Aldridge, 2004, 2012). In particular, I propose that Agent Voice and Patient Voice verbs have the same functional structure but differ in patterns of licensing governed by the heads that make up the structure. Assuming that the licensing of a nominal occurs via φ -agreement with a nominal licenser (Chomsky, 2000, 2001) and agreement can fail (Preminger, 2014), licensing by a particular head is generally optional. The same sequence of functional heads can therefore generate multiple licensing outputs as long as all nominals are licensed within VoiceP and other constraints on syntactic well-formedness are satisfied.

Concretely, I assume that nominals bear φ -features that must be checked in the syntax via φ -agreement with a nominal licensing head, one of Voice, Appl and v (Chomsky, 2000, 2001). Nominal licensing must occur in a local relation, either between a head and its specifier or the highest nominal in its complement domain, and the φ -features on the nominal licenser are valued as a consequence of licensing. Voice and v can license and assign inherent genitive Case to their thematic arguments (Aldridge, 2004, 2012); I show in Chapter 3 that Appl, by contrast, does not license. Voice additionally licenses and assigns structural nominative Case (pivot marking) to the highest nominal that has not yet been licensed. Voice can thus assign nominative pivot marking up to its external argument or down to the highest unlicensed DP in its c-command domain.

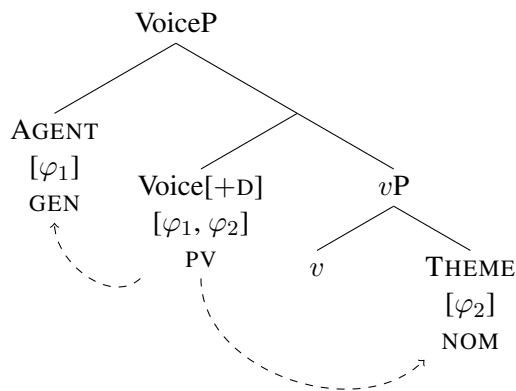
The basic Agent Voice \sim Patient Voice alternation is illustrated in (61) and (62) for *mag*-verbs, which take Voice[+D]. In the Agent Voice derivation in (61), v licenses its DP complement, the theme, via φ -agreement and assigns it inherent genitive Case. Voice then introduces the agent; because the agent is the highest unlicensed DP in the derivation, Voice licenses it and also assigns it structural nominative Case. The agent therefore ends up as the pivot of the clause.

(61) Agent Voice



In the Patient Voice derivation in (62), *v* does not license its complement or assign it inherent genitive Case. This makes the theme the highest unlicensed argument in the clause; Voice therefore licenses down to the theme and assigns it nominative Case, marking it as pivot. I assume that Voice has its φ -features valued as a consequence of its interaction with the theme. Voice then licenses up to its specifier and assigns it inherent genitive Case, gaining a second set of φ -features.

(62) Patient Voice



Thus in Patient Voice constructions, where the internal argument is the pivot, Voice has the φ -features of both the internal and external arguments. Much like the antipassive ~ ergative alternation, then, the source of the morphological alternation between Agent Voice and Patient Voice

constructions lies in the number of φ -feature bundles borne by the Voice head: Agent Voice morphology spells out Voice with one bundle of φ -features, while Patient Voice spells out Voice with two. Abstracting away from allomorphy conditioned by (outer) aspect, the contexts of vocabulary insertion for the Agent Voice and Patient Voice affixes are shown in (63).

- (63) a. Voice[φ_1] \leftrightarrow AV
 b. Voice[φ_1, φ_2] \leftrightarrow PV

Agent Voice forms remain sensitive to their lexical specification, such that Voice[+D], Voice[−D] and Voice[\emptyset] with a single bundle of φ -features are spelled out as *mag-*, *ma-* and *um*, respectively. In the Patient Voice, however, the presence of two sets of φ -features on the head appears to override lexical distinctions between Voice[+D] and Voice[\emptyset], such that they are spelled out with the same morphology, e.g. the infix <in> in the perfective. Thus the Patient Voice affixes are underspecified for the flavour of Voice. The Vocabulary Items (VIs) for all major Agent Voice and Patient Voice forms in Tagalog are given in (64).

- (64) a. Voice[+D][φ_1] \leftrightarrow mag-
 b. Voice[−D][φ_1] \leftrightarrow ma-
 c. Voice[\emptyset][φ_1] \leftrightarrow <um>
 d. Voice[φ_1, φ_2] \leftrightarrow <in>

In this approach, Voice (i) determines which argument is the pivot (Rackowski, 2002; Aldridge, 2004, 2012; Jeoung, 2018) and (ii) is able to license two arguments in different structural configurations at the same time. Pivots are privileged arguments in their syntax and interpretation. Most clauses have exactly one pivot, which is interpreted as definite/specific. Pivots can also undergo A'-extraction, while non-pivot arguments generally cannot (e.g. Bell, 1976; Schachter, 1976; Keenan & Comrie, 1977; Kroeger, 1991; Paul, 2000, 2002; Aldridge, 2004, 2016; Rackowski & Richards, 2005). This has prompted some scholars to liken the behaviour of the pivot in Philippine

languages to object shift in Germanic (Richards, 2000; Rackowski, 2002; Rackowski & Richards, 2005; Sabbagh, 2016), where the pivot obligatorily moves to the outer edge of VoiceP and becomes the highest argument visible to C for overt or covert extraction. Common to both the object shift approach and the proposal sketched here is that it is essentially Voice which determines which argument is the pivot. In my approach, the pivot is identified by virtue of having undergone nominative Case assignment by Voice. I suggest that this ability is derived from the fact that Voice is the highest head in the thematic domain and therefore the most local thematic head to T/C (see Legate, 2005). I assume that the pivot, once identified by nominative Case assignment by Voice, is then visible to T/C for additional syntactic operations, such as focus or *wh*-extraction. I remain agnostic as to whether the pivot undergoes intermediate movements of the object shift type.

As a consequence of being able to license both its external argument and the pivot, Voice is the only head that can bear the φ -feature bundles of two different arguments. In (62), where the internal argument is pivot, Voice has the φ -features of both the internal and external arguments. As I will argue in Section 2.4, Voice in ergative languages can also license and assign Case to two arguments, assigning absolutive Case to the theme as well as ergative Case to the agent. The dual licensing property of Voice, then, is not idiosyncractic to Tagalog but applies to other languages.⁹ In Section 2.4.3 and especially Chapter 3, I discuss the other non-Agent Voice clauses, the Locative Voice and Circumstantial Voice, showing that non-Agent Voices always involve agreement with some lower nominal, which can be an applied argument instead of the theme.

Some previous approaches have assumed that the properties of Agent Voice and Patient Voice clauses in Tagalog are derived by merging of different Voice or *v* heads from the lexicon (Aldridge, 2004, 2012). Paired with the trivalent Voice system explicated in Section 2.3.1 for Agent Voice, this would mean that Tagalog would have a lexical inventory of at least four Voice

⁹It has been proposed in the literature on symmetric double object constructions in Bantu that Appl may assign Case to the theme or to its external argument, deriving extraction symmetries between the theme and applied argument (McGinnis 2001). Thus the ability to license and assign Case in different structural configurations may be a general property of external argument-introducing heads.

heads: Agent Voice[+D], Agent Voice[−D] and Agent Voice[∅] and Patient Voice. However, this system predicts that Tagalog might have verbs that display arbitrary alternations between these heads. In particular, we might expect some of the verbs in the unaccusative *ma-* class (Agent Voice[−D]) to have a transitive Patient Voice form without also having a transitive Agent Voice form, i.e. a *mag-* or *um* form (Agent Voice[+D] or Agent Voice[∅], respectively). This prediction is not borne out. Patient Voice clauses always have a transitive Agent Voice counterpart; this once again makes transitive Agent Voice clauses look a lot like antipassives. My approach, by contrast, captures this straightforwardly as the Agent Voice and Patient Voice involve the same (transitive) functional heads but differ in their patterns of licensing. I show in Section 2.4 that ergative \sim antipassive alternation in many languages displays the same characteristics.

2.3.3 Summary

In this section, I proposed a comprehensive account of Tagalog voice morphology involving both trivalent Voice and φ -agreement. I showed that Tagalog verb classes that are overtly distinguished in the Agent Voice differ in their external argument introduction properties, which are encoded on the functional head Voice. I also proposed that Patient Voice does not involve an additional functional head taken from the lexicon, but rather than additional bundle of φ -features on a transitive flavour of Voice. The distribution of voice markers is summarised in Table 2.6.

	Agent Voice		Patient Voice	
	Form	Predicate	Form	Predicate
Voice[+D]	<i>mag-</i>	Unergative, Transitive	< <i>in</i> >	Transitive
Voice[−D]	<i>ma-</i>	Unaccusative	*	
Voice[∅]	< <i>um</i> >	Unergative, Unaccusative, Transitive	< <i>in</i> >	Transitive

Table 2.6: Interaction between trivalent Voice and licensing in Tagalog

My proposal represents the most comprehensive formal analysis of Tagalog voice morphology to date. In Section 2.4, I extend the Voice and licensing system developed in Section 2.2 to ergative languages. Philippine-type voice systems will be shown to parallel ergative languages in many ways, however, without the need to claim that they must be ergative (cf. Aldridge, 2004, 2012).

It should be noted that some of the alternative analyses that have been put forth for Philippine-type voice morphology adopt a set of different assumptions from the ones presented above. I discuss some of these approaches in Section 2.3.4.

2.3.4 Alternatives

My approach takes voice morphology to spell out variants of the functional head Voice, which associated with the external argument as well as nominal licensing (see also Aldridge, 2004, 2012). Other approaches take voice morphology on the verb to reflect the Case marking of the pivot (e.g. Ramos, 1974; Rackowski, 2002; Rackowski & Richards, 2005) or A'-agreement with the pivot (e.g. Chung, 1994; Pearson, 2001; Chen, 2017; Erlewine et al., 2017). Since voice morphology in these approaches are only loosely tied to Voice, they cannot distinguish the Agent Voice verb classes identified above. They also fail to account for constructions with applied arguments such as goals (65a) and benefactives (65b), which are always promoted to pivot (Bell, 1976, 1983; Pearson, 2001; Travis, 2001; Rackowski, 2002; Rackowski & Richards, 2005; Aldridge, 2004, 2012; Nie, 2019) and cross-referenced by Locative and Circumstantial Voice morphology, respectively.

- (65) a. S<in>ulat-**an** [ng babae] [ng liham] [ang bata].
 <PFV>write-LV GEN woman GEN letter NOM child
 'The woman wrote the child a letter.' Locative Voice
- b. I-s<in>ulat [ng babae] [ng liham] [ang bata].
 CV-<PFV>write GEN woman GEN letter NOM child
 'The woman wrote a letter for the child.' Circumstantial Voice

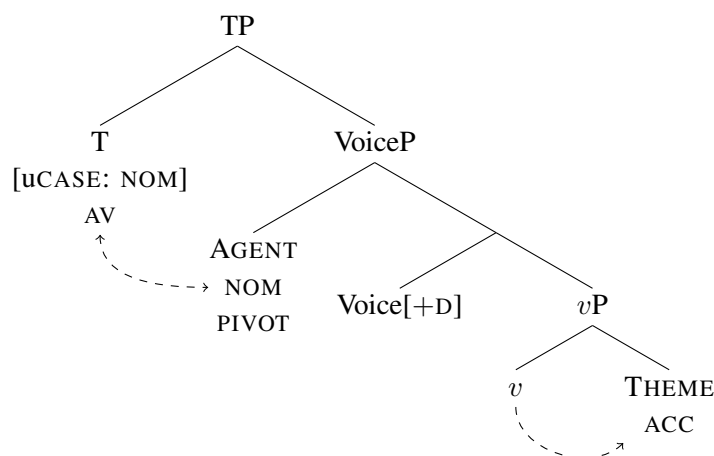
I address the Case agreement and A'-agreement approaches in greater detail below.

Another line of work assumes that all predicates in Tagalog are nominal, and that voice morphology is therefore nominalising morphology (e.g. Capell, 1964; Kaufman, 2009a, 2017). As several linguists have argued, (Aldridge, 2009; Richards, 2009; Hsieh, 2018), the nominalist view makes the incorrect prediction that long-distance A'-extraction should be prohibited in Tagalog. However, long-distance extraction is indeed possible out of phrases with voice morphology but not out of bare and derived nominals (Hsieh, 2018) or gerunds, suggesting that voiced phrases are not nominalisations. The nominalist view will therefore not be covered in detail here.

Case agreement

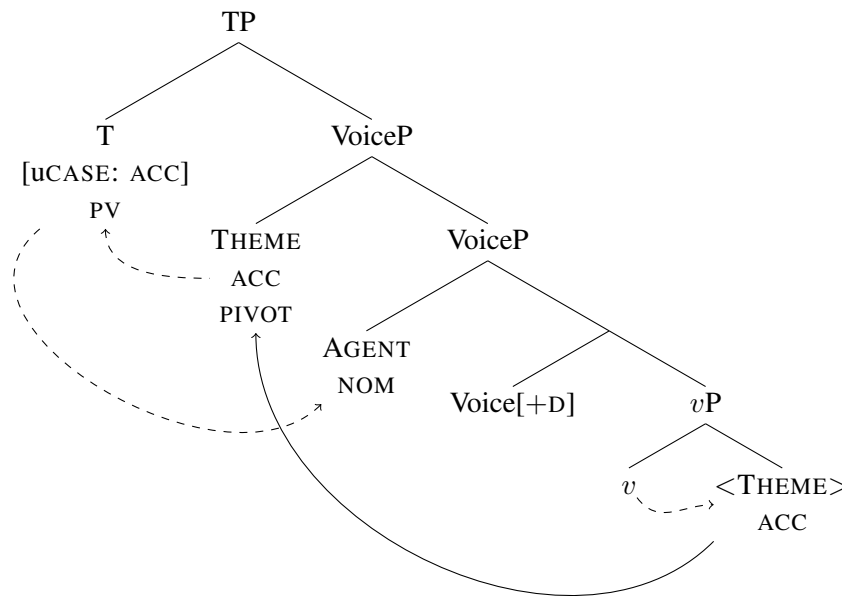
Following Ramos (1974), Rackowski (2002) argues that voice morphology spells out agreement with the Case of the pivot DP (see also Rackowski & Richards, 2005). Rackowski assumes that T both assigns nominative Case (which is distinct from pivot marking in her analysis) to the agent and bears a [uCASE] feature which probes for the closest Case-valued DP in its c-command domain. The target of the Agree relation is then morphologically marked as the pivot of the clause, and the valued Case feature on T is spelled out as a voice marker. This is illustrated in the Agent Voice tree in (66), where the agent is assigned nominative Case by T and is also the target of the [uCASE] probe, triggering the spell-out of the Agent Voice marker on T and pivot marking on the agent.

(66) Agent Voice



In the Patient Voice, Rackowski proposes that the theme, which is assigned accusative Case from *v* in its base position, undergoes a kind of object shift to an outer specifier of VoiceP and thus becomes the most local argument for Case agreement with T. The [uCASE] probe on T agrees with the theme, marking it as the pivot, and is valued as accusative, which is spelled out as Patient Voice morphology.

(67) Patient Voice

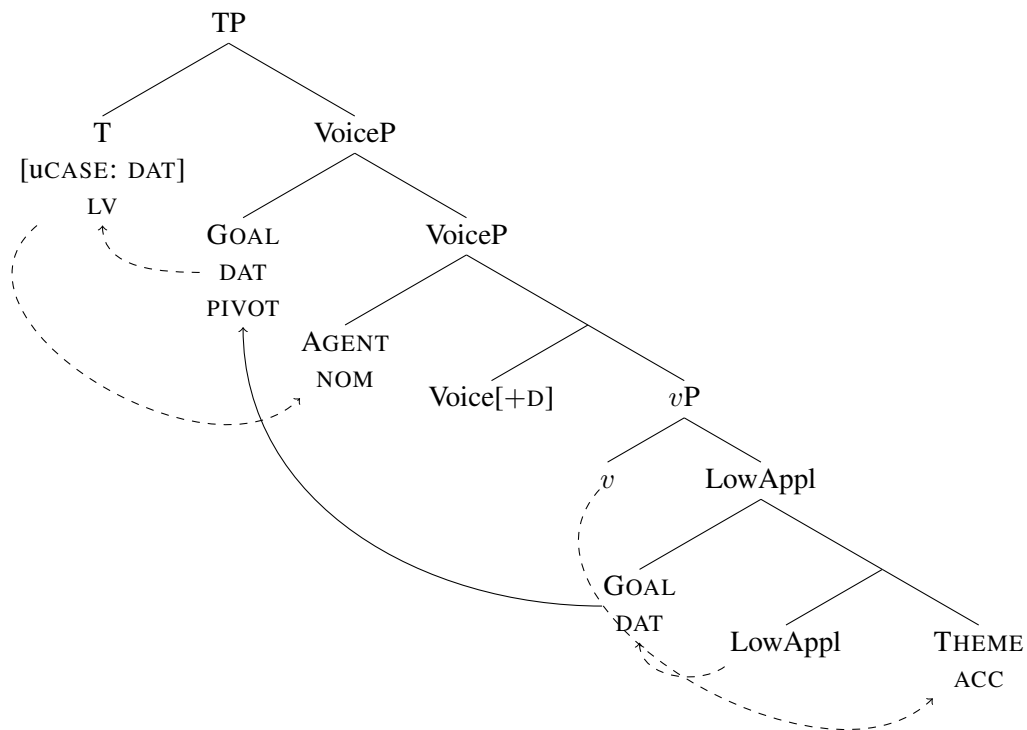


As noted above, the Case agreement approach to voice morphology fails to distinguish between the different verb classes in Tagalog, which have overt reflexes in the Agent Voice. This is because the verb classes differ in their external argument introduction properties, and the locus of external argument introduction is Voice, not T. Another problem with the Case agreement approach is that it does not explain why applied arguments generally must be pivots in the language. Take, for instance, a ditransitive construction where the goal is the pivot, which takes Locative Voice morphology; this is shown in (68) glossed with Rackowski's (2002) assumptions about Case. Rackowski assumes that the goal is introduced as the specifier of a Low Applicative head, which assigns it dative Case. As illustrated in (69), the dative goal then moves to the outer specifier of

VoiceP to become the highest Case-valued nominal in the clause and the target of agreement for the [uCASE] probe on T. The goal is marked as the pivot of the clause, and the [uCASE] probe on T is valued for dative Case and is spelled out as Locative Voice.

- (68) B<in>igy-**an** [ng babae] [ng libro] [ang bata].
 <PFV>give-LV NOM woman ACC book PIVOT child
 ‘The woman gave the child a book.’

- (69) Locative Voice

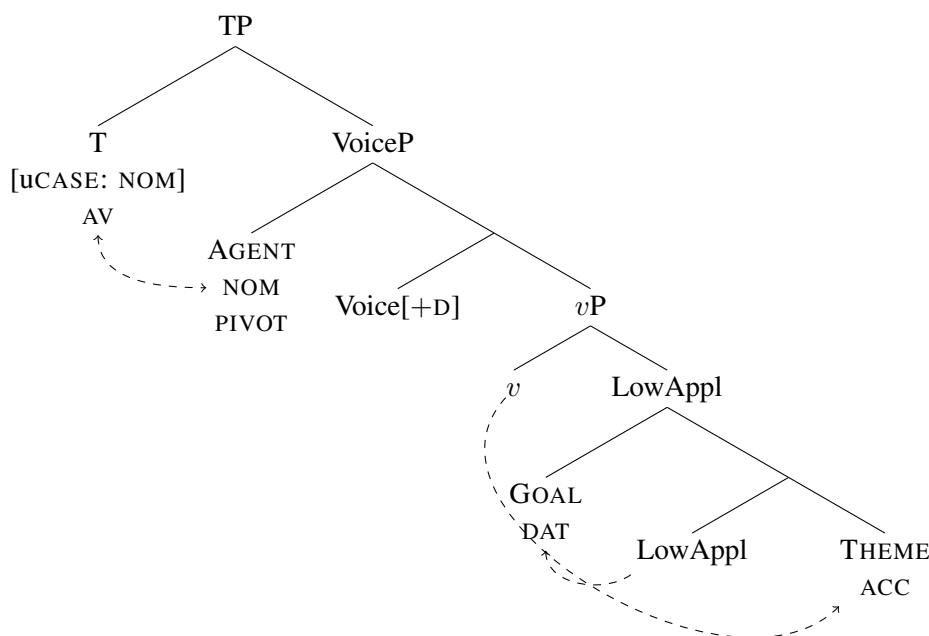


Thus Locative Voice is derived in much the same way as Patient Voice; a Case-marked lower argument moves via object shift to the outer specifier of VoiceP and triggers Case agreement. Recall that in the Agent Voice version of the Patient Voice clause, the theme is assigned accusative Case but remains in situ, and the agent triggers Case agreement on T instead (66). As Hsieh (2020) points out, Rackowski’s analysis predicts that there should also be an Agent Voice version of the Locative Voice clause where the goal is assigned dative Case but remains in situ and the agent

triggers Case agreement on T instead; this is illustrated in (71). However, as shown in (70), such a construction is ungrammatical.

- (70) *Nag-bigay [ang babae] [ng libro] [ng bata].
 AV.PAG.PFV-give NOM woman ACC book DAT child
 Intended: ‘The woman gave a/the child a book.’

- (71) Agent Voice of ditransitive (ungrammatical)



Applied arguments must be pivots in Tagalog and are always cross-referenced with voice morphology (Bell, 1976, 1983; Pearson, 2001; Travis, 2001; Rackowski, 2002; Rackowski & Richards, 2005; Aldridge, 2004, 2012; Nie, 2019). Rackowski’s Case agreement approach does not explain why this must be so. In Chapter 3, I propose to account for this by assuming that applicative heads are not nominal licensers or Case assigners in Tagalog. Applied argument must therefore be licensed by Voice as the nominative pivot or the derivation will crash. This kind of proposal cannot be accommodated within Rackowski’s analysis, which requires all nominals to be Case-marked in order to trigger voice morphology on T. Any approach which allows last resort

Case assignment on any nominal similarly cannot account for the unavailability of genitive Case (or what Rackowski calls dative) on applied arguments (e.g. Erlewine et al., 2017).

A'-agreement

Another prominent feature of Philippine-type voice systems is the fact that A'-extraction is generally limited to the pivot argument (e.g. Bell, 1976; Schachter, 1976; Keenan & Comrie, 1977; Kroeger, 1991; Paul, 2000, 2002; Aldridge, 2004, 2016; Rackowski & Richards, 2005). In transitive Agent Voice clauses, for example, only the external argument may undergo relativisation; compare the agent relative clause in (72b) with the theme relative clause in (72c).

- (72) a. B<um>asa [ang lalaki] [ng diyaryo].
 <AV.PFV>read NOM man GEN newspaper
 'The man read a newspaper.' Agent Voice
- b. Matalino [ang lalaki=ng b<um>asa ng diyaryo].
 intelligent NOM man=LNK <AV.PFV>read GEN newspaper
 'The man who read a newspaper is intelligent.'
- c. *Interesante [ang diyaryo=ng b<um>asa ang lalaki].
 interesting NOM newspaper=LNK <AV.PFV>read NOM man
 Intended: 'The newspaper that the man read is interesting.' (Schachter, 1976, 500)

Extraction of the theme requires the use of Patient Voice, as shown in (73b). Agent extraction out of a Patient Voice clause, by contrast, is degraded (73c).

- (73) a. B<in>asa-Ø [ng lalaki] [ang diyaryo].
 <PFV>read-PV GEN man NOM newspaper
 'A/the man read the newspaper.' Patient Voice
- b. Interessante [ang diyaryo=ng b<in>asa-Ø ng lalaki].
 interesting NOM newspaper=LNK <PFV>read-PV GEN man
 'The newspaper that the man read is interesting.'
- c. *Matalino [ang lalaki=ng b<in>asa-Ø ang diyaryo].
 intelligent NOM man=LNK <PFV>read-PV NOM newspaper

Intended: ‘The man who read the newspaper is intelligent.’ (Schachter, 1976, 500)

Because extraction is limited to pivots, and pivots are cross-referenced by voice morphology, some scholars have taken voice morphology to reflect extraction marking hosted in C (e.g. Chung, 1994; Pearson, 2001; Chen, 2017; Erlewine et al., 2017). The challenge for the A'-agreement approach is how to distinguish various voice types. In Chen's (2017) formulation, voice morphology is a portmanteau of the pivot's agreement with C (referred to as topic-agreement) and another functional head. Her proposal is summarised in (74).

- (74) Chen (2017, 157): Philippine-type voice affixes are the morphological realization of four different bundles of the Agree relation(s) that agree with the topic (the Pivot)
- a. Agent Voice: topic-agreement and φ -agreement with T
 - b. Patient Voice: topic-agreement and object-agreement with Voice
 - c. Locative Voice: topic-agreement and locative/temporal-agreement with P
 - d. Circumstantial Voice: default topic-agreement

Chen's A'-agreement approach bears many similarities to Rackowski's (2002) Case agreement approach outlined above. In both approaches, pivot selection occurs when a high pivot-marking head enters into an Agree relation with a nominal already Case-marked or licensed by a lower functional head, usually a head other than Voice. Thus the A'-agreement approach has many of the same shortcomings as Case agreement. Since Agent Voice involves agreement with T and C rather than Voice, the proposal provides no way to distinguish the trivalent Voice system found in the Agent Voice. Furthermore, Chen suggests that goals of ditransitives can receive genitive Case marking and should therefore occur in Agent Voice clauses. However, as shown previously in (70), this is not borne out in Tagalog; applied arguments are always pivots.

2.4 Ergative languages

In ergative languages, subjects of transitives trigger special marking not found with either subjects of intransitives or objects of transitives (e.g. Comrie, 1978; Dixon, 1979, 1994; Manning, 1996). In Halkomelem, for example, the third person subject of a transitive predicate is cross-referenced with an ergative agreement marker in (75), while subjects of intransitive predicates (76) and objects of transitives do not trigger any overt marking (Gerdt, 1980, 1988). I assume that the transitive subject is assigned ergative Case in the syntax while intransitive subjects and transitive objects are assigned absolutive Case.

- (75) ni? ʔiməʃ tə swiwləs.
AUX walk DET boy
‘The boy walked.’

- (76) ni? qʷəl-t-əs tə sɛni? tə səplil.
AUX bake-**TR-3ERG** DET woman DET bread
‘The woman baked the bread.’ (Gerdt, 2004, 769)

Note that the verb in (76) also bears an overt transitive suffix *-t* which occurs inside of the agreement marker. This clause has an antipassive counterpart where the verb is marked by an antipassive suffix *-m* (also called the middle), ergative agreement is lost, and the theme is marked with oblique Case (77). I assume the antipassive subject is in absolutive Case.

- (77) ni? qʷəl-əm tə sɛni? ʔə tə səplil.
AUX bake-**ANTIP** DET woman **OBL** DET bread
‘The woman baked the bread.’ (Gerdt, 1980, 300)

Similar to transitive Agent Voice constructions, antipassive themes in Halkomelem are often interpreted as being non-specific, and they are usually third person inanimates (Gerdt, 1988).

In this section, I show that the ergative ~ antipassive alternation can be modelled using the Voice and licensing system developed in Section 2.2. In ergative constructions, Voice licenses both the internal and external argument. In antipassive constructions, Voice licenses only the external

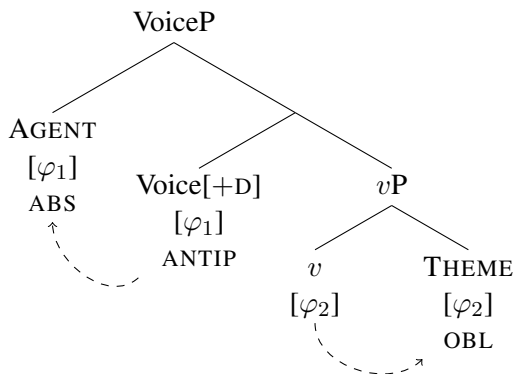
argument. I show how these licensing relations have implications for both verbal morphology (transitive vs antipassive marking and agreement) as well as Case on the external argument. I discuss Halkomelem in greater detail in Section 2.4.1 and Inuktitut in Section 2.4.2.

2.4.1 Halkomelem

I propose that in Halkomelem, *v* can optionally license its complement and assign it inherent oblique Case. Since all nominals must be licensed within VoiceP, if the theme is not licensed by *v*, then it must be licensed by Voice, which has the ability to license its external argument and an argument in its c-command domain. Voice first probes downwards to license the highest unlicensed nominal it c-commands and then licenses its specifier. I assume that Voice assigns absolutive Case to the first nominal it licenses. Ergative Case is then assigned to the external argument if Voice has already licensed another nominal and thus acquires two sets of φ -features (see also Deal, 2010).

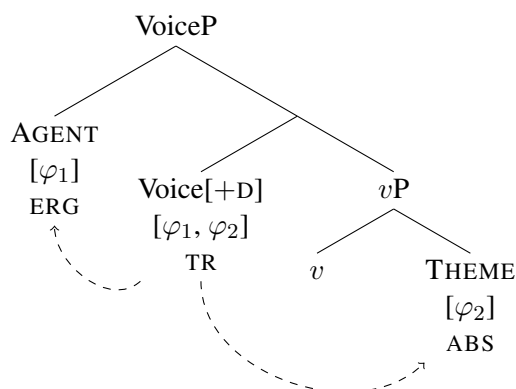
The antipassive construction in Halkomelem is sketched in (78). *v* licenses the theme via φ -agreement and assigns it oblique Case. Voice merges and probes downwards but does not find a viable goal. It then probes into its specifier, licensing the external argument and assigning it absolutive Case. *v* and Voice thus end up with one bundle of φ -features each.

(78) Halkomelem antipassive construction



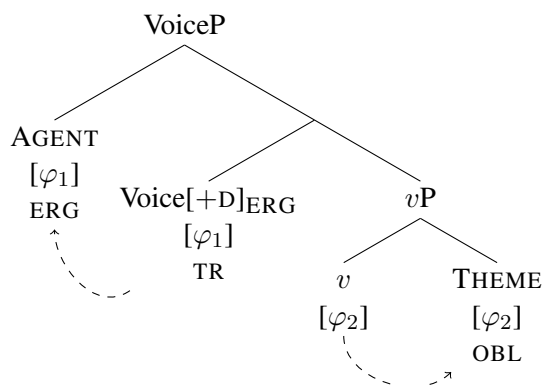
In the ergative construction in (79), *v* does not license the theme. Voice probes downwards to agree with and license the theme, assigning it absolutive Case and copying its φ -features. Voice then licenses the external argument via φ -agreement and assigns it ergative Case. Voice ends up with two bundles of φ -features.

(79) Halkomelem ergative construction



How are ergative Case assignment and transitivity morphology determined in this system? One option would be to posit independent antipassive and ergative/transitive Voice heads in the lexicon, which would determine nominal licensing relations. However, given that Agree can fail (Preminger, 2014), it would be difficult to explain the ungrammaticality of a kind of ‘mixed’ ergative–oblique transitive construction where *v* licenses the theme and a lexically-specified ergative Voice licenses only the agent; such a derivation is illustrated in (80).

(80) Ergative–oblique construction (unattested)



Instead of having Voice determine the licensing relations in the clause, I suggest that it is the licensing relations themselves that determine which construction is derived (Deal, 2010). In the ergative construction, for instance, Voice licenses both the theme and the agent, ending up with two sets of φ -features. I propose that ergative Case is assigned to the specifier of a Voice head with two bundles of φ -features (Nie, 2017a). This derives the fact that ergative has the appearance of being both a kind of inherent Case, as it is only assigned to specifier of Voice (Woolford, 2006), *and* a dependent Case, as it requires the licensing of another argument (Marantz, 1991; Baker, 2015).

As for the verbal morphology, I propose that Voice with two bundles of φ -features is itself spelled out as the transitive marker, and Voice with a single bundle of φ -features is spelled out as the antipassive marker. My proposal is summarized in (81). I assume that ergative agreement is a reflex of the Agree relation between Voice[φ_1, φ_2] and its external argument; however, I do not pursue a formal implementation of it here.

- (81) a. Voice[φ_1] \leftrightarrow ANTIP
 b. Voice[φ_1, φ_2] \leftrightarrow TR
 c. Ergative Case is assigned to the specifier of Voice[φ_1, φ_2]

This approach aligns closely with Deal (2010), who analyses ergative case in Nez Perce as resulting from a verb having successfully undergone subject and object agreement. In her approach, subject and object agreement are split across two heads, T and Voice/*v*, respectively. Since each head only bears one bundle of φ -features, there is no single locus of transitivity. It is therefore unclear how Deal's analysis would derive the overt antipassive and transitive markers in Halkomelem.

I showed in Section 2.3 that Tagalog displays two kinds of antipassive markers, *mag-* and *um-*, which reflect Voice[+D] and Voice[\emptyset], respectively. Halkomelem also has two kinds of antipassive constructions, which may similarly map to two different flavours of Voice. We have already seen the *-m* suffix, which is restricted to obligatorily transitive predicates (Gerdts, 1988; Gerdts & Hukari, 2000), as in (82b).

- (82) a. niʔ qʷəl-t-əs tθə sceɪtən.
 AUX bake-TR-3ERG DET salmon
 ‘He cooked/barbecued the salmon.’
- b. niʔ qʷəl-ə**m** ʔə tθə sceɪtən.
 AUX bake-ANTIP OBL DET salmon
 ‘He cooked/barbecued the salmon.’ (Gerdts & Hukari, 2000, 51–52)

I suggest that *-m* is a reflex of Voice[+D], which may be limited to transitive predicates in Halkomelem; see Oseki (2017) for evidence that the Voice[+D] marker *-s-* similarly only occurs with transitive predicates in Japanese. Interestingly, antipassive interpretations can also be formed with what Gerdts & Hukari (2000) refer to as the *-els* activity suffix.

- (83) a. naʔət qʷəs-t-əs tθə tʰeləmʰ sceɪtən.
 AUX bake-TR-3ERG DET salted salmon
 ‘She put the salted fish in the water.’
- b. naʔət qʷs-**els** ʔə tθə tʰeləmʰ sceɪtən.
 AUX bake-ANTIP OBL DET salted salmon
 ‘She soaked the salted fish.’ (Gerdts & Hukari, 2000, 52)

Apart from its antipassivising function, *-els* is frequently used to “emphasize [an] action. The event is often a job-like activity that will take time and effort” (Gerdts & Hukari, 2000, 55). For example, the verb *qʷp-els* ‘collect-ANTIP’ means to go around collecting money as a habitual action or profession; the meaning is understood without the theme being specified, indicating that the predicate that *-els* attaches to does not need to be transitive (Gerdts & Hukari, 2000). Setting aside further details of the uses of the activity suffix, I preliminarily suggest that *-els* is a reflex of Voice[Ø] with a single bundle of φ -features. Thus the two types of antipassive constructions in Halkomelem are easily accommodated within the trivalent Voice approach. The VIs for transitive and antipassive morphology in Halkomelem are given in Table 2.7.

	Antipassive	Ergative
Voice[+D]	<i>-m</i>	<i>-t + ERG</i>
Voice[Ø]	<i>-els</i>	<i>-t + ERG</i>

Table 2.7: Interaction between Voice and licensing in Halkomelem

I have not found a clear candidate for Voice[−D] in Halkomelem; however, one may eventually emerge upon closer inspection of the large inventory of functional and lexical suffixes in the language (Gerds, 2003). Interestingly, transitive ergative constructions in Halkomelem appear not to distinguish between the lexical flavours of Voice morphologically, much like the Patient Voice in Tagalog (Section 2.3). Why these distinctions are neutralised in the ergative construction would be an interesting topic for future research.

My proposal can be extended to applicative constructions in the language. In low applicative (84) and high applicative constructions (85), the verb is marked with overt applicative, transitive and ergative agreement morphology. It is the applied argument, however, that receives absolutive Case; the theme surfaces with oblique Case. This suggests that, like as many languages with overt applicative marking (Marantz, 1984; Baker, 1988), the applied argument in Halkomelem is introduced by an applicative head but behaves syntactically like a transitive object. This is supported by the fact that the applied argument can undergo A'-extraction in these constructions but the theme cannot (Gerds, 2010).

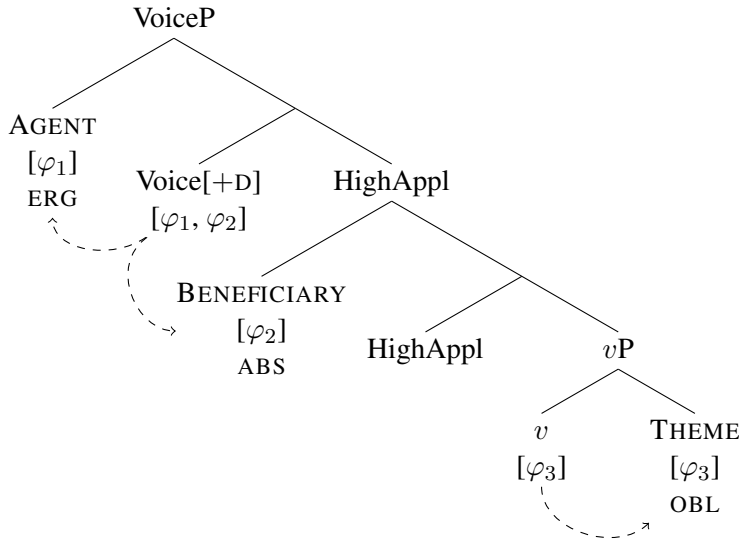
- (84) niʔ ʔam-əs-t-əs kʷθə swiw'ləs kʷθə sqʷəmey' ʔə kʷθə stθam'.
 AUX give-APPL-TR-3ERG DET boy DET dog OBL DET bone
 'The boy gave the dog the bone.' (Gerds, 2010, 1)

- (85) niʔ q'wəl-əlɕ-t-əs ɬə-nə ten θə sɬeniʔ ʔə tθə səplil.
 AUX bake-BEN-TR-3ERG DET-1SG.POSS mother DET woman OBL DET bread
 'My mother baked the bread for the woman.' (Gerds, 2010, 4)

I propose that in applicative constructions in Halkomelem, Voice licenses both the applied argument and the agent, thereby collecting two bundles of φ -features and triggering transitive and

ergative agreement morphology on the verb and ergative Case on the agent. *v* licenses and assigns oblique Case to the theme. This analysis is sketched for a high applicative construction in (86).

(86) High applicative construction



Much like themes are in the monotransitive ergative construction, the applied argument is licensed and assigned absolutive Case by Voice. I return to applicative constructions in Chapter 3.

2.4.2 Inuktitut

The nature of ergativity has been a subject of much debate in the literature on Inuit languages (Bok-Bennema, 1991; Johns, 2001; Carrier, 2017; Yuan, 2018). Varieties such as Kalaallisut (West Greenlandic) are considered to be robustly ergative, displaying characteristics of syntactic ergativity; for example, transitive objects in Kalaallisut may undergo A'-extraction, while transitive subjects cannot (Bok-Bennema, 1991; Bittner, 1994). Other varieties, such as Inuktitut and Labrador Inuttut, are considered more weakly ergative, i.e. morphologically ergative (Johns, 2001; Carrier, 2017; Yuan, 2018). In this section, I examine the morphological properties of the ergative ~ antipassive alternation in Inuktitut. Ergative Case in Inuktitut has been argued to be a dependent Case

(Yuan, 2018), which is assigned to an argument in the presence of a Case competitor (Marantz, 1991; Baker, 2015). I show that the Voice and licensing system developed in this chapter can capture the dependent nature of ergative Case, without the need for an independent mechanism of Case assignment by competition.

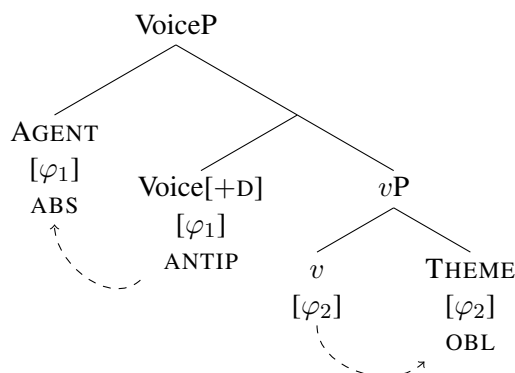
As shown in the transitive ergative construction in (87a), both the ergative agent and the absolutive theme trigger agreement on the verb.¹⁰ In its antipassive counterpart in (87b), the verb is marked with the suffix *-si*, only the absolutive agent controls agreement on the verb, and the theme is marked with oblique Case.

- (87) a. Taiviti-up surak-tanga igalaaq.
 Taiviti-ERG break-3SG/3SG window.ABS
 ‘David broke the window.’
- b. Taiviti surak-si-juq igalaar-mik.
 Taiviti.ABS break-ANTIP-3SG window-OBL
 ‘David broke the window.’ (Yuan, 2018, 208)

Spreng (2012) shows that the *-si* suffix marks not only transitive antipassive constructions but also some unergative and reflexive predicates. The *-si* suffix thus has remarkably similar behaviour to *mag-* in Tagalog. I propose that *-si* is the spell out of Voice[+D] with a single bundle of φ -features, as shown in (88). The theme is licensed and assigned oblique Case by *v*, and the agent is licensed and assigned absolutive Case by Voice. The single bundle of φ -features on Voice is realised as antipassive morphology and overt subject agreement.

¹⁰The term “agreement” is used loosely here. Yuan (2018) argues that while Kalaallisut displays true φ -agreement, Inuktitut displays clitic doubling of its arguments instead. However, this distinction is not crucial to my proposal, which only requires that there be some Agree relation between each argument and its nominal licensing head.

(88) Inuktitut antipassive construction



As in Tagalog and Halkomelem, there is more than one morphological realisation of the antipassive in Inuktitut and other Inuit languages. A class of verbs take a null antipassive variant, as in (89).

- (89) niuvi- \emptyset -lauq-tunga uqalimaagar-mik
 book-ANTIP-PST-1SG book-OBL

‘I bought a book.’

(Yuan, 2018, 208, footnote 17)

Most analyses assume that these verbs are exceptional in being lexically specified to occur with the null variant (Fortescue, 1984; Bittner, 1994). However, the trivalent Voice system actually predicts the possibility of two antipassive constructions, built on either Voice[+D] or Voice[\emptyset]. Given the evidence that the *-si* suffix is a reflex of Voice[+D], I suggest that \emptyset is a reflex of Voice[\emptyset], which can also occur in non-antipassive contexts. The VIs for two antipassive markers are given in (90), where subject agreement is abbreviated as ‘S agreement’.

- (90) a. Voice[+D][ϕ_1] \leftrightarrow -si + S agreement
 b. Voice[\emptyset][ϕ_1] \leftrightarrow \emptyset + S agreement

See Yuan (2018) for a fully fleshed out account of overt agreement in Inuktitut.¹¹

¹¹Yuan (2018) suggests the heads responsible for overt agreement morphology are housed in the high left periphery. If we adopt her approach, then licensing and antipassive marking would still occur at the VoiceP level but overt agreement would occur at the CP level.

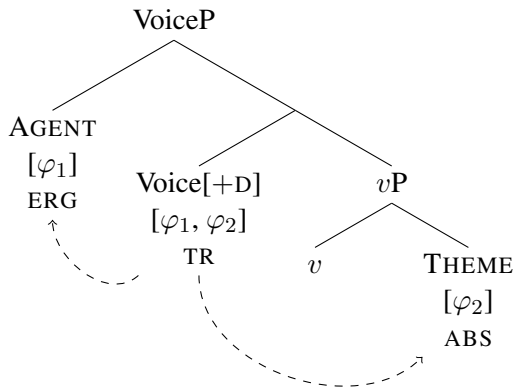
Most verbs receive no special marking in the ergative construction. However, there are some intransitive predicates which can be transitivity using the *-gi* marker; an example is given in (91). As Yuan (2018) suggests, *-gi* seems to be the spell out of Voice[+D]. I assume that transitive predicates without overt voice morphology are built with Voice[\emptyset].

- (91) a. Taiviti nagli-gusuk-tuq Kiuru-mik.
 Taiviti.ABS love-feel-3SG Carol-OBL
 ‘David loves Carol.’ (Lit. ‘David feels love for/towards Carol.’)
- b. Taiviti-up Kiuru nagli-**gi**-janga.
 Taiviti-ERG Carol.ABS love-**TR**-3SG/3SG
 ‘David loves Carol.’

(Yuan, 2018, 39)

As was also proposed for Halkomelem, it is Voice that licenses the theme in Inuktitut, assigning it absolutive Case and copying its φ -features (92). Voice then licenses the external argument it introduces and assigns it ergative Case, ending up with two bundles of φ -features, which are realised overtly as subject and object agreement.

- (92) Inuktitut ergative construction



Ergative Case is assigned to the specifier of Voice with two bundles of φ -features. This Voice head can be either Voice[+D] or Voice[\emptyset], spelled out as *-gi* or a null variant, respectively. This is summarised in (93).

- (93) a. Voice[+D][φ_1, φ_2] \leftrightarrow *-gi* + S/O agreement

- b. Voice[\emptyset][φ_1, φ_2] \leftrightarrow - \emptyset + S/O agreement
- c. Ergative Case is assigned to the specifier of Voice[φ_1, φ_2]

Ergative Case is therefore derived in the same way in Inuktitut as it is in Halkomelem. The two languages differ, however, in that internal arguments may raise to receive ergative Case marking in Inuktitut (Yuan, 2018). Subjects of unaccusative predicates normally receive absolutive Case in Inuktitut, as shown in (94a). When an applicative is added, however, the unaccusative subject surfaces with ergative Case and controls subject agreement, as in (94b). The applied argument is absolutive when overt and controls object agreement. The applicative marker *-Cuti* obligatorily co-occurs with the transitive marker *gi-* (94b) when modifying unaccusative predicates (Yuan, 2018). The same contrast is shown in the unaccusative–applicative pair in (95).

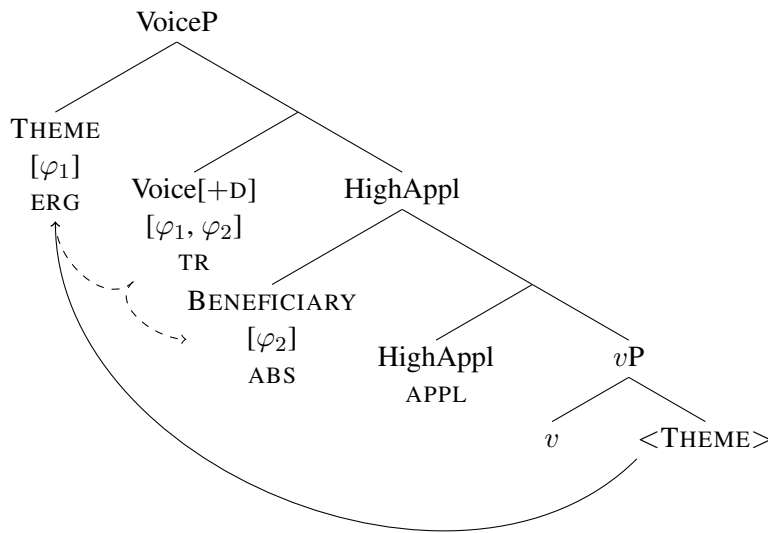
- (94) a. Jiisusi tuqu-lauq-tuq
 Jesus.ABS die-PST-3SG
 ‘Jesus died.’
- b. Jiisusi-**up** tuqu-**jjuti-gi**-lauq-taatigut
 Jesus-**ERG** die-**APPL-TR**-PST-3SG/1PL
 ‘Jesus died for us.’
- (95) a. niuvirvik matui-sarait-tuq
 store.ABS open-early-3SG
 ‘The store opened early.’
- b. niuvirvik-**up** matui-sarait-**guti-gi**-janga Miali
 store-**ERG** open-early-**APPL-TR**-3SG/3SG Miali.ABS
 ‘The store opened early for Miali.’ (Yuan, 2018, 118)

This phenomenon, which has been termed “raising to ergative”, is also found in Shipibo (Panoan; Peru) (Baker, 2014) and Nez Perce (Sahaptian; Idaho) (Deal, 2019). Since the unaccusative argument is base generated as the complement of *v*, raising to ergative has been used as an argument against an inherent Case view of ergative (e.g. Woolford, 2006), where ergative Case is may only be assigned to the external argument of Voice. Instead, it appears to support a dependent Case

view, where ergative Case is assigned to an argument in the presence of another nominal that is Case competitor (Baker, 2014, 2015; Yuan, 2018).

I suggest, however, that ergative marking on the theme need not be the result of dependent Case. Under any approach, the theme needs to raise to a position c-commanding the applied argument in order to be the DP that controls subject agreement. Following Deal (2019), I propose that the theme moves to the specifier of Voice which requires a DP, i.e. Voice[+D] in my system. This is consistent with the fact that applicatives of unaccusatives require the transitive *gi-* marker, which spells out Voice[+D]. I sketch the derivation of an applicative of unaccusative in (96). Voice licenses both the applied argument, assigning it absolutive Case, and the raised theme, assigning it ergative Case. Voice ends up with two bundles of φ -features, as in a simple monotransitive ergative construction.

(96) Raising to ergative



In this analysis, the theme raises past the applied argument in order to satisfy the [+D] feature on Voice. I do not speculate on what mechanisms permit the theme to skip over the applied argument

here.¹² What is important is that the raising to ergative phenomenon can be analysed without the need for a dependent Case mechanism of ergative Case assignment. Ergative is simply the Case that is assigned to the specifier of Voice with two bundles of φ -features.

The proposal developed for Inuktitut is summarised in Table 2.8. I have not found a clear candidate for Voice[−D] in the language; this flavour of Voice is therefore omitted from the table.

	Antipassive	Ergative
Voice[+D]	- <i>si</i>	- <i>gi</i> + ERG
Voice[∅]	-∅	-∅ + ERG

Table 2.8: Interaction between Voice and licensing in Inuktitut

Unlike Halkomelem, Inuktitut does distinguish the ergative Voice[+D] and Voice[∅] constructions morphologically. However, the antipassive and ergative Voice[∅] are both phonologically null.

2.4.3 Summary

In this section, I showed that the Voice and licensing system developed in this chapter can easily derive the ergative \sim antipassive alternation in morphologically ergative languages like Halkomelem and Inuktitut. Voice licenses two arguments in the ergative construction, and ergative Case is only assigned to the specifier of Voice with two bundles of φ -features. This captures the hybrid appearance of ergative as a kind of inherent Case (Woolford, 2006) and dependent Case (Marantz, 1991; Baker, 2015). In antipassive constructions, Voice licenses only the external argument and ends up with only one bundle of φ -bundles. My proposal for ergative languages is summarized in (97).

- (97) a. Voice[φ_1] \leftrightarrow ANTIP
b. Voice[φ_1, φ_2] \leftrightarrow TR

¹²One possibility, suggested by Deal (2019), is that the theme must move to the specifier of Voice rather than the applied argument because movement of the latter would violate Spec-to-Spec anti-locality (Bošković, 2015; Erlewine, 2016).

- c. Ergative Case is assigned to the specifier of Voice[φ_1, φ_2]

The trivalent Voice system adopted in this chapter also predicted the availability of multiple transitive and antipassive markers, depending on whether Voice[+D] or Voice[\emptyset] is used. Halkomelem distinguished the two flavours of Voice in the antipassive, while Inuktitut distinguished them in both the ergative and antipassive.

I have not covered languages that are syntactically ergative, in which absolutive arguments may extract more freely than ergative arguments. More work needs to be done to examine the relationship between licensing and extraction, in particular with regards to more complex constructions such as applicatives and causatives; however, see the work of Jessica Coon and colleagues on the interaction of A- and A'-features, and other work suggesting that licensing can “unlock” nominals for subextraction (Rackowski & Richards, 2005; Branagan, 2018).

2.5 Differential object marking

In this final section, I will show how the system of Voice and licensing developed in this chapter can capture differential object marking (DOM) patterns in much the same way as transitivity alternations in Philippine-type and ergative languages. Before I turn to DOM, however, I will sketch how nominal licensing and Case assignment works in nominative–accusative languages more generally.

2.5.1 Nominative–accusative languages

The proposal presented in the previous section showed how the “dependent” nature of ergative Case (Marantz, 1991; Baker, 2015) can be captured without adopting an independent mode of Case assignment. The Voice head, by virtue of being the closest thematic head to T, is able to license two arguments via φ -agreement: an internal argument as well as an external argument.

Ergative Case is assigned to the external argument of Voice with two sets of φ -features, giving the appearance of being dependent on the licensing of a lower argument.

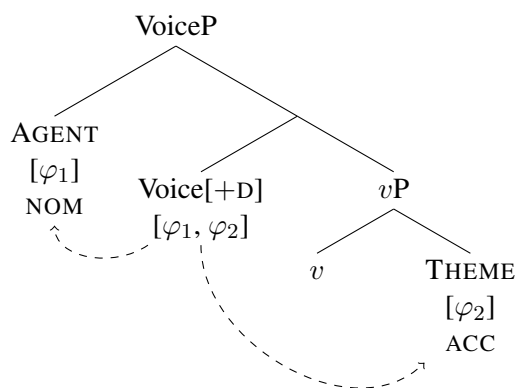
Accusative Case is also considered to be a dependent Case that is widely assumed to obey Burzio's (1986) Generalisation.¹³

(98) Burzio's Generalisation (Burzio, 1986, 178)

All and only the verbs that can assign a theta-role to the subject can assign (accusative) Case to an object.

In other words, accusative Case on an internal argument is generally dependent on the presence of an external argument in the structure. I propose that the dependent nature of accusative Case can be modelled in much the same way as that of ergative. As illustrated in the transitive construction in (99), Voice licenses both the internal argument and external argument via φ -agreement. I assume that Voice, which inherits features of T, always assigns nominative Case to the highest Caseless argument. Voice also assigns accusative Case to the highest Caseless argument it c-commands, which is in this case the theme.

(99) Nominative–accusative construction

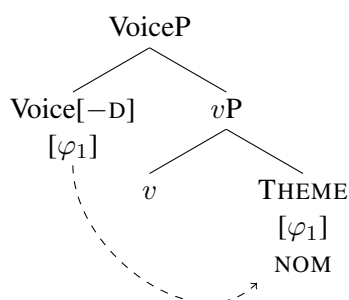


¹³While the universality of Burzio's Generalisation has been disputed (see e.g. Ukrainian impersonal passives (Sobin, 1985; Lavine, 2005)), it nonetheless holds in the majority of nominative–accusative languages and therefore requires explanation.

This configuration should by now be extremely familiar. Voice[+D] appears to assign a dependent Case when it bears two sets of φ -features. Ergative is the Case that Voice with two sets of φ -features assigns upwards, while accusative is the Case that is assigned downwards, an intuition first noted in Marantz (1991).

In (99), *v* assigns a thematic interpretation to the transitive theme but provides no licensing or Case. An unaccusative subject would similarly be introduced in the complement of *v* but licensed via φ -agreement by Voice, as in (100). Since the unaccusative subject is the highest Caseless argument in the clause, Voice assigns it nominative Case

(100) Unaccusative construction



The assignment of accusative Case requires that there be a higher nominal which receives nominative Case, thereby deriving Burzio's Generalisation.¹⁴

In nominative–accusative languages without differential object marking, Voice is the only nominal licensing head. At most two nominals can be licensed or assigned Case in such languages, and any additional nominals introduced into the structure must be oblique PPs. This should be the case for any language without double object constructions, such as Romance languages, where themes receive accusative Case but goals are dative. However, languages with double object constructions such as English and Bantu languages, where both goals and themes appear to receive

¹⁴See Marantz (1991) for discussion of why expletives cannot freely merge as a nominative argument in unaccusatives, triggering accusative Case.

accusative Case, must have additional sources of licensing; *v* and/or Appl are therefore also licensors in double object languages. I discuss applicative constructions in detail in Chapter 3.

2.5.2 DOM

Many nominative–accusative languages exhibit differential object marking (DOM), where animate and/or specific nominals are associated with overt morphological marking that is absent with inanimates and non-specifics (Comrie, 1979, 1989; Croft, 1988; Bossong, 1991; Enç, 1991; Aissen, 2003, a.o.). In this section I discuss DOM patterns based on specificity. However, the proposed analysis should apply equally to animacy-based DOM patterns and may extend to pseudo noun incorporation phenomena, which have very similar behaviour (e.g. Massam, 2001; Dayal, 2011).

In Turkish, specific themes are marked with accusative Case (101a) but non-specific themes are not (101b). Similarly in Amharic, specific themes trigger object agreement (102a) while non-specific themes do not (102b).

(101) Turkish

- a. Ali bir kitab-ı aldı.
Ali one book-ACC bought
'Ali bought a certain book.'
 - b. Ali bir kitap aldı.
Ali one book bought
'Ali bought some book or other.'
- (Enç, 1991, 5)

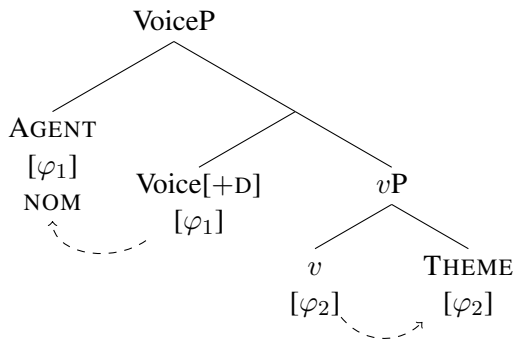
(102) Amharic

- a. Almaz dorō wät'-u-n bäll-atftj-iw
Almaz chicken stew-DEF.M-ACC eat.PFV-3F.SG-3M.SG.O
'Almaz ate the chicken stew.'
 - b. Almaz dorō wät' bäll-atftj(*-iw)
Almaz chicken stew eat.PFV-3F.SG-3M.SG.O
'Almaz ate chicken stew.'
- (Kramer, 2014, 601)

While specific and non-specific themes receive the same thematic interpretation, the DOM alternation suggests that they are licensed differently.

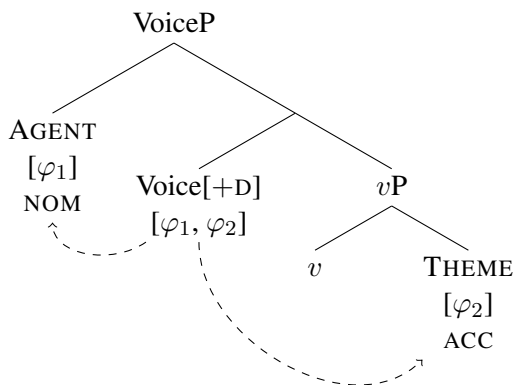
I propose that, just like antipassive themes in ergative languages, non-specific themes in DOM languages are licensed by *v*. However, non-specific themes need not be assigned Case (Massam, 2001; Danon, 2006; Preminger, 2014; Lyutikova & Pereltsvaig, 2013; Kalin, 2014, 2018, a.o.). Thus, as shown in (103), *v* licenses the theme but does not assign it Case. Voice introduces and licenses the agent, and assigns it nominative Case. Voice ends up with a single bundle of φ -features, thus removing the environment for dependent Case assignment and also accounting for the availability of only subject agreement in languages like Amharic.

(103) Non-specific theme



Specific themes, by contrast, must be licensed and Case-marked by Voice, as elucidated for standard nominative–accusative constructions above. The derivation is repeated in (104). Voice licenses the theme, assigning it accusative Case, as well as the external argument, assigning it nominative. Voice ends up with two bundles of φ -features, accounting for subject and object agreement in Amharic.

(104) Specific theme



Differential marking of the theme therefore derives from differential licensing in this system. Non-specific themes are licensed by *v* and remain Caseless, while specific themes are licensed and assigned accusative Case by Voice. In nominative–accusative languages without DOM, on the other hand, *v* is generally not an additional nominal licenser, so differential licensing is unavailable; all transitive themes are licensed by Voice and assigned accusative Case.¹⁵

According to my proposal, non-specific (or inanimate) themes in DOM languages are licensed in the same way as antipassive themes in ergative languages and Agent Voice themes in Philippine-type voice languages. However, it is generally the case that non-specific DOM themes are morphologically unmarked, while antipassive themes tend to surface with oblique Case. I suggest that this difference is due to language-specific requirements of Case assignment. In some languages, such as Turkish and Amharic, a subset of nominals do not need abstract Case, namely, non-specific nominals. In other languages, such as Tagalog and Inuktitut, *all* nominals must be specified for Case, including those that are non-specific.¹⁶ Interestingly, however, even in these languages the Case that is assigned to the non-specific theme is in some sense unmarked. In Tagalog, for example, Agent Voice themes receive genitive Case, which has a wide distribution in the

¹⁵As noted in Section 2.5.1, *v* may also be a licenser in languages with double object constructions.

¹⁶This difference in Case requirement can be modelled in a number of ways. For example, every nominal in Tagalog may have a K(ase) projection that must be valued for the derivation to survive, while in Turkish only specific nominals are KPs that need to be valued for Case. Regardless of the precise implementation of this Case difference, what is important is that non-specific themes are nonetheless licensed in the same way in both languages.

language, including in non-finite contexts such as complex nominals and gerunds. The oblique Case in Inuktitut similarly serves a multitude of functions (Schutze, 2001; Yuan, 2018). Thus while antipassive themes receive overt Case marking, they nonetheless display a DOM-like pattern in being assigned an unmarked Case.¹⁷

It is also worth pointing out that DOM seems to only affect transitive themes; transitive agents and intransitive subjects do not similarly undergo differential marking for animacy or specificity. This is because Voice obligatorily assigns nominative Case to the highest argument in VoiceP; thus the agent will be nominative regardless of its specificity, or DOM of the theme. Similarly, unaccusative subjects, even if they are non-specific, will nonetheless receive nominative Case marking from Voice. Note that transitive agents and intransitive subjects in ergative languages seem similarly immune to DOM effects; they always receive ergative Case and absolutive Case, respectively, regardless of their animacy or specificity. This furthermore underscores the similarity between ergative languages and DOM languages.

In this section, I have shown that nominative–accusative languages and DOM patterns can be captured straightforwardly in the Voice and licensing system developed in this chapter. Like “dependent” ergative Case, “dependent” accusative Case can only be assigned by a Voice head with two sets of φ -features. In other words, Voice with two sets of φ -features is the head that governs Burzio’s Generalisation. I have furthermore argued that non-specific themes in DOM languages are licensed in the same way as antipassive themes in ergative languages, by v instead of Voice, thus bleeding the assignment of dependent Case. Non-specific themes are Caseless and morphologically unmarked, while antipassive themes receive an unmarked Case.

¹⁷Note that the use of the term “unmarked” here refers to an abstract Case with a wide syntactic distribution and therefore differs from unmarked or default morphological case in the sense of Marantz (1991) and Bobaljik (2008).

2.6 Summary

In this chapter, I provided a framework for understanding transitivity phenomena cross-linguistically. I proposed that Voice is present in every clause and defines the licensing domain of the clause. Verb roots may select for one of three lexical variants of Voice (+D, -D or \emptyset), which differ in their argument introduction properties and semantics. Some roots are compatible with more than one variant of Voice, giving rise to valency alternations.

Voice is also able to license one or two arguments in transitive structures, which gives rise to syntactic transitivity alternations. Ergative languages and languages with Philippine-type voice morphology or differential object marking utilise two basic licensing configurations: (i) a configuration where *v* licenses the theme and Voice licenses the agent, and (ii) a configuration where Voice licenses both arguments. I argued that the second configuration, where Voice acquires two bundles of φ -features, gives rise to dependent Case and agreement phenomena. Ergative Case is assigned upwards by Voice with two bundles of φ -features, while accusative Case is assigned downwards.

Chapter 3

Applicatives

This dissertation assumes that external arguments are introduced not by verbs themselves but by a series of functional heads along the extended projection of the verb (McGinnis, 2001; Pylkkänen, 2002, 2008; Kim, 2011a; Wood & Marantz, 2017). As in Neo-Davidsonian event semantics (e.g. Parsons, 1990a; Schein, 1993), where arguments are related to predicates via thematic roles, these functional heads assign a thematic interpretation to the arguments they introduce. Each type of argument introducing head assigns a different thematic role, a principle which I will refer to as Thematic Uniqueness (Fillmore, 1968; Perlmutter & Postal, 1977; Chomsky, 1981; Bresnan, 1982; Kiparsky, 1987).

The canonical external argument thematic role is the agent role, which is assigned by Voice to its specifier (Kratzer, 1996). As discussed in Chapter 2, I assume that Voice is present in the functional inventory of every language, and, moreover, that Voice is a nominal licenser in every language and able to license up to two arguments. Non-core or applied arguments have similarly been proposed to merge in the specifier of applicative heads, which come in two varieties: high and low (McGinnis, 2001; Pylkkänen, 2002, 2008). However, languages vary in whether they have these applicative heads. In this chapter, I propose that languages also vary in whether their applicative heads are nominal licensors.

Focusing on languages with overt applicative morphology on the verb, I show that some languages, such as Kinyarwanda, allow stacking or recursion of multiple applicatives in a clause. However, most languages do not allow applied arguments to co-occur in a single clause. I argue that the availability of recursion is not a syntactic parameter that needs to be set for each language. Instead, I claim that the recursion of applicatives is governed by independent properties of nominal licensing of each language. Languages can differ not only in their inventory of thematic argument-introducing heads but also in the nominal licensing properties of those heads, and fewer nominal licensing heads means less argument stacking. I propose that languages whose applicative heads are nominal licensors will allow applicative recursion, while languages whose applicative heads are not nominal licensors will consequently not allow applicative recursion.

In Section 3.1, I summarise Pylkkänen’s (2002, 2008) proposal for the semantics of applicatives, which predicts that applicative recursion should be possible in all languages with both high and low applicatives. This prediction is shown to be incorrect for the vast majority of languages. In Section 3.2, I demonstrate that the availability of applicative recursion in a given language can be explained by whether applicative heads in that language are nominal licensors. Section 3.3 presents a case study of a non-recursive applicative language from Tagalog, based on Nie (2019). I show that in Tagalog, as in many other languages, the applied argument is not licensed in situ and must raise into a derived position, sometimes called a “raising applicative” (Collins & Thráinsson, 1996; Baker & Collins, 2006; Georgala et al., 2008; Georgala, 2012; Paul & Whitman, 2010; Deal, 2013; Massam, 2015; Nie, 2019). In Section 3.4, I show how a nominal licensing approach to recursive vs non-recursive applicative languages captures cross-linguistic variation in the combination of applicatives and causatives, such as adherence to the CARP (Causative–Applicative–Reciprocal–Passive) morpheme template in Bantu languages (Hyman, 2003).

3.1 Applicatives as argument introducers

Languages frequently allow arguments that are not specified by the lexical content of the verb to be added to a clause. In some languages, these added arguments bear a special Case, usually dative or an oblique Case. This chapter concerns itself with applicative constructions in languages where the added argument does not have special marking of its own but may induce overt morphology on the verb. In Kinyarwanda, for example, the addition of an instrumental argument is marked with overt applicative morphology on the verb (105b).

- (105) a. Habimana y-a-men-a igi-kombe.
 Habimana 1SM-PST-break-FV 7-cup
 ‘Habimana broke the cup.’
- b. Habimana y-a-men-esh-eje igi-kombe in-koni.
 Habimana 1SM-PST-break-INSTR-FV 7-cup 9-stick
 ‘Habimana broke the cup with a stick.’ (Jerro, 2016, 101)

Early approaches to applicatives involved the merger or incorporation of a preposition or affix into a verb, which would increase the valence of the complex verb and modify its Case-assigning properties (Marantz, 1984; Baker, 1988). The incorporated preposition would determine the semantics of the applied argument, while the verb controlled its licensing properties. In Baker’s (1988) P-incorporation approach to applicatives, for instance, applied arguments are not assigned inherent Case from P but structural Case from the verb. Marantz (1993) later showed that at least some applicatives merge outside of the VP containing the lexical verb and the theme, suggesting that applicative constructions are unlikely to be the result of incorporation but involve dedicated argument-introducing heads. More recent approaches, represented most prominently by Pylkkänen (2002, 2008), assume that every applied argument is introduced by a functional head along the extended projection of the verb (reminiscent of Larson’s (1988) VP shells), which assigns it a thematic interpretation and may also provide syntactic licensing (McGinnis, 2001).

Building on observations by Marantz (1993), Pylkkänen (2002, 2008) distinguishes two types of applied arguments, high and low, based on their semantic properties. Languages vary whether as to which of these additional external arguments they allow. Zulu, for example, has high applicatives, as diagnosed by their compatibility with unergative predicates and stative transitive predicates (McGinnis, 2001; Pylkkänen, 2002, 2008); examples are given (106). English, by the same diagnostics, does not have high applicatives where the added argument is unmarked (107).

(106) Zulu high applicative

- a. u-Mlungisi u-gijim-el-a u-Ntombi
AUG-1.Mlungisi 1SM-run-APPL-FV AUG-1.Ntombi
‘Mlungisi is running for Ntombi.’
- b. u-Mfundo u-phath-el-a u-mama i-ngane
AUG-1.Mfundo 1SM-hold-APPL-FV AUG-1.mother AUG-9.child
‘Mfundo is holding the baby for mother.’ (Halpert, 2015, 48)

(107) English

- a. *Sam is running Lee.
- b. *Sam is holding Lee the baby.

However, Zulu and English both have (null-marked) low applicatives, which are restricted to combining with predicates denoting transfer of possession or explicit creation. We can conclude, then, that languages differ in their inventory of argument-introducing heads.

(108) Zulu low applicative

- u-Mfundo u-nik-e u-mntwana u-jeqe.
AUG-1.Mfundo 1SM-give-PFV AUG-1.child AUG-1.steamed.bread
‘Mfundo gave the child steamed bread.’ (Halpert, 2015, 183)

(109) Sam sent Lee the books.

Pylkkänen proposes that benefactive and instrumental arguments are introduced by a high applicative head, HighAppl, which denotes a relation between an individual and any eventuality e (110). Recipient and goal arguments are introduced by a low applicative head, LowAppl, which denotes a possession relation between two individuals that results from a dynamic event with a theme, i.e. a predicate of type $\langle e, \langle s, t \rangle \rangle$ (111).

(110) HighAppl

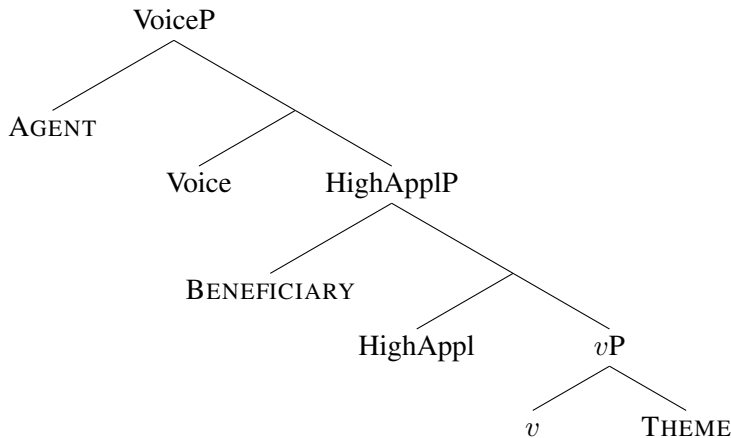
$\lambda x \lambda e. \text{APPL}(e, x)$

(111) LowAppl

$\lambda x \lambda y \lambda f \lambda e. f(e, x) \ \& \ \text{THEME}(e, x) \ \& \ \text{TO-THE-POSSESSION}(x, y)$ (Pylkkänen, 2008, 17–18)

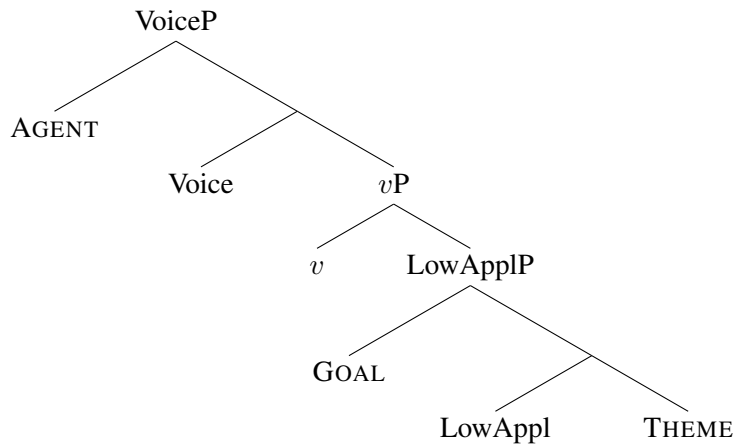
The semantic denotations of these two applicative heads constrain what they can compose with syntactically. HighAppl takes a vP complement, as illustrated in the benefactive high applicative tree structure in (112). The interested reader is referred to Pylkkänen (2002, 2008) for the full semantic decomposition of the following structures.

(112) High applicative



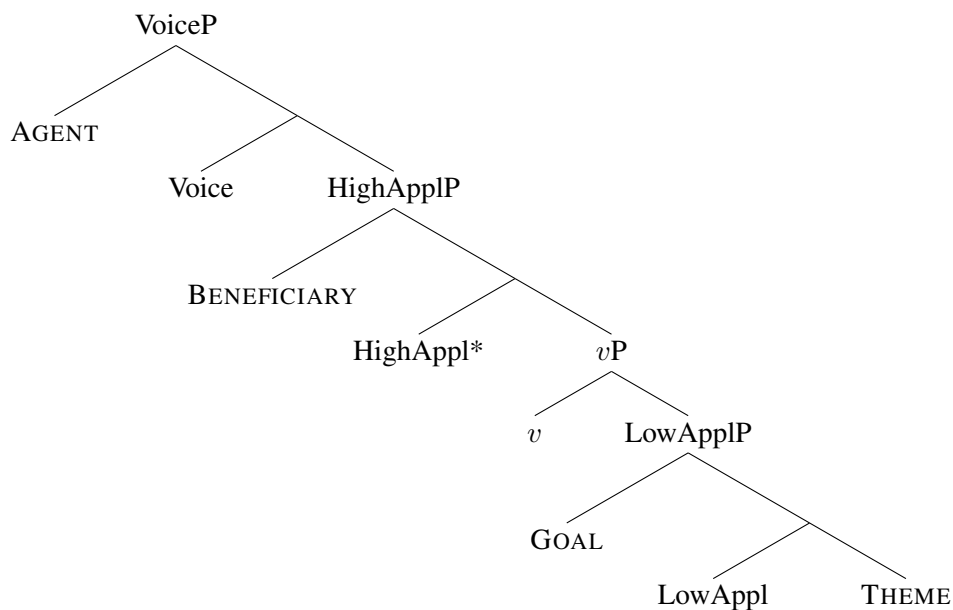
Low applicatives, by contrast, take a DP complement, creating a small clause-like structure; the resulting LowApplP constituent merges as the complement of the verb. (113) gives a low applicative structure, where the ‘to-the-Possession’ relation is notated as Goal.

(113) Low applicative



Pylkkänen's proposal has been influential because it provides a useful classification of applicatives, along with a fully compositional semantics. Taking her semantics, then, it should be possible to construct a combined high and low applicative structure such as (114) in languages with both high and low applicatives. It should also be possible to have constructions with multiple high applicatives, as indicated with the Kleene star on HighAppl head.

(114) High and low applicative



Both of these predictions are borne out in Kinyarwanda, which has high and low applicatives (Kimenyi, 1976; Ngoboka, 2005; Jerro, 2016). An example is given in (115) containing one low applicative (a goal) and two high applicatives (a benefactive and an instrument).

(115) Kinyarwanda

Umukozi y-a-h-eesh-er-eje umugore umwaana ibiryo ikanya.
worker 1SM-PST-give-INSTR-APPL-ASP woman child food fork

‘The worker gave the food to the child for the woman with a fork.’ (Ngoboka, 2005, 91)

Recall that Zulu also has high and low applicatives. According to the functional sequence of argument introducing heads in (114), we would expect it to be possible for high and low applicatives to co-occur in Zulu. However, as shown in (116), this prediction is not borne out.

(116) Zulu

*u-Mfundo u-nik-el-e u-mama u-mntwana u-jeqe.
AUG-1.Mfundo 1SM-give-APPL-PFV AUG-1.mother AUG-1.child AUG-1.steamed.bread

Intended: ‘Mfundo gave the child steamed bread for mother.’ (Halpert, 2015, 183)

Zulu also disallows two high applied arguments in the same clause. In fact, it has been observed that in most languages with both high and low applicatives, only one applied argument is permitted in any given clause (Marantz, 1993; McGinnis, 1998; Peterson, 2007). Thus while a small subset of languages like Kinyarwanda are able to stack or recurse applied arguments, the vast majority of languages lack applicative recursion.

To my knowledge, no one has seriously taken up the question of why languages should differ in their availability of applicative recursion. In the next section, I provide an answer: applicative recursion depends not only on the inventory of argument introducing heads but also on the inventory of nominal licensors.

3.2 Applicative recursion

Applicative recursion is uncommon but nonetheless attested in several language families around the world, as noted in Peterson’s (2007) large-scale survey of applicative constructions. Many Bantu languages have been reported to allow stacking of multiple applicatives in the same clause (Marlo, 2015; van der Wal, 2019). Examples are given below from Kinyarwanda.

- (117) Umukozi y-a-h-eesh-er-eje umugore umwaana ibiryo ikanya.
 worker 1SM-PST-give-INSTR-APPL-ASP woman child food fork
 ‘The worker gave the food to the child for the woman with a fork.’ (Ngoboka, 2005, 91)
- (118) Umugabo y-a-tem-eesh-er-eje umugore igiti ishooka.
 man 1SM-PST-cut-INSTR-APPL-ASP woman tree axe
 ‘The man cut the tree for the woman with an axe.’ (Ngoboka, 2005, 92)
- (119) Umugoré a-ra-na-ha-ki-zi-ba-ku-n-som-eesh-eesh-er-er-ez-a
 woman 1SM-PRS-also-16-7-10-2-2SG-1SG-read-INSTR-CAUS-APPL-APPL-APPL-FV
 ‘The woman is also making them read it (cl. 7, book) with them (cl. 10, glasses) to you for me there (cl. 16, in the house)’ (Kimenyi, 2002, 20)

Some Causasian languages such as Abaza (spoken in Russia and Turkey) also allow multiple applicatives, as shown in (120). *Tukang Besi* is an Austronesian language of Sulawesi, Indonesia that allows at least two applied arguments in a single clause (121).

- (120) Abaza
- s-pħa ayʔazaʃ^w a-stol
 1SG-daughter doctor the-table
 də-y-z-a-k^w-s-c’a-y-t’
 3SG.H.ABS-3MSG.APPL-BEN-3SG.NONH.APPL-LOC.on-1SG.ERG-put-PST-DYN
 ‘I put my daughter on the table for the doctor’ (O’Herin, 2001, 484)

(121) *Tukang Besi*

No-wila-ngkene-ako te ina-no te Wa Ki'i.
3.REAL-go-COM-APPL CORE mother-3POSS CORE Wa Ki'i

‘She went with Wa Ki’i for her mother.’ (Donohue, 1999, 248)

A list of representative languages found to have applicative recursion in this study is given in (122), ordered alphabetically.¹ The majority of the world’s languages, however, do not have applicative recursion. Some of the non-recursive applicative languages surveyed are listed in (123).

(122) Recursive applicative languages

- a. Abaza (Northwest Caucasian; Russia) (O’Herin, 2001)
- b. Kinyarwanda (Bantu; Rwanda) (Kimenyi, 1976; Ngoboka, 2005)
- c. Sesotho (Bantu; Lesotho) (Machobane, 1993)
- d. *Tukang Besi* (Austronesian; Indonesia) (Donohue, 1999)
- e. Xhosa (Bantu; South Africa) (Satyo, 1985)

(123) Non-recursive applicative languages

- a. Bemba (Bantu; Zambia) (Marten & Kula, 2014)
- b. Halkomelem (Salish; British Columbia) (Gerds & Whaley, 1992)
- c. Hiaki (Uto-Aztecan; Arizona) (Jung, 2014)
- d. Khoekhoe (Central Khoisan; Namibia) (author’s own fieldwork)
- e. Swahili (Bantu; lingua franca) (Keach & Rochemont, 1994)
- f. Tagalog (Austronesian; Philippines) (Schachter & Otones, 1972)
- g. Tzotzil (Mayan; Mexico) (Aissen, 1983)
- h. Zulu (Bantu; South Africa) (Halpert, 2015)

¹I only include languages for which there are clear examples of the multiple applicative construction adding two or more non-core arguments to the clause, rather than, say, changing the meaning of the predicate itself.

While languages like Kinyarwanda are able to license multiple applicatives in a clause, each applied argument must bear a different thematic role. In the spectacular example from Kinyarwanda repeated in (124), where the general applicative marker *-er-* and instrumental applicative marker *-eesh-* and their arguments are bolded; the instrumental applicative and causative morphemes are syncretic in Kinyarwanda but are glossed differently for clarity.² As indicated by the translation, each applicative morpheme is associated with a different thematic role: instrument (*glasses*), goal (*you*), beneficiary (*me*), and location (*the house*).

- (124) Umugoré a-ra-na-**ha-ki-zi-ba-ku-n**-som-eesh-**eesh-er-er-ez**-a
 woman 1-PRES-also-16-7-10-2-2SG-1SG-read-CAUS-INSTR-APPL-APPL-APPL-FV
 ‘The woman is also making them read it (cl. 7, book) with them (cl. 10, glasses) to you for me there (cl. 16, in the house)’ (Kimenyi, 2002, 20)

Each applied argument must bear a different thematic role, in accordance with the principle I will refer to as Thematic Uniqueness, which has had a number of instantiations in the literature (Fillmore, 1968; Perlmutter & Postal, 1977; Chomsky, 1981; Bresnan, 1982; Kiparsky, 1987).³

(125) Thematic Uniqueness

A thematic role can only be assigned to one argument within a single thematic domain.

²The applicative object pronouns on the verb in (124) do not appear in their scopal order. According to Zeller & Ngoboka (2015), pronoun order in Kinyarwanda is conditioned on person and animacy, where pronouns with human referents appear closest to the verb, but there is no strict ordering for pronouns with non-human referents.

³Previous instantiations include the Stratal Uniqueness Law in Relational Grammar (1), Bresnan’s (1982) Uniqueness (2) and the second half of the Theta Criterion (3).

- (1) Stratal Uniqueness Law (Perlmutter & Postal, 1977)
 For a given predicate there can be at most one argument bearing a particular grammatical relation to that predicate.
- (2) Uniqueness (Bresnan, 1982)
 Each argument of a verb is assigned a unique role with respect to the other arguments of that same verb.
- (3) Theta Criterion (Chomsky, 1981, 35)
 Each argument bears one and only one thematic role, and each thematic role is assigned to one and only one argument.

Thematic Uniqueness explains why languages like Kinyarwanda have applicative recursion but do not also have thematic role recursion. In Chapter 4, I argue that thematic domains correspond to event domains; in this chapter I only discuss clauses which denote a single event, which constitutes a single thematic domain.

When two applied arguments co-occur, their relative order is often restricted, according to their thematic relations. In (126), a Kinyarwanda example with full nominal arguments, the benefactive argument must precede the instrument; the opposite order is impossible.

- (126) Umugabo y-a-tem-eesh-er-eje umugore igiti ishooka.
 man SM-PST-cut-INSTR-APPL-ASP woman tree axe
 ‘The man cut the tree for the woman with an axe.’ (Ngoboka, 2005, 92)

Such restrictions on the order of arguments have prompted the postulation of thematic hierarchies, where higher thematic roles are mapped onto higher structural positions (Fillmore, 1968; Jackendoff, 1972; Dik, 1978, 1980; Givón, 1984; Kiparsky, 1987; Larson, 1988; Bresnan & Kanerva, 1989; Baker, 1997; Levin & Rappaport Hovav, 2005; Bowers, 2010). Polinsky & Kozinsky (1992), for example, propose the thematic hierarchy in (127) for Kinyarwanda applicatives and causatives based on the linear order displayed by combinations of different non-core arguments.

- (127) Kinyarwanda thematic hierarchy (Polinsky & Kozinsky, 1992, 440)
 Recipient > Benefactive > Possessor > Causee > Instrument > Comitative

To the extent that thematic hierarchies are reliable, they can be either hard-coded in the narrow syntax as a series of ordered projections or implemented as a mapping procedure between the syntax and the semantics at LF. However, it is unclear whether languages adhere to a universal thematic hierarchy, as proposals frequently disagree with each other in their ranking of thematic roles. Some accounts claim that goals, for example, are ranked higher than themes (Bresnan & Kanerva, 1989; van Valin, 1990), while others maintain that they are ranked lower (Fillmore, 1971; Larson, 1988; Baker, 1997). I therefore acknowledge the descriptive use of thematic hierarchies

but do not take any particular stance here as to if or how they are represented in the syntax. What the literature does agree on, however, is a universal principle of Thematic Uniqueness, where a given thematic role may only be borne by a single argument within the same thematic domain.

In this section, I argue that whether or not a language permits recursion of applicatives is a consequence of abstract nominal licensing, which governs the syntactic distribution of arguments in a language. I show that applicative heads are nominal licensors in recursive applicative languages (Section 3.2.2) but are not nominal licensors in non-recursive languages (Section 3.2.1).

3.2.1 Non-recursive languages

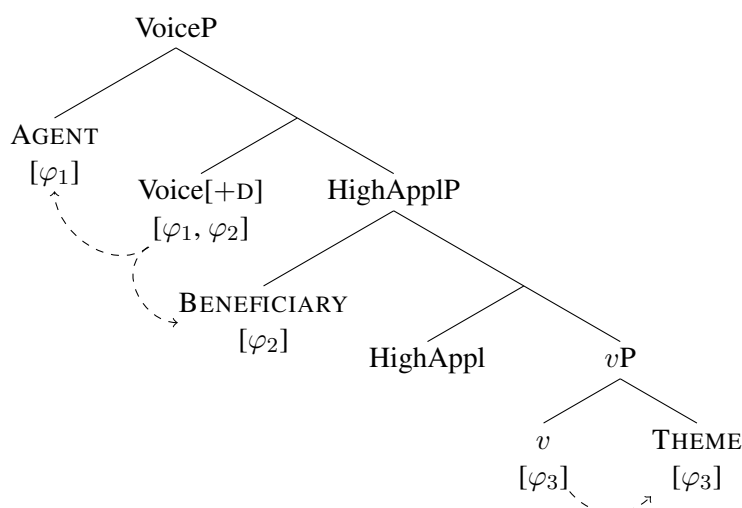
Non-recursive applicative languages allow only one applied argument per clause. The lack of applicative recursion in these languages cannot be attributed to the semantics of applicatives, as their semantics is assumed to be compositional and languages with multiple applicatives are attested. Whether or not applicative recursion is possible must therefore be determined in the syntax.

It is clear that non-recursive applicative languages cannot be explained by appeal to a fixed hierarchy of argument-introducing heads along the extended projection of the verb. A number of thematic hierarchies have been proposed for mapping thematic roles onto structural positions, such as that of Polinsky & Kozinsky (1992) in (127). A Cartographic approach appealing to a universal hierarchy of functional heads would not explain the prevalence of non-recursive applicative languages, as it would predict that any number of these positions should be available in a given clause. Alternatively, a hierarchy of heads can be established through language-specific restrictions on c-selection, where HighAppl may select for *v*P (in the case of high applicatives) or DP (for low applicatives) but not another HighApplP in non-recursive languages. This prevents two high applicatives from merging in the same clause. However, in this approach, HighAppl could still select for a *v*P that contains a LowApplP. It therefore seems difficult to attribute the non-recursion of applicatives to restrictions on the combination of functional heads.

Instead, I assume that argument-introducing heads can combine freely in the syntax and it is the distribution of the arguments themselves that are constrained in non-recursive languages. All nominals must be both (i) assigned a thematic role and (ii) licensed via abstract φ -agreement. Arguments are introduced freely but they may not all be licensed. That is, recursion is constrained not by argument introduction but by argument *licensing*, specifically by the need to check φ -features (Danon, 2006; Rezac, 2011; Kalin, 2019, a.o.).

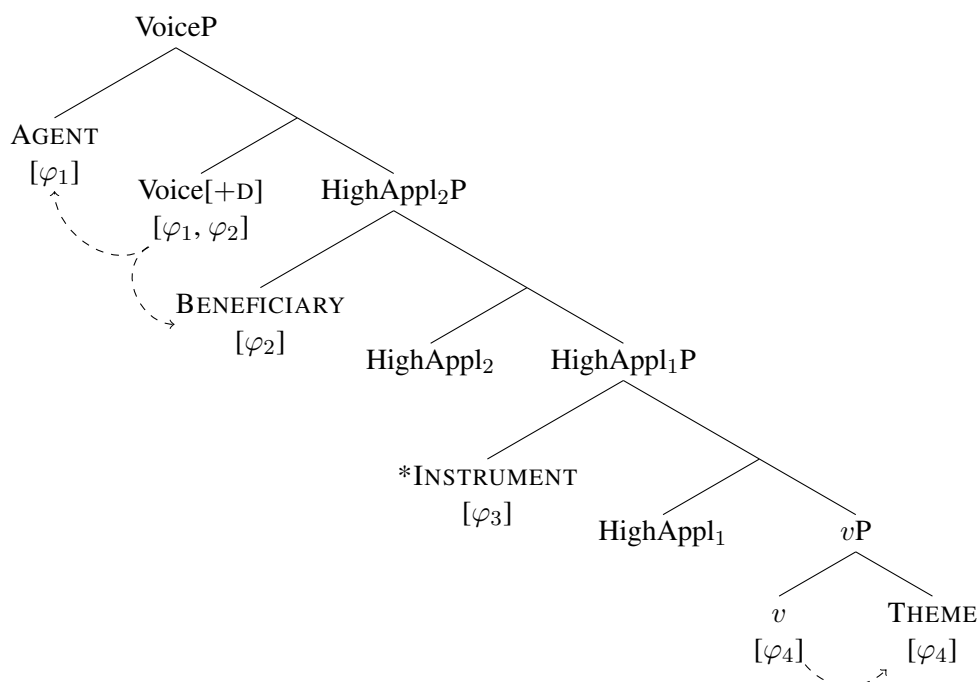
I propose that in non-recursive applicative languages, only one applied argument can be licensed; any additional applied arguments that are introduced will not be licensed and will therefore lead the derivation to crash. Non-recursive languages must therefore only have applicative licenser; I propose that this licenser is the Voice head. This is shown in (128) for a transitive construction with a single high applicative, say, a beneficiary. I assume that v is a licenser in languages with double object constructions, i.e. constructions where the theme and applied argument have the same (un)markedness. The theme is introduced and licensed by v via abstract φ -agreement. HighAppl introduces the beneficiary but crucially does not license it. In order for the derivation to converge, then, the beneficiary argument must be licensed by Voice, which, as discussed in Chapter 2, is able to license both the agent and the highest unlicensed argument it c-commands.

(128) Non-recursive applicative licensing



In constructions with multiple applicatives, the applied arguments compete for licensing by Voice. A transitive construction with two high applicatives is sketched in (129), where the beneficiary is merged higher than the instrument, following the thematic hierarchy in (127). *v* licenses the theme. HighAppl₁ introduces the instrument but is unable to license it. HighAppl₂ similarly introduces the beneficiary but does not license it. Voice is able to license its specifier and the higher of the two applied arguments. However, this leaves the lower applied argument unlicensed. Since all nominals must be licensed within the VoiceP, the unlicensed instrument causes the derivation to crash.

(129) Non-recursive applicative licensing (ungrammatical)



Because the applicative heads are not nominal licensers in non-recursive languages, their external arguments must compete for licensing by the only higher licensing head, Voice. However, Voice is only able to license the highest applied argument, deriving the fact that only one applied argument is permitted per clause.

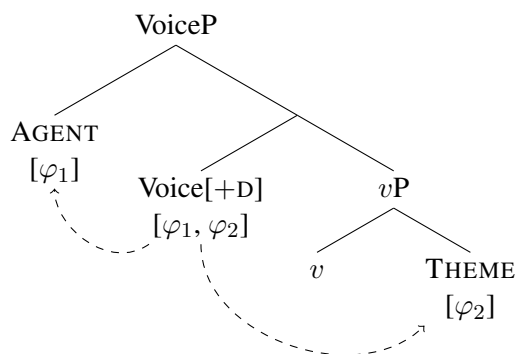
Some supporting evidence for the proposal that it is Voice which licenses the applied argument comes from the distribution of object marking in non-recursive Bantu languages, which generally have a topicalisation function. In Swahili, only the applied argument may be object-marked in applicative constructions, as shown in (130). Swahili is thus an example of an “asymmetric” applicative or double object language (Baker, 1988; Bresnan & Moshi, 1990; Woolford, 1993; McGinnis, 1998, 2001), where the applied argument behaves as the syntactic object of the complex verb for the purposes of agreement, passivisation, etc. (Marantz, 1984).

- (130) a. Juma a-li-nunul-i-a m-toto ki-tabu.
 Juma 1SM-PST-bring-APPL-FV 1-child 7-book
 ‘Juma brought a book for the child.’
- b. Juma a-li-**m**-nunul-i-a m-toto ki-tabu.
 Juma 1SM-PST-1OM-bring-APPL-FV 1-child 7-book
 ‘Juma brought a book for the child.’
- c. *Juma a-li-**ki**-nunul-i-a m-toto ki-tabu.
 Juma 1SM-PST-7OM-bring-APPL-FV 1-child 7-book
 ‘Juma brought the child a book.’ (Ngonyani, 1996)

I assume that subject and object marking in Bantu languages results from φ -agreement between an argument and a nominal licensing head.⁴ In Swahili, there is only one locus of object marking, which I suggest is Voice; an argument must agree with Voice in order to be object-marked. In a simple transitive construction, Voice licenses and undergoes φ -agreement with the theme (131). This agreement is realised overtly as the object marker.

⁴Object markers vary across Bantu languages in whether they behave more like syntactic agreement or pronominal clitics. I assume that φ -agreement is involved in either case.

(131) Object marker tracks the theme



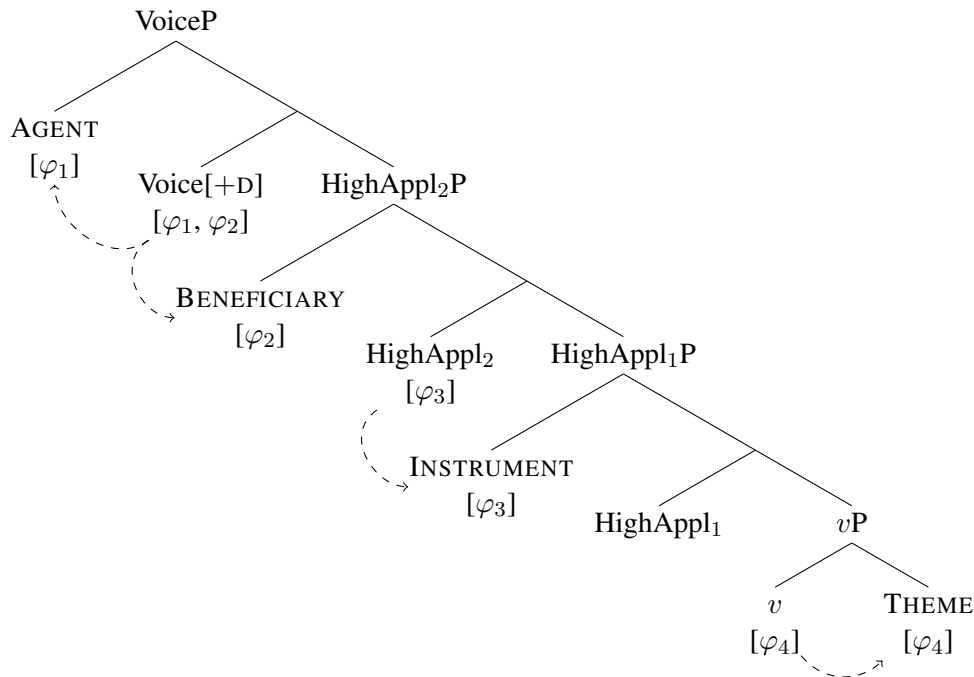
In an applicative construction, as shown previously in (128), Voice licenses and agrees with the applied argument; this agreement is spelled out as the object marker. Because the theme is no longer licensed by Voice but by *v*, it can no longer control object marking. My approach thus derives the behaviour of the applied argument as the syntactic object of the verb. Some non-recursive applicative languages, such as Zulu, are “symmetric” such that themes of applicative constructions can also trigger object marking on the verb. I discuss symmetric languages in the next subsection.

Thus the unavailability of applicative recursion in languages such as Swahili is due to constraints on nominal licensing. Because applicative heads are not nominal licensers, applied arguments must compete for licensing by Voice, thereby deriving the lack of recursion.

3.2.2 Recursive languages

In recursive applicative languages, by contrast, applicatives heads are nominal licensers. This is illustrated in (132) for the derivation of a transitive predicate with two high applicatives. I assume that *v* licenses the theme, although this is not crucial. Following the thematic hierarchy in (127), where the benefactive argument outranks the instrument, the lower HighAppl₁ head introduces an instrument, while the higher HighAppl₂ introduces a beneficiary and licenses the instrument. The beneficiary is then licensed by Voice, which also licenses the agent.

(132) Recursive applicative licensing



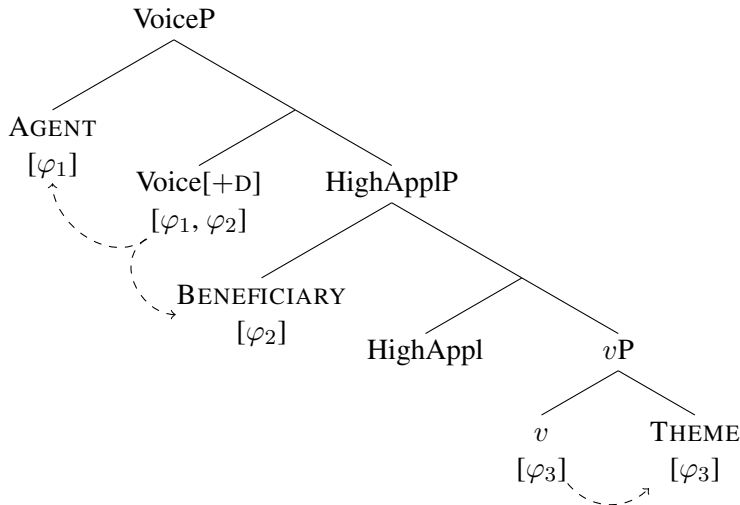
Note that I am assuming throughout this dissertation that nominal licensing heads (apart from Voice) optionally license; that is, Agree can fail (Preminger, 2014). Thus the syntax can tolerate HighAppl₁ not having undergone an agreement relation in this tree; alternatively, HighAppl₁ could license the theme and *v* would be inert. What is important is that applicative heads *can* license, so that there are enough nominal licensers to go around in a derivation with multiple applicatives.

In (132), the beneficiary is licensed by the Voice head. Support for this approach comes from Bantu languages like Sesotho, which allow applicative recursion but permit only one object marker on the verb. Recall that object markers are usually associated with discourse topics. In simple transitives, the theme is the only available argument to control object marking. In applicative constructions, object marking is controlled by either the applied argument (133b) or the theme (133c). Sesotho is thus considered a “symmetric” applicative language, since either applied argument or theme can behave as the syntactic object of the verb (Baker, 1988; Bresnan & Moshi, 1990; Woolford, 1993; McGinnis, 1998, 2001).

- (133) a. 'Me o-pheh-ets-e bana iinaoa.
 1.mother 1SM-cook-APPL-FV 2.children 10.beans
 'My mother has cooked beans for the children.'
- b. 'Me o-**ba**-pheh-ets-e iinaoa.
 1.mother 1SM-2OM-cook-APPL-FV 10.beans
 'My mother has cooked beans for them.'
- c. 'Me o-**li**-pheh-ets-e bana.
 1.mother 1SM-10OM-cook-APPL-FV 2.children
 'My mother has cooked them for the children.'
- (Machobane, 1993)

I assume that only one object marker is possible in Sesotho, as in Swahili, because there is only one locus of φ -agreement, the Voice head. In a simple transitive, Voice licenses and undergoes φ -agreement with the theme. In an applicative construction, the object marker can track an applied argument, which indicates that the applied argument has been licensed from above by Voice (134). The theme in the applicative construction is licensed by v and therefore cannot control object marking. HighAppl is a possible nominal licenser here but is inert.

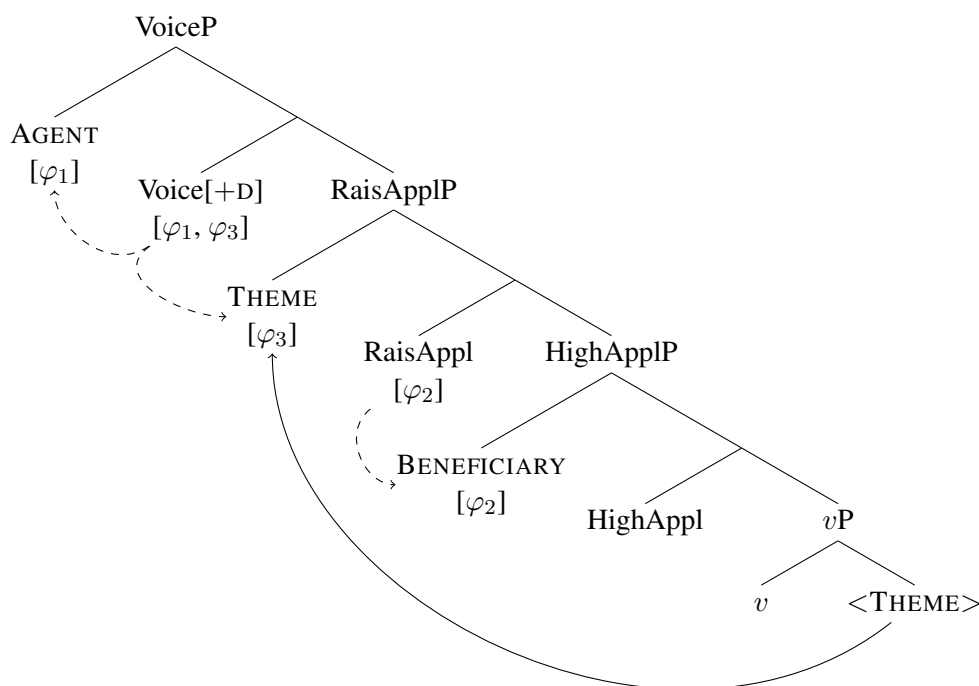
(134) Object marker tracks the applied argument



However, in Sesotho the theme of an applicative construction can also be object-marked, as seen in (133c), which seems to violate locality. Following a growing body of literature arguing

for a derived position for internal arguments in applicative constructions (Collins & Thráinsson, 1996; Baker & Collins, 2006; Georgala et al., 2008; Georgala, 2012; Paul & Whitman, 2010; Deal, 2013; Massam, 2015; Nie, 2019), I propose that the theme raises to an athematic position above HighAppl but below Voice, into the specifier of a null “raising applicative” head (RaisAppl), a term introduced by Paul & Whitman (2010). This is shown in (135). I suggest that while RaisAppl is not a thematic role assigner, it is a nominal licenser and is therefore able to license the beneficiary. The theme in Spec-RaisAppl is then licensed via φ -agreement with Voice, triggering object marking.

(135) Object marker tracks the theme



The raising applicative position is associated with discourse prominence and enables the theme to be licensed as the syntactic object of the clause (Collins & Thráinsson, 1996; Baker & Collins, 2006; Nie, 2019).⁵ The RaisAppl head also provides licensing for a lower argument (Collins & Thráinsson, 1996; Baker & Collins, 2006; Georgala et al., 2008; Paul & Whitman, 2010).

⁵In some proposals, the theme moves to an outer specifier of a thematic ApplP in order to raise past the applied argument (e.g. McGinnis, 2001; Anagnostopoulou, 2003; Holmberg et al., 2018).

As far as I am aware, all Bantu languages that are recursive for applicatives are also symmetric, indicating the availability of a RaisAppl position for themes in all recursive applicative languages. However, there are some non-recursive applicative languages which are also symmetric. Zulu is one such example, where either the applied argument or the theme can trigger object marking, as shown in (136).

- (136) a. U-Langa u-**m**-phek-el-a i-nyama (u-mama).
 AUG-1.Langa 1SM-**1**OM-cook-APPL-FV 9-meat (AUG-1.mother)
 ‘Langa is cooking the meat for her (mother).’
- b. U-Langa u-**yi**-phek-el-a u-mama (i-nyama).
 AUG-1.Langa 1SM-**9**OM-cook-APPL-FV AUG-1.mother (9-meat)
 ‘Langa is cooking it for mother (the meat).’ (Zeller, 2012)

I suggest that theme object marking in Zulu is derived in the same way as in Sesotho, illustrated previously in (135). The theme raises to the specifier of RaisAppl, where it is licensed by Voice. RaisAppl provides an additional source of licensing for the applied argument. However, it must be stipulated that RaisAppl can only merge once in the clause; further instances of RaisAppl would allow multiple applicatives to be licensed. However, there do appear to be grounds for this stipulation: if RaisAppl serves a discourse function, to highlight the topic or focus of the clause, then it seems reasonable that there would only be one instance of RaisAppl per clause. In addition, RaisAppl can only be available to promote the theme in Zulu and not another applied argument. The implications of raising applicatives are discussed in greater detail in Section 3.4, and will also play a role in the derivation of Tagalog applicatives in Section 3.3.

Summing up this section, I have argued that the availability of applicative recursion is not a basic syntactic parameter across languages but is a consequence of differences in nominal licensing, namely whether the applicative heads in a given language are nominal licensers. In recursive languages, Appl is a nominal licenser and therefore allows multiple applicatives to be

licensed in a single clause. In non-recursive languages, Appl is *not* a nominal licenser. Applied arguments must instead compete for licensing by Voice and therefore cannot recurse.

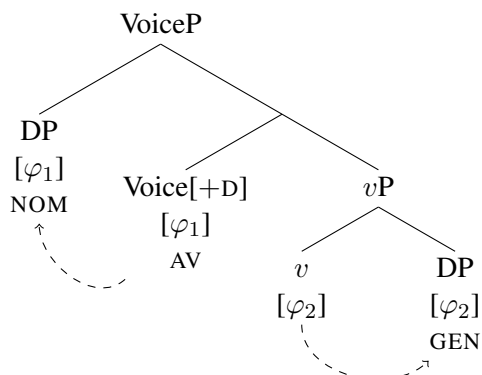
3.3 Tagalog applicatives

In this section, I present a case study of a non-recursive applicative language from Tagalog, drawing liberally from Nie (2019). As discussed in Chapter 2.3, Tagalog voice morphology tracks the most discourse prominent argument in the clause, referred to as the “pivot” (Dixon, 1979; Schachter & Otnes, 1972; Foley & van Valin Jr, 1984; Kroeger, 1991, a.o.), which is always marked with *ang* or nominative Case and interpreted as definite/specific. As a result, both examples in given (137) contain a semantically transitive clause but the verb receives a different voice marker. Agent Voice marking, for example, appears on the verb when the pivot is the agent of the clause (137a), while the Patient Voice construction is used when the pivot is a theme or patient (137b).

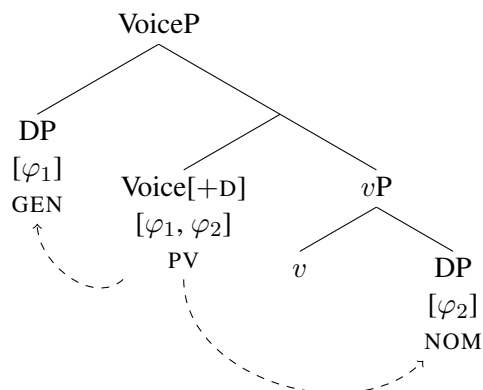
- (137) a. **Nag**-sulat [ang babae] [ng liham].
 AV.PFV.PAG-write NOM woman GEN letter
 ‘The woman wrote a letter.’ Agent Voice
- b. S<in>ulat-Ø [ng babae] [ang liham].
 <PFV>write-PV GEN woman NOM letter
 ‘The woman wrote the letter.’ Patient Voice

I briefly summarise my approach to the Tagalog voice system, which was presented in full in Chapter 2.3. I assume that voice alternations in Tagalog are the result of the interaction between Voice and nominal licensing via φ -agreement. In the Agent Voice derivation in (138), *v* licenses its DP complement, the theme, via φ -agreement and assigns it inherent genitive Case. Voice then licenses the agent, assigning it nominative pivot marking. In the Patient Voice derivation in (139), *v* does not license its complement or assign it inherent genitive Case. Voice therefore licenses down to the theme and assigns it nominative Case, marking it as the pivot. Voice then licenses and assigns inherent genitive Case to its specifier and thus acquires two sets of φ -features.

(138) Agent Voice



(139) Patient Voice



Thus Agent Voice morphology spells out Voice[+D] with one bundle of φ -features, while Patient Voice spells out Voice[+D] with two (140).

- (140) a. Voice[φ_1] \leftrightarrow AV
 b. Voice[φ_1, φ_2] \leftrightarrow PV

While agents and themes can surface with either nominative or genitive Case in simple transitives, applied arguments are always marked as the nominative pivot. Beneficiaries, for example, can bear nominative Case (141b), triggering Circumstantial Voice morphology on the verb, but they cannot be genitive (141a); if not marked nominative, they must surface as oblique PPs. As Rackowski & Richards (2005) point out, all applied arguments must be nominative in Tagalog.

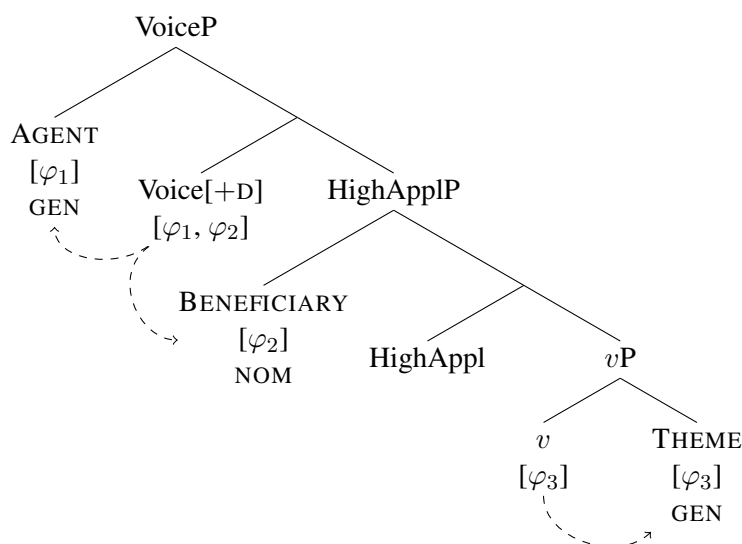
- (141) a. **Nag**-sulat [ang babae] [ng liham] [para sa/*ng bata].
 AV.PFV.PAG-write NOM woman GEN letter for OBL/GEN child
 ‘The woman wrote a letter for the child.’ Agent Voice
- b. **I-s<in>ulat** [ng babae] [ng liham] [ang bata].
 CV-<PFV>write GEN woman GEN letter NOM child
 ‘The woman wrote a letter for the child.’ Circumstantial Voice

The Circumstantial Voice and Locative Voice, another “voice” affix, in Tagalog have been previously associated with high and low applicatives, respectively (Rackowski, 2002; Aldridge, 2004,

2012). However, Circumstantial Voice is associated with not only nominative beneficiaries and instruments but also themes of ditransitives and causatives (Schachter & Otnes, 1972). Locative Voice is associated with nominative goals, locations, benefactives and external possessors (Nie, 2019). It has been a long-standing puzzle why Circumstantial Voice and Locative Voice pivots display similar syntactic behaviour, despite having a wide range of thematic roles.

I argue that applied arguments in Tagalog are not licensed by Appl but receive licensing and nominative Case assignment from Voice; this derives the obligatory pivohood of the applied argument as well as lack of applicative recursion in the language. (142) gives a preliminary sketch of a high applicative construction, where the HighAppl head introduces a beneficiary but has no ability to license; instead, Voice licenses the beneficiary and assigns it nominative Case. The agent and theme are licensed and assigned genitive Case by their thematic heads.

(142) High applicative construction (to be revised)



The derivation in (142) captures a number of properties of applicative constructions in Tagalog. Because HighAppl does not license or assign Case, there can be no applicative recursion in the language. Because the applied argument is not licensed by its thematic introducer, it must be licensed by Voice and assigned nominative Case; it would otherwise remain unlicensed and cause

a crash.⁶ Finally, the derivation shows that the applied argument, rather than the theme, behaves as the direct object of the complex verb for the purposes of (abstract) φ -agreement (Marantz, 1984).

In (142), Voice[+D] bears two bundles of φ -features. According to my proposal above, this should condition the spell out of Patient Voice. However, high applicatives are usually associated with Circumstantial Voice morphology in Tagalog instead of Patient Voice. An example was given in (141b); another is given in (143).

- (143) a. **I-t<in>**akbo [ng bata] [ang kaibigan niya].
 CV-<PFV>run GEN child NOM friend 3SG.GEN
 ‘The child ran for her friend.’ Circumstantial Voice

Two straightforward analytical options based on the structure in (142) would be for the Circumstantial Voice prefix *i-* to spell out either the Voice head or HighAppl. In the former approach, *i-* would spell out Voice[+D] with two bundles of φ -features in the context of HighAppl, and HighAppl itself would be null. In the latter approach, *i-* would spell out HighAppl, and Voice[+D] with two bundles of φ -features would have to be null in the context of HighAppl, in order to prevent the spell-out of Patient Voice. In the next subsection, I present additional Circumstantial Voice data suggesting that neither option is tenable and that the analysis of the high applicative construction in (142) will need to be revised to include an intermediate functional projection—a raising applicative (Georgala et al., 2008; Georgala, 2012; Paul & Whitman, 2010).

3.3.1 Circumstantial Voice

The Circumstantial Voice prefix *i-* in Tagalog is typically associated with high applicatives in the literature (Rackowski, 2002; Aldridge, 2004, 2012), appearing on the verb when the pivot is a benefactive argument or instrument; examples are given in (144).

⁶The fact that applied arguments in Tagalog can never bear genitive Case suggest that genitive is not a default or last-resort licensing strategy, as Erlewine et al. (2017) claim.

- (144) a. **I-t**<in>**akbo** [ng bata] [ang kaibigan niya].
 CV-<PFV>run GEN child NOM friend 3SG.GEN
 ‘The child ran for her friend.’ Benefactive
- b. **I-p**<in>**am-punas** [ko] [ang trapo].
 CV-<PFV>INSTR-wipe 1SG.GEN NOM rag
 ‘I wiped with the rag.’ Instrument

Notice that when the pivot is an instrument, as in (144b), the Circumstantial Voice prefix *i-* co-occurs with an instrumental prefix *paN-* (Rackowski, 2002).⁷ Additional instrumental applicative examples with transitive predicates are given in (145).

- (145) a. **I-p**<in>**am-punas** [ko] [ng silya] [ang trapo].
 CV-<PFV>INSTR-wipe 1SG.GEN GEN chair NOM rag
 ‘I wiped a chair using the rag.’
- b. **I-p**<in>**ang-luto** [ko] [ng adobo] [ang kaldero].
 CV-<PFV>INSTR-cook 1SG.GEN GEN adobo NOM pot
 ‘I cooked adobo using the pot.’

These examples suggest that it is not the head associated with *i-* that introduces the instrument thematically, but the head associated with *paN-*. The Circumstantial Voice prefix is nonetheless obligatory when the instrument is the pivot, suggesting that Circumstantial Voice is needed for the purposes of syntactic licensing. These examples provide morphological evidence that there are at least two heads involved in the syntax of instrumental applicatives: a thematic high applicative projection which introduces the instrument (associated with the instrumental marker *paN-*) and an athematic head that licenses the argument (associated with Circumstantial Voice *i-*). As sketched previously in (142), this athematic licensing head could be Voice[+D], realised as *i-* in the context of HighAppl. However, Tagalog has a number of Circumstantial Voice constructions that do not clearly involve HighAppl.

⁷The prefix *paN-* participates in the phonological process of nasal substitution, where the prefix-final nasal undergoes assimilation or fusion with the stem-initial obstruent (Zuraw, 2000).

In addition to high applicative constructions, Circumstantial Voice morphology also appears in certain configurations where the theme is the pivot, namely in ditransitives (146a) and causatives of transitive predicates (146b).

- (146) a. **I-b<in>**igay [ko] [sa bata] [ang libro].
 CV-<PFV>give 1SG.GEN OBL child NOM book
 ‘I gave the child the book.’ Theme of ditransitive
- b. **I-p<in>**a-basa [ko] [sa bata] [ang libro].
 CV-<PFV>CAUS-read 1SG.GEN OBL child NOM book
 ‘I made the child read the book.’ Theme of causative

These examples are striking because they show that Circumstantial Voice morphology can track not only high applicative pivots (Rackowski, 2002; Aldridge, 2004, 2012) but also theme pivots. Importantly for the analysis of Circumstantial Voice, there is no evidence of a HighAppl projection in either of the constructions in (146). This means that the prefix *i-* cannot simply be the realisation of Voice[+D] in the context of HighAppl; *i-* may appear in configurations where there is no HighAppl head at all.

How, then, can we provide a unified analysis of Circumstantial Voice? Consider the fact that theme pivots usually trigger Patient Voice on the verb, even in the presence of an optional PP such as a beneficiary (147a) or a locative argument (147b).⁸ Non-pivot instruments are introduced as an adjunct headed by *gamit* ‘use’ (147c).

- (147) a. **S<in>**ulat-Ø [ng babae] [ang liham] [para sa bata].
 <PFV>write-**PV** GEN woman NOM letter for OBL child
 ‘The woman wrote the letter for the child.’
- b. **B<in>**asa-Ø [ng babae] [ang libro] [sa Maynila].
 <PFV>read-**PV** GEN woman NOM book OBL Manila
 ‘The woman read the book in Manila.’

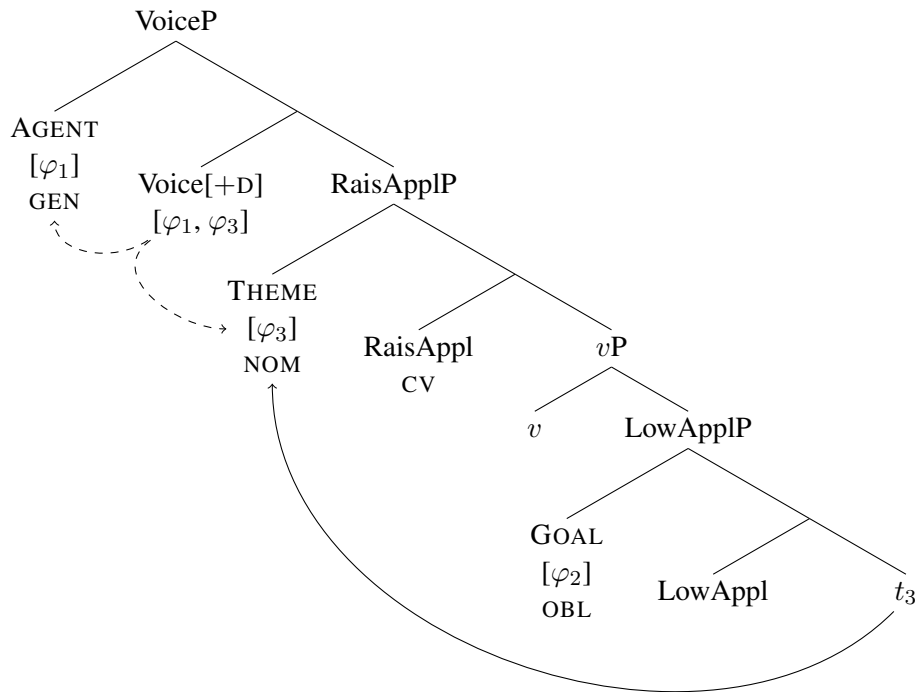
⁸I set aside verbs that are lexically specified to take Circumstantial Voice themes, such as *sara* ‘close’, or Locative Voice themes, such as *laba* ‘wash, launder’.

- c. Ni-luto-Ø [ng babae] [ang adobo] [gamit ang kaldero].
 PFV-cook-**PV** GEN woman NOM adobo use NOM pot
 ‘The woman cooked the adobo using the pot.’

However, the constructions in (146) show that when the theme pivot co-occurs with an *obligatory* oblique PP argument, such as a ditransitive goal or a transitive causee, the verb must take the Circumstantial Voice affix. The presence of an obligatory oblique argument seems to prevent the theme pivot from triggering Patient Voice on the verb. Thus Voice[+D] does not license the theme of ditransitive and causatives as it does the theme in simple transitives.

I suggest that the contrast between Patient Voice and Circumstantial Voice themes can be explained if licensing by Voice is subject to locality. In a Patient Voice construction, the theme is the highest argument c-commanded by Voice and is therefore local enough to be licensed directly by Voice, as shown earlier in (139). In a Circumstantial Voice ditransitive or causative, on the other hand, the oblique argument behaves as an intervener for licensing; this would make licensing of the theme by Voice a violation of locality. In order to be licensed by Voice and receive nominative pivot marking, then, the theme must move past the oblique argument so that it becomes local to Voice. I propose that this landing site is just below Voice, the specifier of the athematic raising applicative head (RaisAppl) (Georgala et al., 2008; Georgala, 2012; Paul & Whitman, 2010). This analysis is sketched in (148) for a ditransitive, where the theme raises past the goal for licensing by Voice. I propose that it is RaisAppl that is spelled out as the Circumstantial Voice prefix *i-*; Voice[+D] is phonologically null in the context of RaisAppl.

(148) Circumstantial Voice with ditransitive theme pivot

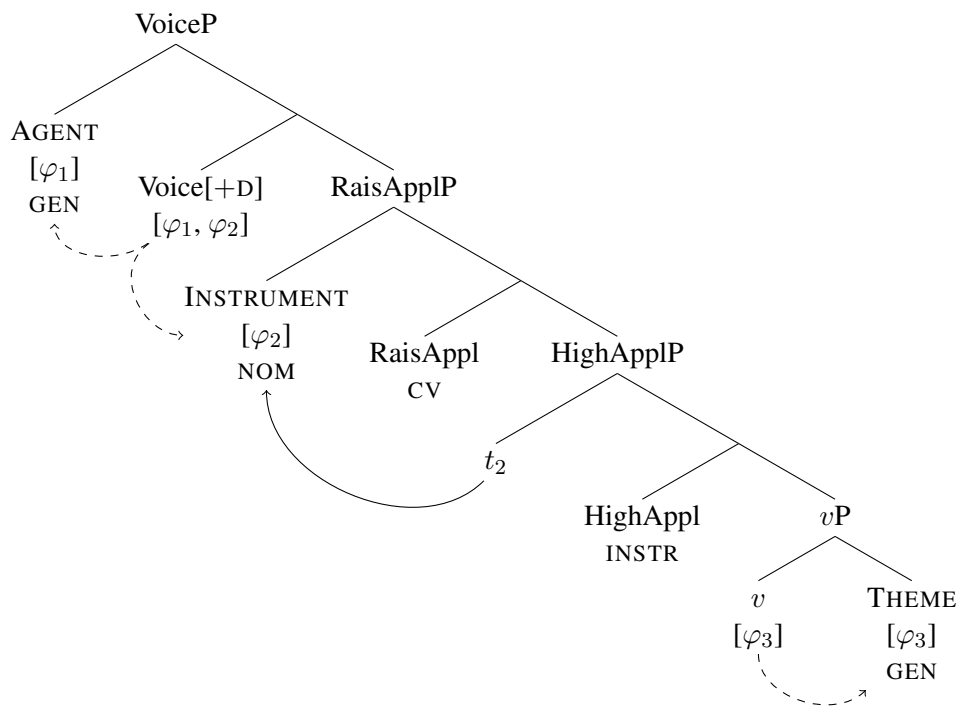


The analysis presented in (148) makes a number of assumptions. The goal argument is a PP introduced by LowAppl and serves as an intervener; this explains the contrast between obligatory oblique arguments and non-obligatory PPs, which I assume are PP adjuncts to the clause and therefore do not interact with the licensing of the theme. I also assume that RaisAppl can only attract DPs to its specifier, thereby enabling the theme DP to raise past the goal PP. Thus while the goal PP serves as an intervener for licensing by Voice, it cannot itself undergo pivot licensing, perhaps because it is already licensed by P. Furthermore, unlike in Bantu languages (see Section 3.2.2), there is no evidence that RaisAppl is a licenser.

In ditransitive Circumstantial Voice constructions, RaisAppl serves as a landing site for the theme to be locally licensed by Voice. The RaisAppl projection also provides a way to unify the different thematic roles associated with the Circumstantial Voice affix. As in other non-recursive applicative languages, Appl is not a nominal licenser in Tagalog. Applied arguments must therefore be licensed by Voice. In high applicative constructions, then, the applied argument is not licensed

in its thematic position. I propose that, like ditransitive themes, the applied argument moves to the specifier of RaisAppl for licensing by Voice. This is illustrated in the instrumental applicative construction in (149). HighAppl, which is spelled out by the instrumental prefix *paN-*, introduces the instrumental applied argument but cannot license it. The instrument then moves to the specifier of RaisAppl, spelled out by the Circumstantial Voice prefix *i-*, where it is licensed by Voice[+D], which is phonologically null in the context of RaisAppl.

(149) Circumstantial Voice with instrument pivot



This analysis captures the core properties of instrumental applicative constructions: (i) the applied argument must be marked as the nominative pivot and (ii) instrumental applicatives employ both the instrument-specific morpheme *paN-* as well as a generic applicative morpheme *i-*. This generic affix realises RaisAppl, which explains how high applied argument pivots and ditransitive and causative theme pivots can be associated with the same voice morphology. Without RaisAppl, it is unclear how the same morphology could arise.

One question that is raised by the derivation in (149) is why the applied argument obligatorily moves to *RaisAppl*.⁹ The movement of ditransitive themes to *RaisAppl* could be driven by locality: the theme must raise past an intervener in order to be marked as pivot by Voice (see also Collins & Thráinsson, 1996; Baker & Collins, 2006). However, the applied argument in (149) is already the highest argument c-commanded by Voice; movement of the applied argument to *RaisAppl* therefore does not seem to be motivated by locality. Rather, *RaisAppl* seems to serve a discourse function by making the raised argument prominent, triggering licensing by Voice. Thus the movement of applied arguments in Tagalog is part of a more general pattern of movement for prominence found across languages, such as Icelandic object shift (Collins & Thráinsson, 1996). As I will show in the next section, this movement occurs for both high and low applied arguments.

3.3.2 Locative Voice

The Locative Voice suffix *-an* has previously been associated with low applicatives (Rackowski, 2002; Aldridge, 2004, 2012). However, like Circumstantial Voice morphology, the Locative Voice in fact tracks pivots bearing a range of thematic roles, including locatives (150a), recipients and goals (150b), benefactives of transitives of the sort in (150c), and possessors (150d).

- (150) a. B<in>ilh-**an** [ng babae] [ng libro] [ang tindahan].
 <PFV>buy-LV GEN woman GEN book NOM store
 ‘The woman bought a book at the store.’ Locative
- b. B<in>igy-**an** [ng babae] [ng libro] [ang bata].
 <PFV>give-LV GEN woman GEN book NOM child
 ‘The woman gave the child a book.’ Goal

⁹Previous accounts of Tagalog applicatives have also had difficulty explaining why movement of the applied argument is obligatory (Rackowski, 2002; Rackowski & Richards, 2005). However, Rackowski & Richards (2005) points out similar behaviour in subjects of French infinitives (Kayne, 1989) and English infinitives of the *wager*-class (Postal, 1974), which are only licensed if the nominal moves (see also Pearson, 2001; Richards, 2001).

- c. B<in>ilh-**an** [ng babae] [ng libro] [ang bata].
 <PFV>buy-LV GEN woman GEN book NOM child
 ‘The woman bought the child a book.’ Benefactive
- d. <In>ayos-**an** [ng babae] [ng mga libro] [ang bata].
 <PFV>arrange-LV GEN woman GEN PL book NOM child
 ‘The woman arranged the child’s books.’ Possessor

The construction in (150d) is an example of external possession, where an argument of the complex verb is interpreted as a possessor of another argument. For comparison, a typical example of DP-internal possession is given in (151a). The possessed theme in (151a) is marked nominative and serves as the pivot of the clause, which is reflected by Patient Voice morphology on the verb. The possessor can be complex, as shown in (151b), but behaves as a single constituent with the possessum. The possessor cannot, for example, be focus-clefted (151c) to the exclusion of the possessum; this movement would constitute a subextraction violation.

- (151) a. G<in>upit-Ø [ko] [ang buhok ng bata] kahapon.
 <PFV>snip-PV 1SG.GEN NOM hair GEN child yesterday
 ‘I cut the child’s hair yesterday.’ Internal poss.
- b. G<in>upit-Ø [ko] [ang buhok ng kaibigan ng bata].
 <PFV>snip-PV 1SG.GEN NOM hair GEN friend GEN child
 ‘I cut the child’s friend’s hair.’
- c. *[Ng/ang bata] ang g<in>upit-Ø ko [ang buhok ____].
 GEN/NOM child NOM <PFV>snip-PV 1SG.GEN NOM hair
 Intended: ‘It was the child whose hair I cut.’

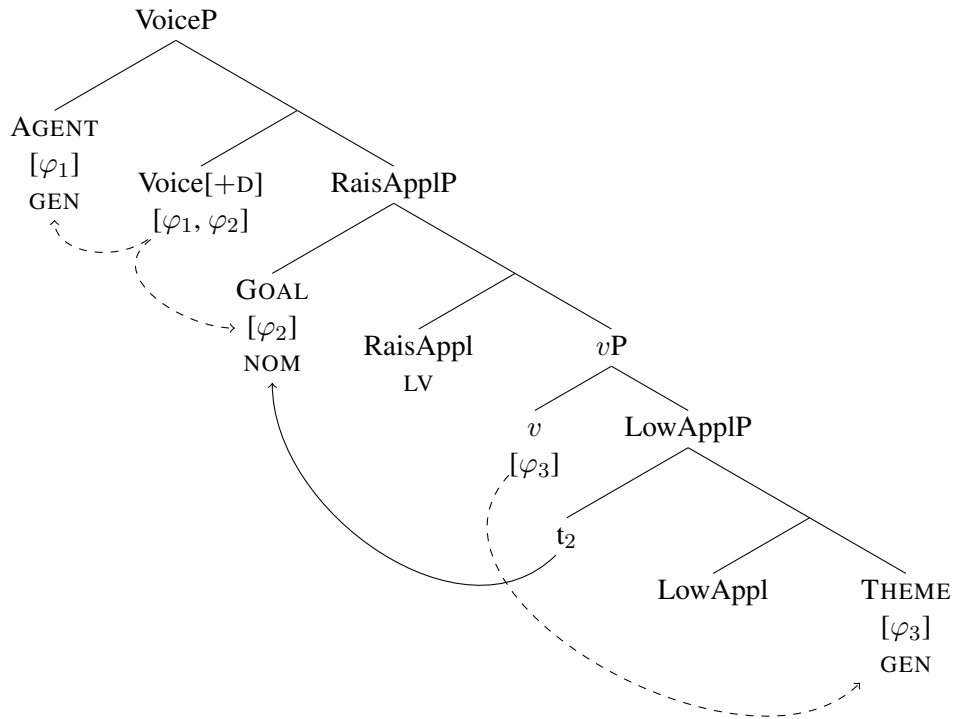
In external possession, by contrast, it is the possessor itself that is the nominative pivot, one that must co-occur with a Locative Voice-marked verb, as shown in (152a). The possessum is interpreted as the theme of the verb but is marked genitive and cannot be further modified by a DP-internal genitive possessor. Like internal possessors, an external possessor can be complex, as shown in (152b). Unlike its internal counterpart, the external possessor can be separated from its possessum by a temporal adverb (152a) and extracted independently of the possessum under focus

(152c) or a question (152d). Thus the external possessor behaves like a regular Locative Voice pivot.

- (152) a. G<in>upit-an [ko] [ng buhok] kahapon [ang bata].
 <PFV>snip-LV 1SG.GEN GEN hair yesterday NOM child
 ‘I cut the child’s hair yesterday.’ External poss.
- b. G<in>upit-an [ko] [ng buhok] [ang kaibigan ng bata].
 <PFV>snip-LV 1SG.GEN GEN hair NOM friend GEN child
 ‘I cut the child’s friend’s hair.’
- c. [Ang bata] ang g<in>upit-an ko [ng buhok] ____.
 NOM child NOM <PFV>snip-LV 1SG.GEN GEN hair
 ‘It was the child whose hair I cut.’
- d. [Sino] ang g<in>upit-an mo [ng buhok] ____?
 who.NOM NOM <PFV>snip-LV 2SG.GEN GEN hair
 ‘Whose hair did you cut?’

In Nie (2019), I show that only themes of causative transitive predicates may be externally possessed in Tagalog, pointing out that these are exactly the argument structural restrictions that apply for low applicatives. I argue for a raising analysis of Tagalog external possession in which the possessor is introduced by LowAppl and moves to the specifier of RaisAppl where it is licensed and assigned nominative pivot marking by Voice; this derivation is sketched in (153). Note that the possessor is unable to be licensed or assigned Case by *v*, which can only license its thematic argument, the theme.

(153) Locative Voice with external possessor pivot



I assume that Locative Voice goals and benefactives have the same derivation: they are introduced by LowAppl and move to RaisAppl for licensing by Voice.

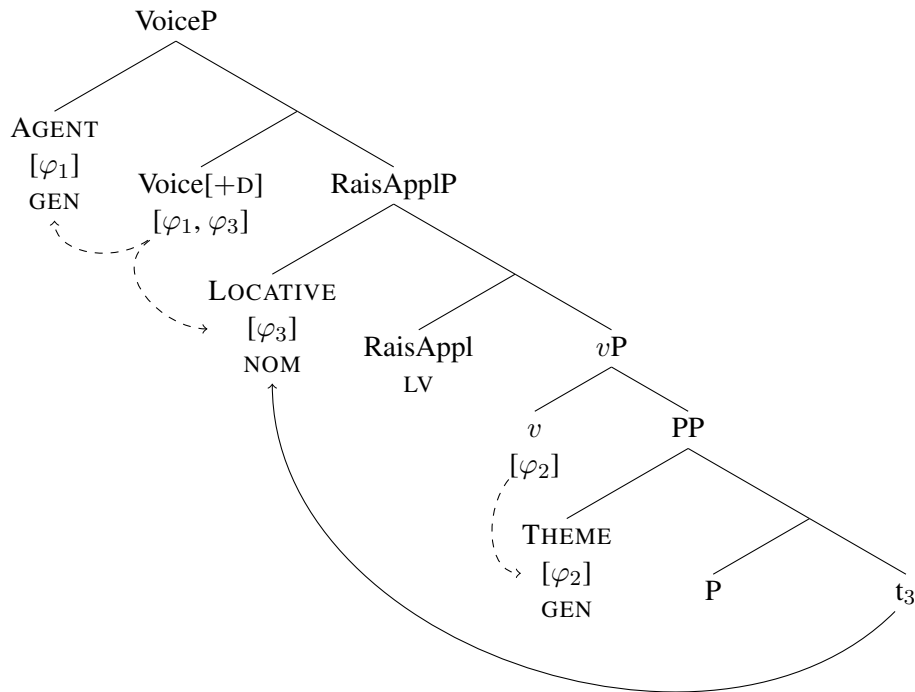
Much like high applied arguments, then, low applied arguments are not licensed in situ and must therefore raise for licensing. Nie (2019) suggests that high and low applied arguments in fact raise to the same RaisAppl projection, and that Circumstantial Voice and Locative Voice morphology are two allomorphs of the same RaisAppl head. Locative Voice spells out RaisAppl in the context of *v* with a bundle of φ -features, while Circumstantial Voice is spelled out elsewhere:

(154) $\text{RaisAppl} \leftrightarrow \text{LV} / \text{--- } v[\varphi]$

(155) $\text{RaisAppl} \leftrightarrow \text{CV}$

The Vocabulary Item for Locative Voice captures the fact that Locative Voice pivots occur in contexts where there is a theme, and this theme must be licensed by *v* since Voice is licensing another argument as pivot. This also applies in constructions with locative pivots, as in (156).

(156) Locative Voice with locative pivot



It should be noted that the Locative Voice suffix *-an* can attach to intransitive predicates (Chang, 2015; Kaufman, 2017), including those usually considered unergative, often resulting in a directional interpretation. Some examples are given in (157).

- (157) a. Ni-lakar-an [ng bata] [ang daan].
 PFV-walk-LV GEN child NOM road
 ‘The child walked along the road.’

- b. S<in>igaw-an [ni Romeo] [si Jojo].
 <PFV>shout-LV GEN.PN Romeo NOM.PN Jojo
 ‘Romeo shouted at Jojo.’

(Kaufman, 2017, 599)

More research is needed to verify whether such Locative Voice constructions are always interpreted as directional. Nonetheless, I assume, following Levin & Rappaport Hovav (1995) and subsequent work, that the directional interpretation of the pivot in these examples actually creates an unac-

cusative predicate. *v* would then have to license the theme, satisfying the context for spell-out of the Locative Voice affix.

3.3.3 Summary

I have argued in this section that the Tagalog Locative Voice and Circumstantial Voice constructions are best understood as applicative constructions involving an athematic raising applicative. Arguments that remain unlicensed in their thematic position move to the specifier of the raising applicative in order to be licensed by Voice. This proposal provides a unified analysis of the thematic DPs that can be encoded as Locative Voice and Circumstantial Voice pivots in Tagalog. The single, high position for the raising applicative also offers an explanation for why Locative Voice and Circumstantial Voice morphology are in complementary distribution but both voice types can combine with unergative predicates.

This Tagalog case study adds to the increasing body of evidence for a derived position for applied arguments from a wide range of languages, such as Icelandic (Collins & Thráinsson, 1996); Kinande, Jul'hoansi and ꞤHoan (Baker & Collins, 2006); Mandarin Chinese (Georgala et al., 2008; Georgala, 2012; Paul & Whitman, 2010); German (Georgala et al., 2008; Georgala, 2012); Nez Perce (Deal, 2013) and Niuean (Massam, 2015). In each of these languages, a prominent applied argument is not licensed in situ and must raise for licensing by a higher head. The fact that the applied argument is licensed by Voice and not RaisAppl itself accords with the observation from Marantz (1984) that it is more common for the applied argument to behave as the direct object of the complex verb rather than the theme. In Nez Perce, for instance, the applied argument bears the Case normally reserved for the object and controls overt object agreement (Deal, 2013). This behaviour would be mysterious if the applied argument were licensed by either its thematic applicative head or the raising applicative head.

3.4 Causatives and applicatives

In this final section, I discuss combined causative and applicative constructions. Recursive applicative languages always allow applicatives and causatives to combine (Section 3.4.1). Non-recursive applicative languages vary in whether applicatives and causatives can combine (Section 3.4.2). I demonstrate that properties of nominal licensing can derive a number of cross-linguistic differences in the combination of causatives and applicatives, including adherence to the Causative-Applicative morpheme order in the Bantu CARP template (Hyman, 2003).

3.4.1 Recursive languages

Recall that Appl is a nominal licenser in recursive applicative languages such as Kinyarwanda and Xhosa. As far as I am aware, all recursive applicative languages also allow causatives and applicatives to combine, as illustrated in (158) from Kinyarwanda.

- (158) N-a-ndik-**ish-ir**-ije in-kuru mw-ana mu n-zu.
1SG-PST-write-CAUS-APPL-PERF 9-story 1-child 18 9-house
'I made the child write the story in the house.' (Jerro, 2016, 129)

As Banerjee (2019) shows, Kinyarwanda strictly observes both the Mirror Principle (Muysken, 1981; Baker, 1985) and the CARP template (Hyman, 2003), where valency-related verbal suffixes must occur in the following scopal and templatic order: Causative–Applicative–Reciprocal–Passive. In the CARP-obeying construction in (159a), the causee must be interpreted as scoping below the beneficiary. The CARP-violating morpheme order is unavailable with any interpretation (159b).

- (159) a. N-za-mu-ririmb-**ish-iriz**-a Ineza.
1SG-FUT-1OM-sing-CAUS-APPL-FV Ineza
Available interpretation: 'For Ineza, I will make him sing.'
Not available: 'I will make him [sing for Ineza].'

- b. *N-za-mu-ririmb-**ir(iz)-ish-a** Ineza.
 1SG-FUT-1OM-sing-**APPL-CAUS-FV** Ineza
 Intended: ‘I will have him/her sing for Ineza.’

(Banerjee, 2019, 7)

Xhosa, by contrast, allows violations of the CARP template in order to satisfy the scopal order of morphemes. Example (160), for instance, has the interpretation where the children are the beneficiary of the cooking event, not the causing event. Thus the applicative marker scopes below the causative marker, also reflected overtly in their relative affixal positions.

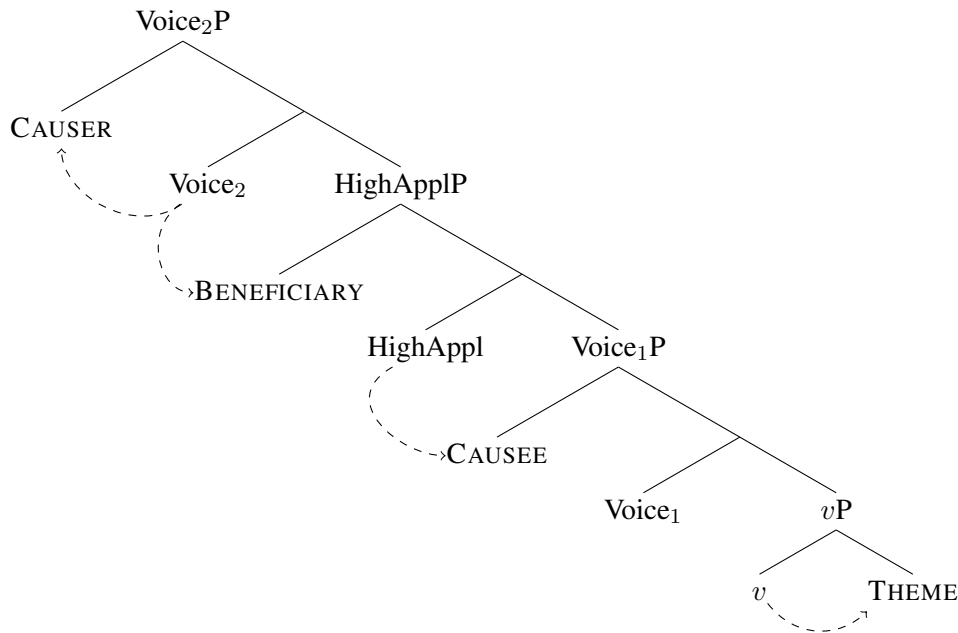
- (160) uThemba u-phek-**el-is-e** umfazi abantwana umngqusho.
 Themba 3S-cook-**APPL-CAUS-PFV** woman child samp
 ‘Themba made/helped the woman [cook samp for the children].’

(Myler & Mali, submitted, 5)

In Xhosa, then, the causee and applied argument may merge in either order, while in Kinyarwanda, the causee must merge first, i.e. below the applied argument.

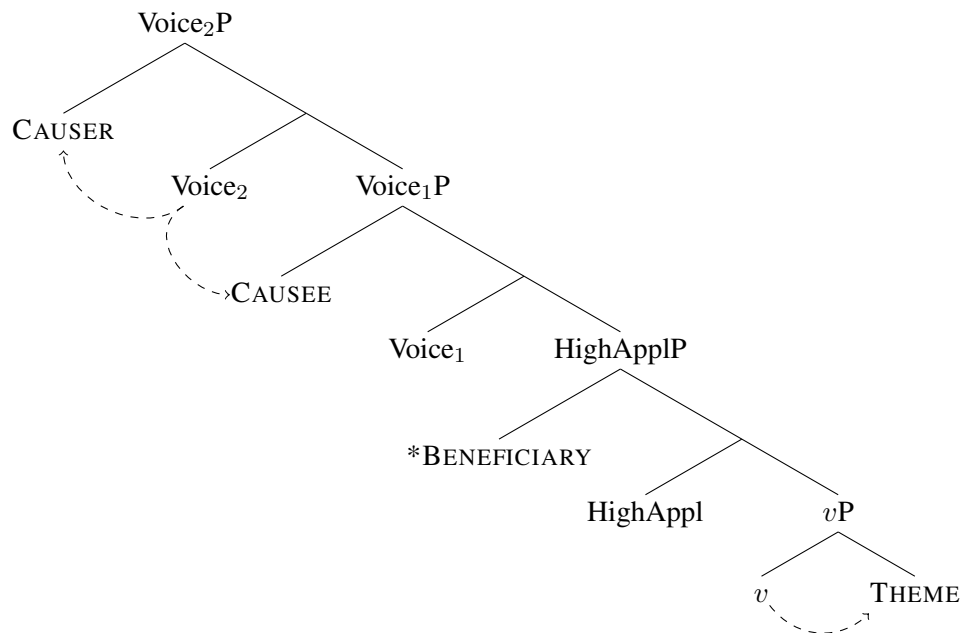
In Chapter 4.3, I will show that Xhosa causatives have a Voice over Voice structure. I propose that both of these Voice heads and Appl heads are nominal licensers in Xhosa. An applicative of a causative in Xhosa is sketched in (161), where Voice₁ merges first and introduces the causee. HighAppl introduces the beneficiary and licenses the causee. Voice₂ then licenses the beneficiary, as well as the causer. Thus every argument introducing head in Xhosa can license an argument it c-commands. This predicts that a causative of an applicative, where the causee scopes above the applied argument, should also be available from the perspective of nominal licensing. As we saw in (160), Xhosa indeed allows this possibility.

(161) Xhosa applicative of causative



By contrast, Kinyarwanda obeys both the Mirror Principle and CARP, such that Applicative-Causative morpheme order is simply impossible, in scope and in morpheme order. Banerjee (2019) proposes to account for this state of affairs with selectional restrictions. I suggest an alternative based on nominal licensing: strict Causative-Applicative order can be captured in recursive applicative languages if the embedded Voice is *not* a nominal licenser in Kinyarwanda. The derivation of a grammatical applicative of causative in Kinyarwanda would be identical to that in (161) given for Xhosa. (162) shows what would happen if a causative of an applicative were constructed under these assumptions. HighAppl would merge first and introduce the beneficiary, but since HighAppl can only license downwards, the beneficiary remains unlicensed. Voice₁ then merges and introduces the causee but is not a nominal licenser; thus the causee also remains unlicensed. Finally, Voice₂ merges and licenses the highest non-licensed nominal in its c-command domain, which is the causee. The beneficiary therefore remains unlicensed, causing the derivation to crash.

(162) Kinyarwanda causative of applicative (ungrammatical)



Thus the strict templatic nature of the complex verb in languages like Kinyarwanda can be captured within a nominal licensing approach, without appealing to selectional restrictions.

3.4.2 Non-recursive languages

In non-recursive applicative languages, Appl is not a nominal licenser. Applied arguments must therefore be licensed by Voice, which enforces a limit of one applied argument per clause. Most non-recursive applicative languages do allow causatives to combine with applicatives, such as Hiaki (Uto-Aztecan, Arizona) (Harley, 2013, 2017). Like Xhosa, Hiaki permits either order of the causative and applicative affixes, which reflect their scope (163).

- (163) a. Nee usi-ta avion-ta ni'i-**tua-ria**-k.
 I child-ACC plane-ACC fly-CAUS-APPL-PFV
 'I made the (model) plane fly for the child.'

- b. Nee ili usi-ta Mala-ta aa=tu'ute-**ria-tua**-k
 I little child-ACC Mother-ACC it=clean-**APPL-CAUS**-PFV
 'I made the child [clean it for Mother].' (Harley, 2013, 45–46)

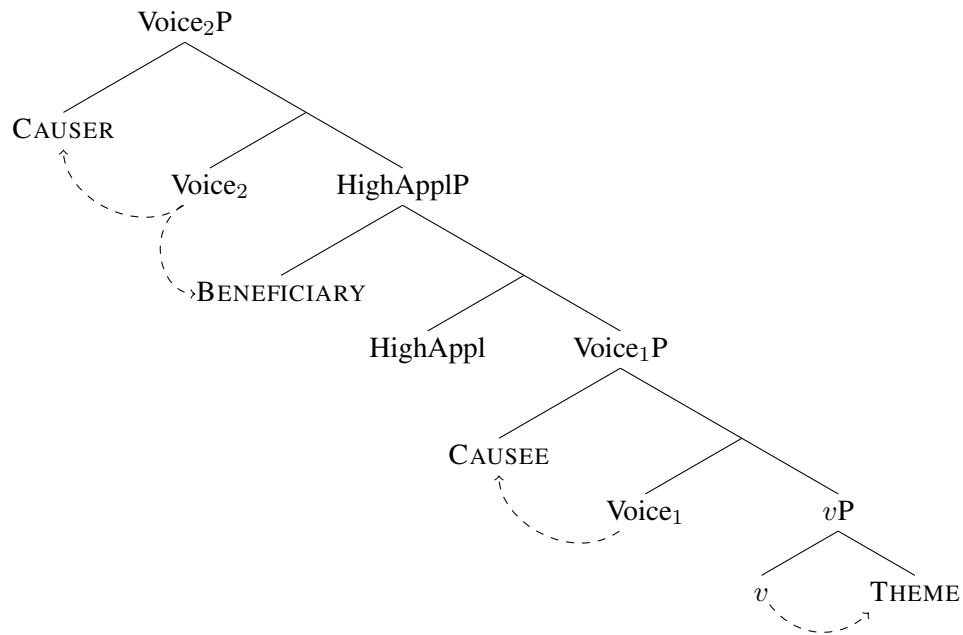
Both scopal orders are also possible in Zulu, another non-recursive applicative language. However, the order of morphemes in Zulu must obey CARP, even in a causative of an applicative, where the causee scopes above the applied argument (164).

- (164) ubaba u-cul-**is-el**-a inkosi abantwana
 AUG.1father 1SM-sing-**CAUS-APPL**-FV AUG.9chief AUG.2children
 i-Nkosi Sikelel' iAfrika.
 AUG5-9lord bless AUG.5Africa
 'Father made the children [sing the chief the national anthem].' (Halpert, 2015, 51)

Thus both Hiaki and Zulu permit an applied argument to co-occur with a causee but not another applied argument. However, I propose that the combined causative and applicative constructions are derived differently in the two languages. In Hiaki, the embedded Voice which introduces the causee is licenser. In Zulu, embedded Voice is not a licenser, but an additional source of licensing is provided by the raising applicative projection, which was motivated independently in Section 3.2.2 based on the symmetric object marking properties of the language.

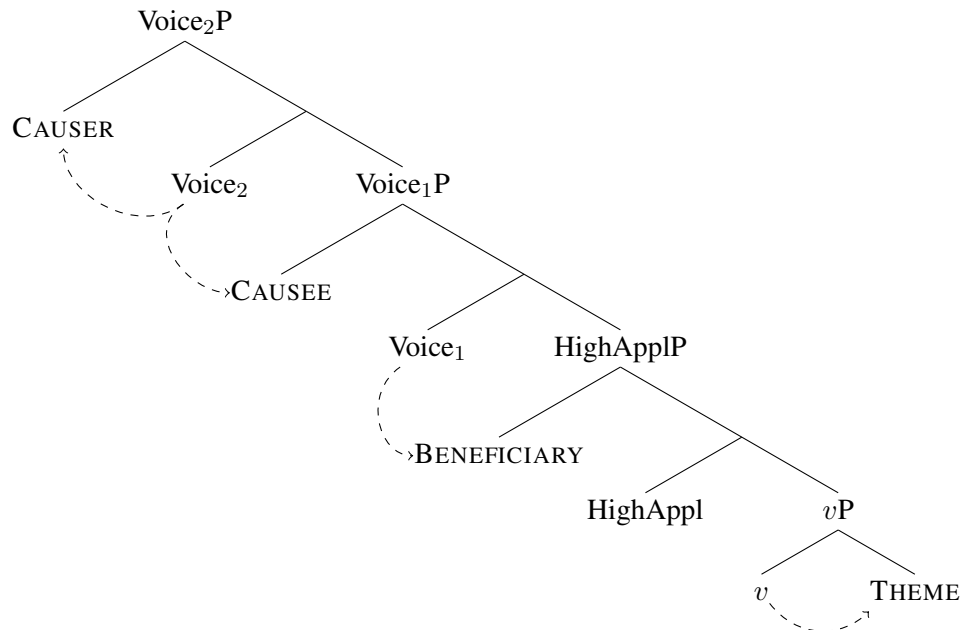
I follow Harley (2013) in assuming that unergative and transitive causees in Hiaki are introduced in the specifier of an embedded Voice. In Hiaki, in the applicative of causative in (165), the applied argument is licensed by the higher Voice₂, and the causee is licensed by the embedded Voice₁. Thus while Appl is not a licenser in Hiaki, the embedded Voice is a licenser. This analysis is consistent with the fact that in Hiaki, the applied argument, causee and theme all receive overt accusative case, which suggests that the language has multiple sources of nominal licensing.

(165) Hiaki applicative of causative



(166) gives a possible derivation for a causative of applicative in Hiaki. This time, the higher Voice₂ licenses the causee, and Voice₁ similarly licenses downward to the applied argument.

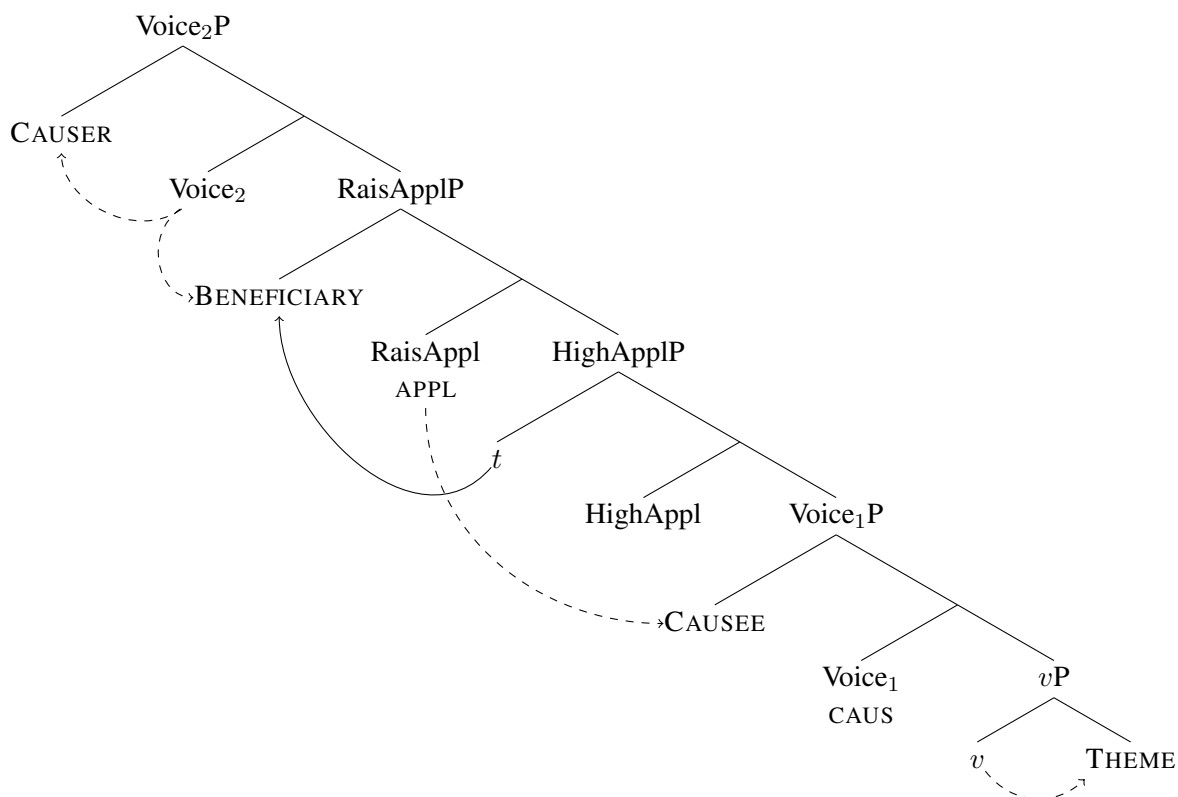
(166) Hiaki causative of applicative



Because the embedded Voice is a licenser in Hiaki, we can derive Mirror Principle-obeying Applicative-Causative morpheme order on the verb.

Zulu, however, being a strict CARP language, does not allow Applicative-Causative morpheme order. I propose that this is because embedded Voice, like Appl, is not a licenser in causative constructions in Zulu. In order to construct an applicative of causative construction in Zulu, then, we must merge in a raising applicative (RaisAppl). I argued independently in Section 3.2.2 that Zulu has a RaisAppl projection just below (the highest) Voice to which a lower argument can raise in order to be licensed by Voice; RaisAppl furthermore licenses the highest argument in its complement domain. I suggest that, in the applicative of causative construction in (167), the applied argument moves to the specifier of RaisAppl where it is licensed by the higher Voice₂. RaisAppl then licenses downwards to the causee.

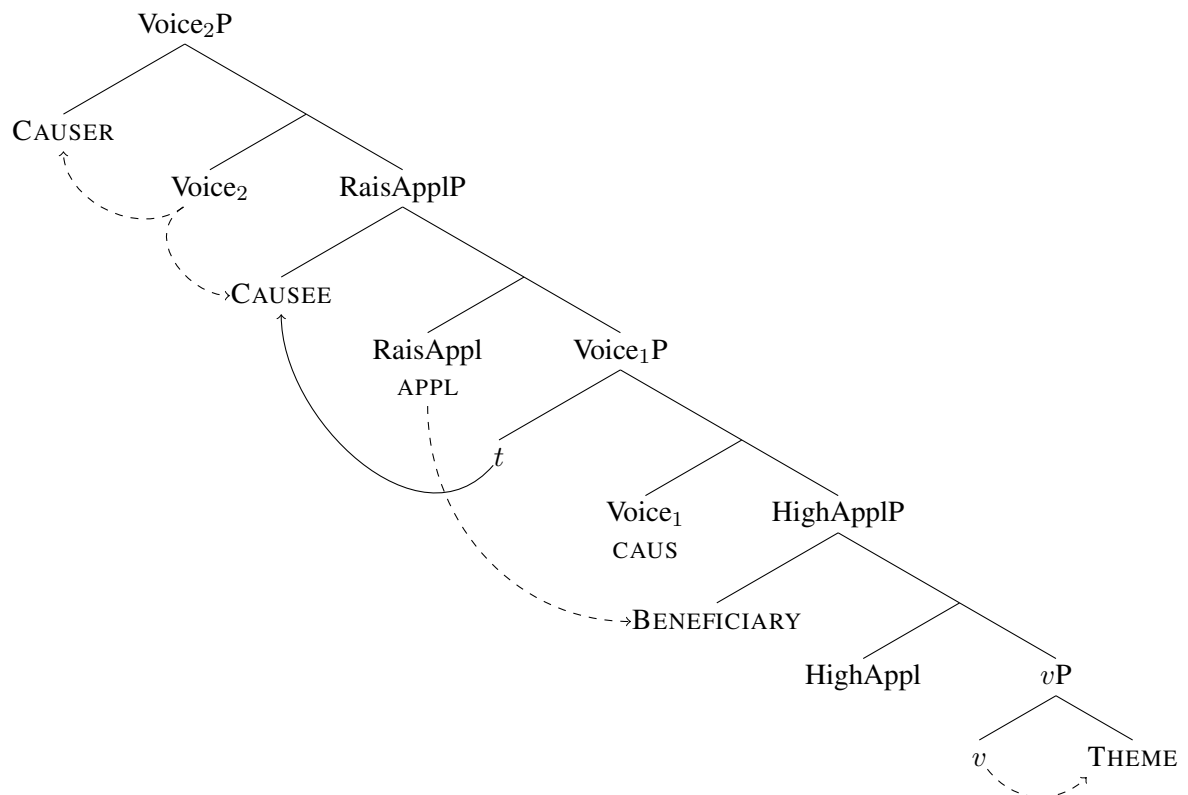
(167) Zulu applicative of causative



The effect of RaisAppl is therefore to add an additional source of licensing to the clause, which allows causees and applied arguments to co-occur. However, it must be stipulated that RaisAppl cannot similarly license another applied argument, in order to avoid predicting applicative recursion in Zulu; the same stipulation must be made in order to derive object marking symmetry in non-recursive applicative languages via RaisAppl (Section 3.2.2).

I suggest that in Zulu, much like in Tagalog, it is RaisAppl that is overtly spelled out as the applicative marker, rather than a thematic Appl head. This derives the Mirror Principle-obeying and CARP-obeying Causative-Applicative order of morphemes on the verb in (167). In a causative of applicative construction as in (168), it is the causee that raises to Spec-RaisAppl for licensing by Voice. RaisAppl licenses the applied argument. Because the applicative marker spells out the RaisAppl head, the resulting order of morphemes is once again Causative-Applicative.

(168) Zulu causative of applicative



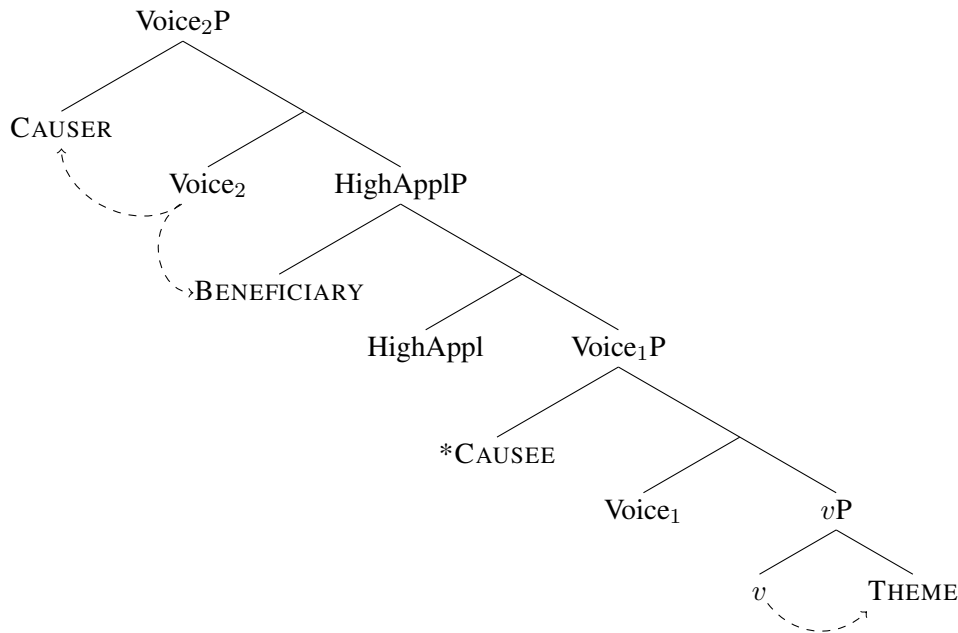
In an analysis involving RaisAppl, then, the Causative-Applicative order of morphemes directly reflects the scopal order of heads, even in causatives of applicatives. In other words, rigid Causative-Applicative order in Zulu is a consequence of the interactions between nominal licensing heads, not due to a morphological template.

The availability of RaisAppl in Zulu can be compared with its absence in Swahili. In Swahili, causative and applicative combinations appear not to be outright impossible, given attested examples such as (169). However, they seem to be very rare. I have not been able to find clear examples of applicatives with causatives of unergatives or transitives in the Helsinki Corpus of Swahili (Hurskainen & Department of World Cultures, University of Helsinki, 2016). The elicited examples reported by Baker are furthermore limited to constructions where the applied argument is a possessor of another argument. This fact recalls the generalisation made by Keach & Rochemont (1994) that a second non-core argument in the clause can only be a possessor in Swahili. Possessors may therefore be exceptional in how they are licensed.

- (169) A-li-**ni-fung-ish-i**-a mtoto wangu mlanga.
 3SG-PST-**1SG-close-CAUS-APPL-FV** child my door
 ‘He had my child close the door for me.’ (Baker, 1988, 394)

Setting aside the exceptionality of possessors for the purposes of this discussion, we see that causatives and applicatives are otherwise in complementary distribution in Swahili. I propose that this is because Appl and Voice are not licensers, and there is no RaisAppl in Swahili, which is supported by the fact that Swahili is asymmetric for object marking (Ngonyani, 1996) (see Section 3.2.1). The causee and the applied argument must therefore compete with each other for licensing from Voice. In an applicative of a causative, illustrated in (170), Voice₂ would be able to license the highest unlicensed argument it c-commands, the applied argument. However, the causee would be left unlicensed and the derivation would therefore crash.

(170) Swahili applicative of causative (ungrammatical)



In a Swahili causative of an applicative, where the causee scopes above the applied argument, the causee would be licensed by Voice₂ but the applied argument would not be, similarly resulting in a crash.

Summing up this section, I showed that applicatives and causatives can combine in all recursive applicative languages but not in all non-recursive applicative languages. I also suggested that languages differ in the licensing ability of their embedded Voice and availability of RaisAppl, which gives rise to different behaviour with respect to the Mirror Principle and CARP template in Bantu. Much future work on the interaction of licensing and morpheme order is nonetheless needed to determine whether this is a fruitful approach for all Bantu languages.

3.5 Summary

In this chapter, I argued that the availability of applicative recursion in a language is not a basic syntactic parameter but can be derived from the independent properties of nominal licensing in

that language. Languages with the same inventory of thematic heads may nonetheless differ in which of these heads are also nominal licensers; the highest Voice is a licenser in every language, but Appl is not. I argued that Appl heads are nominal licensers in recursive languages. In non-recursive languages, Appl heads are not licensers, and applied arguments must therefore compete for licensing by Voice, which only licenses the most local argument; thus the single locus of applicative licensing in non-recursive languages is derived.

Languages with applicative recursion—in at least Bantu—have a number of other properties in common. For example, they are symmetric with respect to object marking and extraction. I proposed that symmetric languages have a raising applicative projection to which a lower argument (e.g. the theme) can raise past an intervening applied argument. Recursive applicative languages also always allow applied arguments and causees to co-occur. I suggested that this is because thematic Appl is a licenser and thus more sources of licensing are available in the clause compared with non-recursive languages. The interaction between nominal licensers and their resulting typological properties are summarised in Table 3.1; Y/N indicates whether the head in question is a licenser.

Voice	<i>v</i>	RaisAppl	Appl	Properties	Example
Y	Y	N	N	Asymmetric, non-recursive	Tagalog
Y	Y	Y	N	Symmetric, non-recursive	Zulu
Y	Y	Y	Y	Symmetric, recursive	Xhosa

Table 3.1: Distribution of nominal licensers in applicative languages

As the table shows, RaisAppl is also employed by Tagalog and other non-recursive applicative languages in order to have their applied arguments or themes licensed by Voice. Finally, by allowing RaisAppl itself to be a licenser, as in Zulu, I showed that the Bantu CARP template can be derived from the inventory of nominal licensers in a language, without recourse to templates or selection.

Chapter 4

Causatives

In this chapter, I discuss the syntactic and semantic properties of causatives. This chapter concerns itself primarily with the properties of affixal causatives, which have a productive bound causative morpheme, as opposed to periphrastic causatives, which have an independent causative verb. I argue that affixal causatives can differ fundamentally in the type of embedding they involve. Productive causatives in Japanese embed events and involve recursion of eventive roots in the structure, while productive causatives in Tagalog embed external arguments and involve recursion of the Voice head. Causatives can also differ in the syntax of the causee, namely in whether the causee is introduced as an argument or adjunct, and whether it receives an agentive interpretation. My proposed typology for productive affixal causatives is given in Table 4.1.

	Monocausal	Bicausal
Monoagentive	Xhosa	Turkish
Biagentive	Tagalog	Japanese

Table 4.1: Typology of productive affixal causatives

Bicausal causatives have a syntactically represented causing event, while monocausal causatives do not. Biagentive causatives have an agentive causee, while monoagentive causatives do not.

Recent work has shown that causative constructions in many languages involve the recursion of external arguments rather than events (Bjorkman & Cowper, 2013; Nash, 2017; Nie, 2017a, 2020; Sigurðsson & Wood, 2020; Akkuş, accepted). These causatives, which I refer to as “monocausal”, thus bear similarities to the causative–anticausative alternation in European languages, which, as Section 4.1 discusses, implicates Voice rather than *v* (Alexiadou et al., 2006, 2015; Schäfer, 2008; Kastner, 2016, 2018). After sketching my analysis for the four main types of productive affixal causatives in Section 4.2, I extend the Voice analysis of the causative alternation to productive monocausal causatives in Section 4.3, arguing that they involve a Voice over Voice structure. Affixal causatives therefore need not vary arbitrarily in the size of their embedded complement, as Pylkkänen (2008) suggests. Instead, I argue that the syntactic differences between causative types can be reduced to independent properties of ‘flavours of Voice’ and nominal licensing in the language, which has implications for the agentivity of the causee. I present a case study of monocausal causatives from Tagalog in Section 4.4. In Section 4.5, I discuss bicausal causatives, which I argue have a *v* over *v* structure and involve true recursion of events, contra Key (2013). Languages with bicausal causatives therefore allow double causatives and multiple causees, suggesting events define thematic domains.

4.1 Causative alternations are about Voice

There are two main approaches to causative alternations of the English *break* type. The first approach semantically decomposes causatives into multiple (sub)events (Jackendoff, 1972; Dowty, 1979; Parsons, 1990b; Levin & Rappaport Hovav, 1994, a.o.). Consider the following English causative–anticausative pair. The anticausative in (171a) consists of an event of change of state, schematised in (171b). The causative in (172a) involves the same change of state plus an additional layer of semantics that conveys how that change of state is brought about (172b).

(171) a. The stick broke.

- b. [BECOME [stick STATE(broken)]]
- (172) a. Pat broke the stick.
- b. [Pat CAUSE [BECOME [stick STATE(broken)]]]

Several linguists have proposed that the semantic CAUSE and BECOME components of the causative are encoded as independent lexical verbal heads in the syntax (Harley, 1995; Cuervo, 2003; Folli & Harley, 2005; Pylkkänen, 2008, a.o.). Each of these verbal heads (known as ‘flavours’ of *v*) introduces a separate event into the syntax. Therefore the anticausative in (171a) consists of a change of state event introduced by *v*_{BECOME} in (173a); the causative in (172b) involves the same change of state event plus an additional causing event introduced by *v*_{CAUSE} (173b). This approach to causatives, which I will refer to as the CAUSE theory predicts that the events introduced by *v*_{CAUSE} and *v*_{BECOME} should be available for independent modification in the syntax.

- (173) a. [*v*_{BECOME} [break stick]]
- b. [Pat *v*_{CAUSE} [*v*_{BECOME} [break stick]]]

According to the CAUSE theory, causatives differ from both anticausatives and simple transitives in having two syntactically-represented events instead of one. Furthermore, since causatives are derived from anticausatives, they should be more morphologically complex than anticausatives cross-linguistically and therefore morphologically marked.

The second approach, which will be referred to as the Voice theory, takes the causative alternation to be a Voice alternation (Alexiadou et al., 2006, 2015; Schäfer, 2008; Kastner, 2016, 2018). In this approach, causatives are just like regular transitives in that the external argument is introduced by transitive Voice[+D], sketched in (174b). The external argument is interpreted as the causer of a change of state, without introducing an additional causing event into the syntax. The corresponding anticausative contains the same functional structure, but with a non-active Voice[−D] (174a). Thus both the anticausative and causative consist of a single event associated

with a single *v*. I use the term ‘causer’ throughout to refer to the highest argument in a causative, not to indicate a thematic role distinct from agent.

- (174) a. [Voice[−D] [*v* [break stick]]]
 b. [Pat Voice[+D] [*v* [break stick]]]

In the Voice theory, there is no derivational relationship between the causative and the anticausative. They share the same functional structure (the change of state structure and a Voice head), and are therefore predicted to be equally morphologically marked.

In the rest of this section, I recapitulate evidence from the literature that both causatives and anticausatives may be marked cross-linguistically (Haspelmath, 1993; Alexiadou et al., 2006, 2015; Schäfer, 2008), and that causatives and anticausatives share the same event structure (von Stechow, 1996; Pylkkänen, 2008; Schäfer, 2008; Alexiadou et al., 2015). The evidence clearly supports the Voice theory of the causative alternation.

While causative and anticausative verbs in English have the same morphological form, causative alternations in many languages exhibit overt marking of either the anticausative variant, causative variant or both (Haspelmath, 1993; Alexiadou et al., 2006, 2015; Schäfer, 2008). In most European languages, for instance, the anticausative variant is morphologically marked; (175) gives an example from Russian.

- (175) a. rasplavit’
 melt
 ‘melt (causative)’
 b. rasplavit’-**sja**
 melt-INTR
 ‘melt (anticausative)’ (Haspelmath, 1993, 89)

For some verbs in Japanese, on the other hand, it is the causative variant that is morphologically marked (176). Other verbs display an equipollent alternation, where both variants are marked (177).

- (176) a. Ringo-ga koor-ta.
apple-NOM freeze-PST
'An apple froze.'
- b. John-ga ringo-o koor-**as**-ta.
John-NOM apple-ACC freeze-CAUS-PST
'John froze an apple.'
- (177) a. Handoru-ga mawa-**r**-ta.
handle-NOM turn-INTR-PST
'A handle became turned.'
- b. John-ga handoru-o mawa-**s**-ta.
John-NOM handle-ACC freeze-CAUS-PST
'John turned a handle.'

(Oseki, 2017, 3–4)

Evidence from morphological markedness therefore suggests that neither the anticausative or causative variant is more structurally complex than the other cross-linguistically. This provides an argument against the CAUSE theory, in which causatives are syntactically derived—and therefore should be morphologically derived—from their anticausative counterparts. The cross-linguistically equipollent nature of causative alternations is, however, consistent with the Voice theory, in which the two variants are derivationally independent.

The CAUSE theory also contends that causatives contain a syntactically-represented causing event not found in their non-causative counterparts. An argument that has been levelled against such an approach comes from *again*-attachment, which has been widely used to diagnose event decomposition in the syntax (McCawley, 1986; Dowty, 1979; von Stechow, 1996). Anticausatives with *again* are known to be ambiguous between restitutive and repetitive readings depending on where in the structure *again* attaches, as shown in (178). In (178a), *again* scopes over just the result state, which presupposes only that the door was previously in a state of being open. In (178b), *again* scopes over both the dynamic event and the result state, which presupposes that the door has previously undergone a dynamic event of opening.

(178) The door opened again.

a. BECOME > *again* > STATE

Context: The office door was open when Luz arrived. She shut the door, but a few minutes later the wind blew it open.

b. *again* > BECOME > STATE

Context: The office door was shut when Luz arrived. She opened the door and then closed it behind her. A few minutes later the wind blew the door open.

Anticausatives therefore allow *again* to attach at two different points in the structure. I adopt the assumption elaborated upon in Chapter 2.1 that event variables are generally only introduced into the syntax by roots (Levinson, 2007, 2014; Irwin & Kastner, 2019), which adjoin to the syntactic categoriser *v* (Marantz, 1997). The dynamic event in anticausatives is introduced by the root adjoined to *v*, and *again* is able to attach above or below the *v* and root complex (Marantz, 2013). I assume that the change of state theme is interpreted as a result state (Marantz, 2013; Wood & Marantz, 2017), deriving the restitutive interpretation of the anticausative.

If causatives contain an additional CAUSE event not found in anticausatives, then we would expect *again* to attach at a third point in the structure. That is, causatives should be three-ways ambiguous. The crucial prediction is that *again* should be able to scope in between the CAUSE and BECOME components of the causative, which would provide evidence that they are present and differentiated in the syntax. However, as von Stechow (1996, 99) shows, lexical causatives are only ambiguous between two meanings, one where *again* scopes over just the state of the door being open (179a) and one where *again* scopes over the entire causative, including both participants (179c). What is unavailable is the reading in (179b), which is intended to presuppose a previous dynamic event of the door opening which Luz was not necessarily involved in (see also von Stechow, 1996; Pylkkänen, 2008; Schäfer, 2008; Alexiadou et al., 2015).

(179) Luz opened the door again.

- a. CAUSE > BECOME > *again* > STATE

Context: The office door was open when Luz arrived. She shut the door behind her, but had to open it to let her colleague in.

- b. *CAUSE > *again* > BECOME > STATE

Context: The office door was shut when Henry arrived. Henry opened the door and then closed it behind him. A few minutes later Luz arrived and opened the door.

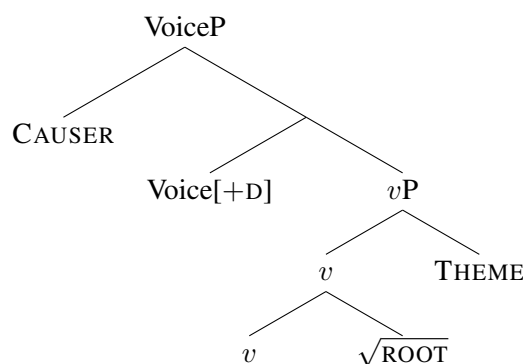
- c. *again* > CAUSE > BECOME > STATE

Context: The office door was shut when Luz arrived. Luz opened the door and then closed it behind her. A few minutes later Luz opened the door to let her colleague in.

Just like in anticausatives, then, *again* only attaches at two points in the structure of lexical causatives, resulting in (i) a restitutive reading or (ii) a repetitive reading over the entire clause. Crucially, *again* cannot scope in between the CAUSE and BECOME components of the causative, suggesting that they are not in fact differentiated in the syntax. Evidence from *again*-attachment therefore indicates that there is no additional event structure in causatives compared to anticausatives. I refer to such causatives without additional event structure as being “monocausal”.

The structure of a simple causative of the English *break* type, then, does not differ from a regular transitive. Assuming that events are introduced by a lexical root adjoined to the verbal head *v* (Levinson, 2007, 2014; Irwin & Kastner, 2019) and agents are introduced by Voice[+D] (Kratzer, 1996), the structure of a simple causative consists of one Voice head and one root and *v* complex, as shown in (180).

(180) Simple causative



In sum, causatives and anticausatives have the same morphological and event structural complexity. This indicates that neither variant is derived from the other, and their major point of contrast is simply in the presence or absence of the external argument. This is exactly what is captured in the Voice theory of the causative alternation.

4.2 Typology of affixal causatives

Causatives that participate in alternations of the English *break* type are often called “lexical” causatives, which the literature traditionally contrasts with “syntactic” causatives, particularly in Japanese (Kuroda, 1965a,b, 1993; Shibatani, 1972; Miyagawa, 1984; Harley, 1995, 2008, a.o.). In Japanese, the distinction between lexical and syntactic causatives, both of which may be marked using the morpheme *-s-*, correlates with the number of events and number of agents conveyed by the construction. Like the English *break* causative, lexical causatives in Japanese are monocausal (they do not have an additional causing event) and have a single agent. By contrast, Japanese syntactic causatives, also known as *-(s)ase* causatives, permit two agents, have an additional causing event and are more productive (Kuroda, 1965a,b; Shibatani, 1972; Miyagawa, 1984; Harley, 1995, 2008). Both the causer and causee can be volitional agents, as shown by their ability to be modified by the agent-oriented *-te* adverbial in (181b).

- (181) a. Hanako-wa arui-te it-ta.
 Hanako-TOP walk-TE go-PST
 ‘Hanako, walking, went.’
- b. Taroo-wa arui-te Hanako-o ik-ase-ita.
 Taroo-TOP walk-TE Hanako-ACC go-CAUS-PST
 Available interpretations:
 ‘Taroo, walking, made Hanako go.’
 ‘Taroo made Hanako go, walking.’ (Harley, 2008, 30)

Japanese *-(s)ase* causatives also encode two events. Because events are spatial-temporal entities, we expect to be able to modify them temporally. The causing event and caused event can indeed be independently targeted for temporal modification, as in (182).

- (182) Nichiyoubi-ni donari, Taro-wa getsuyoubi-ni kodomo-ni sara-o araw-ase-ta.
 Sunday-DAT yell Taro-TOP Monday-DAT child-DAT dish-ACC wash-CAUS-PST
 ‘Taro made the child wash the dishes on Monday by yelling at him on Sunday.’

Thus *-(s)ase* causatives in Japanese have an additional agent and event not found in their lexical causative counterparts; I refer to this property of having an additional event as being “bicausal”. Japanese therefore exhibits a clear contrast between monocausal causatives with one agent on the one hand and bicausal causatives with two agents on the other.

However, not all languages exhibit a one-to-one correspondence between number of events and number of agents in their causatives. As I demonstrated in Nie (2020), there are languages whose causatives are strictly monocausal but nonetheless allow two agentive arguments. For instance, in Tagalog causatives formed with the productive causative marker *pa-*, the putative causing event and caused event cannot receive independent temporal modification (183).

- (183) P<in>a-iyak-Ø ko si Kiko noong Lunes (*sa pang-iinsulto
 <PFV>CAUS-cry-PV 1SG.GEN NOM.PN Kiko P Monday P ADV-insulting
 ko sa kanya noong Linggo).
 1SG.GEN P 3SG.OBL P Sunday
 ‘I made Kiko cry on Monday (*by insulting him on Sunday).’ (Nie, 2020, 117)

Much like English *break* type causatives, then, causatives in Tagalog do not encode an additional causing event. Despite being monocausal, however, Tagalog causatives nonetheless have two agents. As shown in (184), agent-oriented adverbs like *sinasadya* ‘deliberately’ can associate with either the causer or causee, suggesting that both the causer and causee are agents.

- (184) P<in>a-iyak-Ø ko si Kiko nang sinasadya.
 <PFV>CAUS-cry-PV 1SG.GEN NOM.PN Kiko ADV deliberately

Available interpretations:

‘I deliberately made Kiko cry.’

‘I made Kiko deliberately cry.’ (Nie, 2020, 114)

Causatives in Tagalog therefore differ from non-causative constructions in the addition not of a causing event but of an external argument. This evidence indicates that the availability of voluntary agents in a causative construction cross-cuts the number of events syntactically represented in the construction. In other words, the number of events and number of agents in causatives can vary independently of each other.

4.2.1 Two dimensions of variation

I propose to classify productive affixal causatives directly along these two major dimensions of variation: number of events and number of agents. The resulting typology is given in Table 4.2.

	Monocausal	Bicausal
Monoagentive	Xhosa	Turkish
Biagentive	Tagalog	Japanese

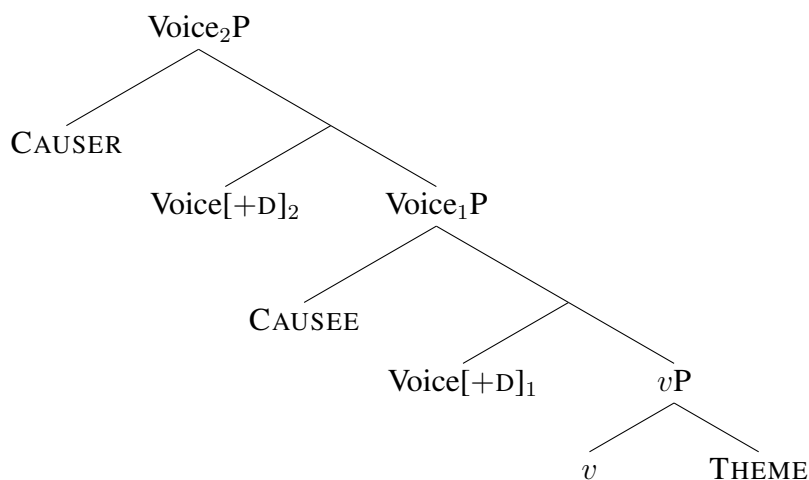
Table 4.2: Typology of productive affixal causatives

I suggest that all productive causatives involve some form of recursion, that is, embedding of one category within another category of the same type. However, there is a fundamental difference between monocausal and bicausal causatives in exactly what functional category is being embedded.

Bicausal causatives involve the recursion of events; an event-introducing $\sqrt{\text{CAUSE}}$ root adjoined to v embeds a phrase containing another root and v . Monocausal causatives involve the recursion of external arguments; an argument-introducing category Voice embeds VoiceP. The kind of recursion found in monocausal and bicausal causatives are thus of inherently different categories. We may therefore expect very different behaviour between the two different kinds of causatives. As I will show later in this chapter, this is indeed what we find. Here I sketch out the structures proposed for each type of causative.

Starting with monocausal causatives, I propose that they involve the recursion of Voice heads (Nie, 2020), an extension of the Voice theory of causative alternation (Alexiadou et al., 2006, 2015; Schäfer, 2008; Kastner, 2016, 2018). In monocausal causatives, a Voice[+D] directly embeds another VoiceP; the highest Voice[+D] introduces the causer. Tagalog *pa-* causatives have been shown to be monocausal but biagentive (Nie, 2020). As illustrated in the causative of transitive in (185), monocausal biagentive causatives have a single root and v complex and two Voice[+D] heads, the higher of which introduces the causer and the lower of which introduces the causee. Thus productive causatives in Tagalog differ from their non-causative counterparts only in the presence of an additional external argument, the causer.

(185) Monocausal biagentive causative



Tagalog causatives are discussed in detail in Section 4.4, where it is shown that (185) is one of several available structures in the language, each of which have different consequences for licensing.

Causees in Xhosa differ from those in Tagalog in being non-agentive. Myler & Mali (submitted) show that causees cannot, for example, control agent-oriented modifiers in Xhosa (186).

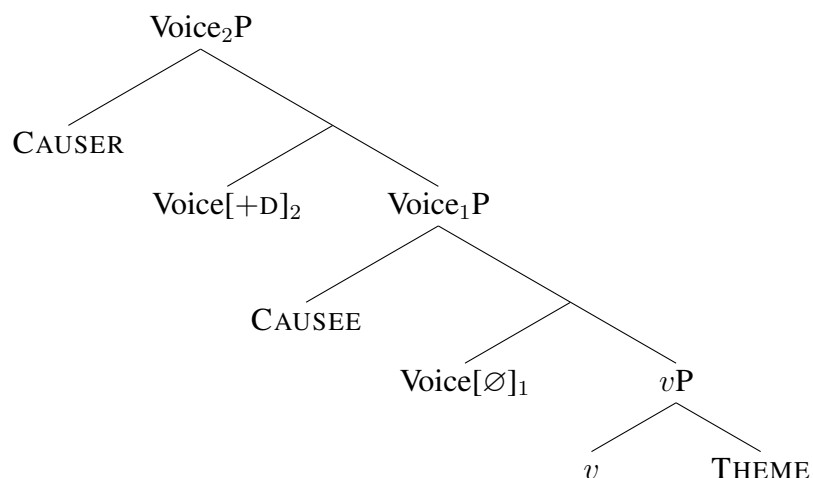
- (186) uDallas w-aphul-is-e uZoli iglasi ngabom.
 Dallas 3SM-break.TR-CAUS-PFV Zoli glass on.purpose
 Available: ‘Dallas, on purpose, made Zoli break the glass.’

Not available: ‘Dallas made Zoli, on purpose, break the glass.’

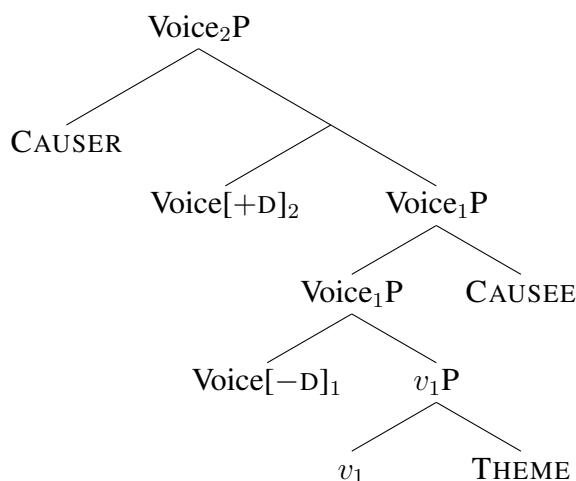
(Myler & Mali, submitted, 5)

There is also no evidence that Xhosa causatives encode more than one event. I will therefore take them to be monocausal and monoagentive. Assuming that every verb comes with some flavour of Voice (Chapter 3.2), the Voice associated with the verb cannot be the active Voice[+D] which introduces agents. It must be non-active, either Voice[\emptyset], which introduces a causee in its specifier but does not assign it agentive semantics, as in (187), or Voice[−D], where the causee must then be introduced as an adjunct, as in (188). We will see in Section 4.3.2 that Xhosa allows both possibilities (Myler & Mali, submitted), with different syntactic consequences for the causee.

- (187) Monocausal monoagentive causative with embedded Voice[\emptyset]

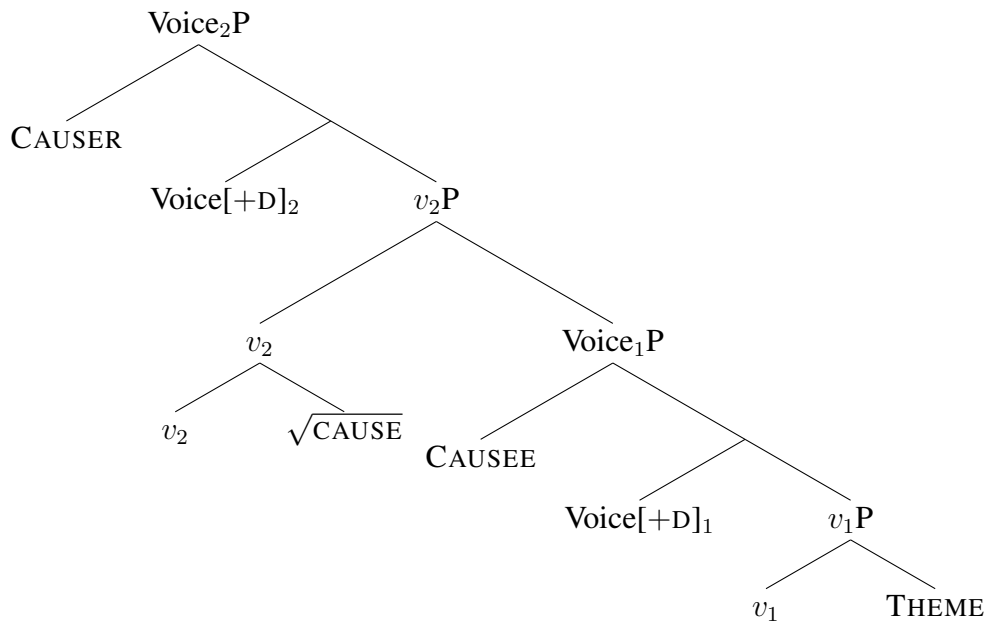


(188) Monocausal monoagentive causative with embedded Voice[−D]



Bicausal causatives involve the recursion of event-introducing *v* heads, as in the CAUSE theory of causatives (Harley, 1995; Cuervo, 2003; Folli & Harley, 2005; Pylkkänen, 2008, a.o.). Causatives of the Japanese *-(s)ase* type are bicausal and biagentive and therefore have two *v* heads and two Voice[+D] heads, as illustrated in (189). The lower root and *v*₁ complex introduces the caused event, and Voice[+D]₁ introduces the causee participant that performs it. The higher $\sqrt{\text{CAUSE}}$ and *v*₂ complex introduces the causing event, and Voice[+D]₂ introduces the causer participant that brings it about (Harley, 2013). Since both the causing and caused events are syntactically represented, they can be independently modified in the syntax, for instance, by temporal adverbials. Similarly, because both the causer and causee are introduced by Voice[+D], they are both interpreted as being agentive. I return to Japanese causatives in Section 4.5.2.

(189) Bicausal biagentive causative



Turkish productive affixal causatives with *-Dir* are an example of the bicausal monoagentive type of causative. Key (2013) shows that in a negated causative clause in Turkish, negation can scope over just the lower event or both events (190). The initial consonant in the affix *-Dir* undergoes voicing assimilation to the preceding segment and the vowel participates in vowel harmony.

- (190) Mehmet Ayşe-yi çalış-tır-ma-dı.
 Mehmet Ayşe-ACC work-CAUS-NEG-PST
 Available: ‘Mehmet didn’t make Ayşe work.’

Also available: ‘Mehmet made Ayşe not work.’ (Key, 2013, 177)

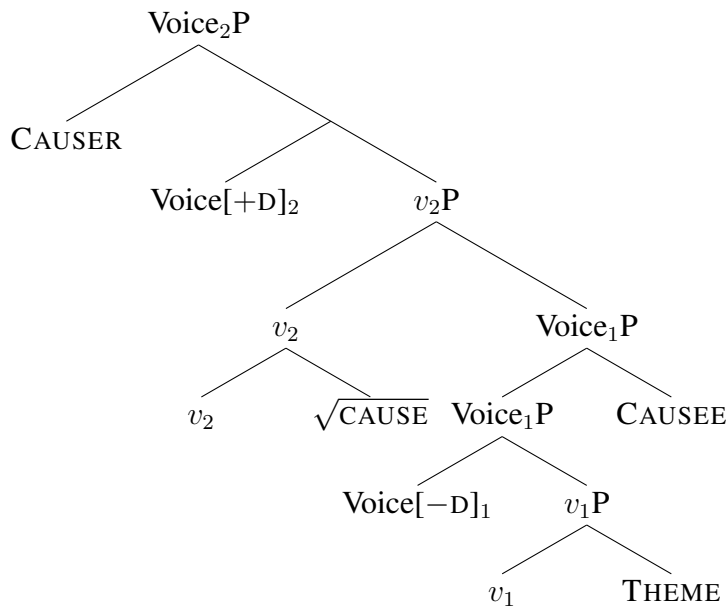
However, dative causees in causatives of transitives are not agentive, diagnosed by the fact that they cannot control an agent-oriented adverbial (191).

- (191) Tarkan Hasan-a Mehmet-i bil-erek döv-dür-dü.
 Tarkan Hasan-DAT Mehmet-ACC know-PART beat-CAUS-PST
 Available: ‘Tarkan, on purpose, made Hasan beat Mehmet.’

Not available: ‘Tarkan made Hasan, on purpose, beat Mehmet.’ (Key, 2013, 175)

These facts indicate that productive causatives in Turkish encode two events but only introduce a single agent. I suggest that Turkish causatives have two event-introducing roots and a single Voice[+D] that introduces the causer. This is sketched in (192). Similarly to Xhosa, I propose that the higher $\sqrt{\text{CAUSE}}$ and v_2 takes as its complement a VoiceP headed by a non-active Voice[−D]. Causees may merge as adjuncts to the lower VoiceP (Key, 2013).

(192) Bicausal monoagentive causatives



Turkish causatives are discussed in greater detail in Section 4.5.1.

In sum, productive affixal causatives vary along two main dimensions: first, in their number of events and, second, in whether the causee is agentive. The number of events determines the kind of recursion involved in the formation of the causative, whether it is recursion of the category v , as in bicausal causatives, or Voice, as in monocausal causatives. Both types involves embedding of a full VoiceP, whose flavour may vary; this embedded Voice determines the syntax and interpretation of the causee. The proposed structures for the four major types of productive affixal causatives are schematised in Table 4.3.

Causer	$\sqrt{\text{CAUSE}}$	Causee	$\sqrt{\text{ROOT}}$	Properties	Example
Voice[+D] ₂		Voice[+D] ₁	v_1	Monocausal biagentive	Tagalog
Voice[+D] ₂		Voice[−D]/[∅] ₁	v_1	Monocausal monoagentive	Xhosa
Voice[+D] ₂	v_2	Voice[+D] ₁	v_1	Bicausal biagentive	Japanese
Voice[+D] ₂	v_2	Voice[−D]/[∅] ₁	v_1	Biagentive monoagentive	Turkish

Table 4.3: Structure of productive affixal causatives

4.2.2 Consequences

The typology and analysis presented above intersect with a number of unresolved issues in the literature concerning productive affixal causatives. The remainder of this chapter is devoted to spelling out the consequences of my proposal for these concerns, discussed first in the context of monocausal causatives (Sections 4.3–4.4) and then for bicausal causatives (Section 4.5). I lay out these issues in brief here.

The first concern is the identity and syntax of the causative complement. The present approach claims that all productive affixal causatives involve an embedded VoiceP. However, a highly influential proposal from Pylkkänen (2002, 2008) suggests that languages may differ in the size of their causative complement, which has consequences for the syntax and semantics of the causatives. The causative complement may be a lexical root, verb or phase—equivalent to root, *v*P or VoiceP here (Jung, 2014; Harley, 2017). Root-selecting causatives correspond to non-productive causatives that participate in a causative alternation. Of particular interest is the distinction between *v*P- and VoiceP-selecting causatives, where it is claimed that VoiceP-selecting causatives have certain syntactic and interpretive properties such as agentive causees and compatibility with applicatives, while *v*P-selecting causatives do not.

An issue closely tied to the identity of the causative complement is the introduction of the causee, which often surfaces with oblique morphology and receives a non-agentive interpretation. Some analyses have therefore argued against causees being introduced by an embedded Voice. Instead, it has been variously proposed that causees are introduced as an adjunct to the lower VoiceP (Key, 2013), as the specifier of an applicative head (Kim, 2011a,b; Legate, 2014; Nash, 2017) or *v* (Massam, 2015; Tollan, 2018), or as the complement of the verb (Legate, 2014).

In the discussion of monocausal causatives in Section 4.3, I argue that Pylkkänen’s typology does not always make the right cut, and that cross-linguistic variation in causatives can be more fruitfully accounted for using independently-needed featural differences on the embedded Voice. As previously demonstrated by the Xhosa structures in (187) and (188), causatives may exhibit restrictions on the flavours of Voice they may embed, resulting in different syntactic and interpretive properties for the causee. Furthermore, causatives are subject to independent properties of nominal licensing in each language under consideration. Nominal licensing plays a role in the restriction found in many languages against embedding a syntactically transitive Voice. In Halkomelem Salish, for instance, semantically transitive verbs must be made antipassive before they can be causativised (Gerdtz, 1980, 2004). I show that language-specific differences in nominal licensing can easily be accommodated in a Voice over Voice approach to monocausal causatives. In Section 4.4, I present a case study from Tagalog demonstrating that a single language may have multiple strategies for introducing the causee, but that these strategies are again constrained by the independent properties of nominal licensing in the language.

A final concern relates to causative recursion. According to the current proposal, productive causatives involve the recursive embedding of either *v* or Voice. In principle, then, we might expect a subset of languages to allow unlimited recursion in causatives, as some do for applicatives. It has been claimed, however, that no language permits more than one level of causative embedding (Svenonius, 2005; Key, 2013). That is, only one *v* may be embedded under another *v*; likewise for Voice. For this reason, Key (2013) proposes that productive affixal causatives employ a dedicated

Caus head associated with the causee that merges below Voice; the use of two different heads along a fixed hierarchy of functional projections allows him to avoid the issue of recursion altogether (see also Harley, 2017). However, Section 4.5 presents evidence from Turkish and Hokkaido Japanese that recursion *is* in fact possible in languages with bicausal causatives. While additional layers of Voice embedding are unattested in monocausal causatives, I show that this is easily explained by the principle of Thematic Uniqueness.

4.3 Monocausal causatives

We start with monocausal causatives, which involve the recursion of external-argument introducing Voice heads instead of event-introducing *v* heads. I argue that the difference between monocausal biagentive causatives and monoagentive causatives lies in the flavour of Voice that is embedded. Biagentive causatives embed active Voice[+D] (Section 4.3.1) while monoagentive causatives embed a non-active flavour of Voice, either Voice[−D] or Voice[∅] (Section 4.3.2). Languages differ in whether the embedded Voice can license its external argument, which gives rise to licensing restrictions in some languages (Section 4.3.3). In the final part of this section, I defend the proposal that all monocausal causatives embed VoiceP, contra Pytkänen (2002, 2008) (Section 4.3.4).

4.3.1 Monocausal biagentive causatives

I recapitulate the evidence from Tagalog given in Nie (2020) for a class of productive affixal causatives that are monocausal. If Tagalog *pa-* causatives consist of two syntactically-represented events, a causing event and caused event, we would expect these events to be able to receive independent temporal modification in the syntax. However, this prediction is not borne out, as shown by the example repeated in (193).

- (193) P<in>a-iyak-Ø ko si Kiko noong Lunes (*sa pang-iinsulto
 <PFV>CAUS-cry-PV 1SG.GEN NOM.PN Kiko P Monday P ADV-insulting
 ko sa kanya noong Linggo).
 1SG.GEN P 3SG.OBL P Sunday
 ‘I made Kiko cry on Monday (*by insulting him on Sunday).’ (Nie, 2020, 117)

The evidence from temporal modification suggests that Tagalog causatives are monocausal.

The same result obtains when we test Tagalog causatives with *ulit*, a second position element meaning ‘again’ (Aldridge 2004): *pa-* causatives exhibit the same *again*-attachment behaviour found in the English causative alternation (Section 4.1.2). Take, for instance, the verb *tulog* ‘sleep’, which is ambiguous with *ulit* between a restitutive reading (194a) and repetitive reading (194b).

- (194) Na-tulog ulit ang sanggol.
 NONVOL.PFV-sleep again NOM baby
 ‘The baby fell asleep again.’ (Nie, 2020, 119)

- a. BECOME > *ulit* > STATE

Context: Luz gave birth to a beautiful new baby. The baby was miraculously asleep when he was born. Soon he woke up and started crying. A few hours later he quieted down and fell asleep.

- b. *ulit* > BECOME > STATE

Context: Luz gave birth to a beautiful new baby. The baby was awake when he was born. Soon he fell asleep. A few hours later he woke up and starting crying. Eventually he fell asleep.

There is no lexical causative of *tulog*, but an affixal causative can be formed using *pa-* (195). The resulting causative has the restitutive reading (195a) and the repetitive reading over the whole clause (195c). However, it crucially does not have the interpretation where *ulit* scopes over just the change of state event (195b).

- (195) P<in>a-tulog-Ø ulit ng nars ang sanggol.
 <PFV>CAUS-sleep-PV again GEN nurse NOM baby
 ‘The nurse made the baby fall asleep again.’ (Nie, 2020, 120)

a. CAUSE > BECOME > *ulit* > STATE

Context: Luz gave birth to a beautiful new baby. The baby was miraculously asleep when he was born. Soon he woke up and started crying. The nurse picked him up and rocked him until he fell asleep.

b. *CAUSE > *ulit* > BECOME > STATE

Context: Luz gave birth to a beautiful new baby. The baby was awake and crying when he was born. The doctor picked him up and rocked him until he fell asleep. A few hours later the baby woke up and starting crying. The nurse came and rocked him to sleep.

c. *ulit* > CAUSE > BECOME > STATE

Context: Luz gave birth to a beautiful new baby. The baby was awake and crying when he was born. The nurse picked him up and rocked him until he fell asleep. A few hours later the baby woke up and starting crying. The nurse came and rocked him to sleep.

Thus affixal causatives in Tagalog exhibit the same pattern as English causatives with respect to *again*-attachment, suggesting that there is no additional causing event into the syntax. Instead, what distinguishes causatives from their non-causative counterparts in Tagalog is simply the addition of an external argument.

While Tagalog causatives encode a single event, they nonetheless have two agents. Agent-oriented adverbs like *sinasadya* ‘deliberately’ associate straightforwardly with the agent in simple unergatives, as shown in (196a). In the causative of the same unergative predicate given in (196b), postverbal *sinasadya* can associate with either the causer or unergative causee, suggesting that both the causer and causee are agents.

- (196) a. Um-iyak si Kiko nang sinasadya.
 AV.PFV-cry NOM.PN Kiko ADV deliberately
 ‘Kiko cried deliberately.’
- b. P<in>a-iyak-Ø ko si Kiko nang sinasadya.
 <PFV>CAUS-cry-PV 1SG.GEN NOM.PN Kiko ADV deliberately
 Available interpretations:
 ‘I deliberately made Kiko cry.’
 ‘I made Kiko deliberately cry.’ (Nie, 2020, 114)

Agenthood may also be demonstrated by the compatibility of an argument with an instrument (Fillmore, 1968). The Tagalog causative of an unergative in (197a) shows that the instrumental adjunct *gamit ang tungkod* ‘with the cane’ may associate with either the causer or the causee; the sentence can convey either that Kiko used the cane to walk with or that the speaker threatened Kiko with the cane. The association of the instrumental adjunct in the causative of transitive in (197b) is similarly ambiguous between the causer and causee.

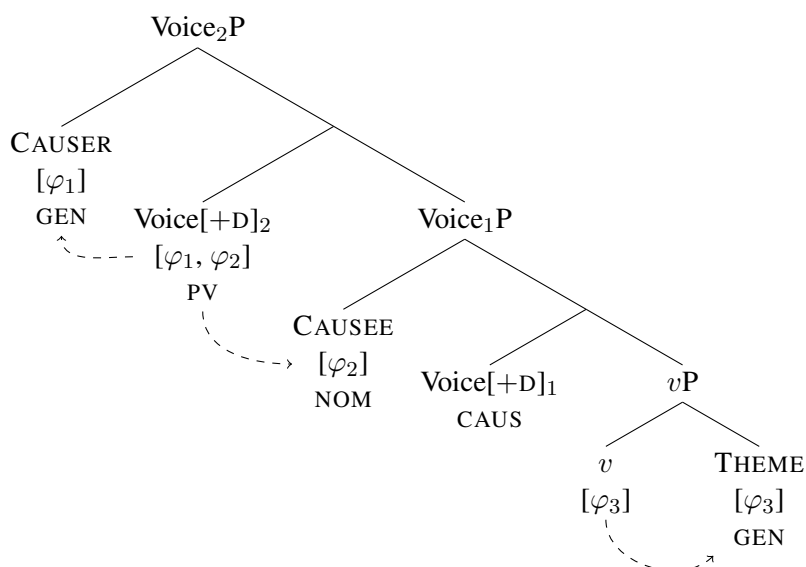
- (197) a. P<in>a-lakad-Ø ko si Kiko gamit ang tungkod.
 <PFV>CAUS-walk-PV 1SG.GEN NOM.PN Kiko using NOM cane
 Available interpretations:
 ‘I, with the cane, made Kiko walk.’
 ‘I made Kiko, with the cane, walk.’
- b. P<in>a-luto-Ø ko si Kiko ng pansit gamit ang kahoy.
 <PFV>CAUS-cook-PV 1SG.GEN NOM.PN Kiko GEN pancit using NOM stick
 Available interpretations:
 ‘I, with the stick, made Kiko cook pancit.’
 ‘I made Kiko, with the stick, cook pancit.’ (Nie, 2020, 114)

These data show that external arguments remain agentive when embedded within a causative.

Causatives in Tagalog therefore differ from non-causative constructions only in the addition of an external argument. Nie (2020) suggests that the properties of productive causatives in Tagalog

causatives can be captured by extending the Voice theory approach to the causative alternation (Alexiadou et al., 2006, 2015; Schäfer, 2008; Kastner, 2016, 2018), where Voice[+D] merges directly with another VoiceP and introduces the causer. This is shown in (198) for a causative of a transitive in the Patient Voice, where the causee is the pivot of the clause. *v* licenses and assigns genitive Case to the theme. The embedded Voice[+D]₁ introduces the causee but does not license it. The causee must therefore be licensed and assigned nominative pivot marking by the higher Voice[+D]₂, which also licenses and assigns genitive to the causer. Voice[+D]₁ is spelled out by the causative marker *pa-* and Voice[+D]₂ is associated with Patient Voice morphology (Nie, 2020).

(198) Tagalog causative of transitive (Patient Voice)



I provide a full description and analysis of Tagalog causatives in Section 4.4. However, note that it is the highest Voice which is the locus of transitivity and defines the licensing domain of the clause. As discussed in Chapter 2.2, this special licensing ability is a property derived from the highest Voice being local to T, not from the Voice head itself. This is shown by the fact that an embedded Voice may or may not be able to license (a single argument) in a given language; I have proposed that embedded Voice is not a licenser in Tagalog.

Monocausal biagentive causatives thus permit active Voice[+D] to be embedded directly under another Voice[+D]. As Key (2013) points out, allowing one Voice[+D] to be embedded under another head of the same category predicts the possibility of unlimited Voice embedding across languages, leading to causatives with multiple causee arguments. However, this is impossible in Tagalog. Causees cannot iterate, as shown in (199), which represents an attempt to stack three Voices to form a “double” causative.

- (199) *I-p<in>a-pa-iyak [ko] [kay Kiko] [ang bata].
 CV-<PFV>CAUS-CAUS-cry 1SG.GEN OBL.PN Kiko NOM child
 Intended: ‘I made Kiko make the child cry.’

Assuming that such a structure is not ruled out for an independent reason, what prevents these double causatives? We saw in Chapter 3 that languages like Kinyarwanda appear to have no licensing restrictions at all; there are always enough nominal licensors to go around. Yet even Kinyarwanda does not permit multiple causees (200b).

- (200) a. Habimana y-a-men-**esh**-eje umwana igikombe.
 1.Habimana 1S-PST-break-CAUS-ASP 1.child 7.cup
 ‘Habimana made the child break the cup.’
 b. *Habimana y-a-men-**esh-esh**-eje umugabo umwana igikombe.
 1.Habimana 1S-PST-break-CAUS-CAUS-ASP 1.man 1.child 7.cup
 Intended: ‘Habimana made the man make the child break the cup.’ (Jerro, 2016, 102)

I suggest that the prohibition against multiple causees in monocausal causatives has a simple independent explanation: “causee” is a distinct thematic role, and multiple causees therefore violate Thematic Uniqueness (201), discussed in Section 3.2.

- (201) Thematic Uniqueness

A thematic role can only be assigned to one argument within a single thematic domain.

Thus causee recursion is impossible in both Tagalog and Kinyarwanda because it involves thematic role recursion. There are no multiple causers or causees with a single verb, just as there are no

multiple benefactive applied arguments.¹ Interestingly, multiple causees are possible in bicausal causatives, which have more than one verbal category *v* associated with an event. In Section 4.5, I suggest events define thematic domains, so that each event can have its own causee.

4.3.2 Monocausal monoagentive causatives

Many languages have restrictions on the embedded Voice in causatives. In Xhosa (Bantu; South Africa), for example, the embedded Voice cannot be active (Voice[+D]). Myler & Mali (submitted) show that causers but not causees can control agent-oriented modifiers in Xhosa (202).

- (202) uDallas w-aphul-is-e uZoli iglasi ngabom.
 Dallas 3SM-break.TR-CAUS-PFV Zoli glass on.purpose
 Available interpretation: ‘Dallas, on purpose, made Zoli break the glass.’
 Not available: ‘Dallas made Zoli, on purpose, break the glass.’
 (Myler & Mali, submitted, 5)

Causatives and applicatives can combine in Xhosa, despite the non-agentivity of the causee. An example is given in (203), where the applied argument is the beneficiary of the caused event rather than the causing or helping event. High applied arguments can therefore scope below the causee.

- (203) uThemba u-phek-el-is-e umfazi abantwana umngqusho.
 Themba 3S-cook-APPL-CAUS-PFV woman child samp
 ‘Themba made/helped the woman [cook samp for the children].’
 (Myler & Mali, submitted, 5)

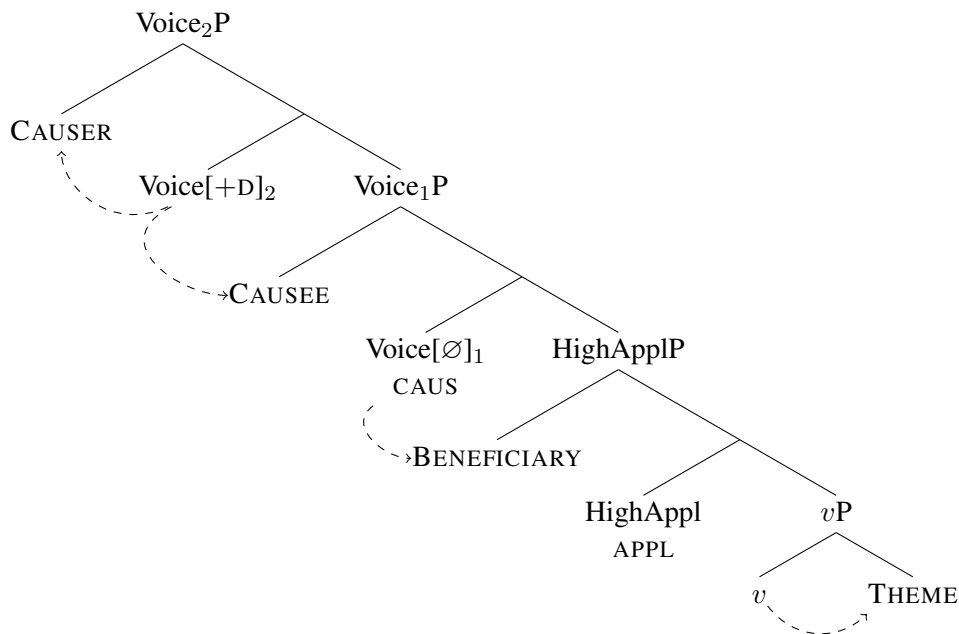
The non-agentivity of causees suggests that Xhosa cannot embed active Voice[+D], but the availability of applicatives suggests that there must be some kind of Voice head in the causative complement. As discussed in Chapter 2, there are two flavours of Voice that do not (always) assign an

¹The causative and instrumental marker are syncretic in many languages, including Kinyarwanda, and causees and instruments generally cannot co-occur in the same clause. Simango (1999) and Jerro (2016) suggest that the causees and instruments overlap in meaning, giving rise to a general semantics that encompasses both. Their approach can be implemented here by assuming that causees and instruments bear the same thematic role in Kinyarwanda; their co-occurrence therefore violates Thematic Uniqueness.

agentive thematic role: unspecified Voice[\emptyset], which permits a DP to merge in its specifier, and unaccusative Voice[$-D$], which prohibits a DP from merging in its specifier. These featural flavours are both considered non-active variants of Voice.

I have not found any literature on eventivity in Xhosa causatives and will assume that they are monocausal.² I propose that Xhosa affixal causatives of the type in (203) embed unspecified Voice[\emptyset] under an active Voice[$+D$]. (204) sketches the structure of a Xhosa causative with a high applicative. Recall that Xhosa is a recursive applicative language in which Appl heads are nominal licensers (Chapter 4.2). I assume that the embedded Voice[\emptyset]₁ is also a licenser in Xhosa. This Voice[\emptyset]₁ introduces the non-agentive causee and licenses the beneficiary introduced by HighAppl. Voice[$+D$]₂ licenses the causee and introduces and licenses the agentive causer. Voice[\emptyset]₁ is spelled out by the causative marker *-is* and HighAppl is spelled out by the applicative marker *-el* (see Halpert, 2015; Myler & Mali, submitted).

(204) Xhosa causative with applicative



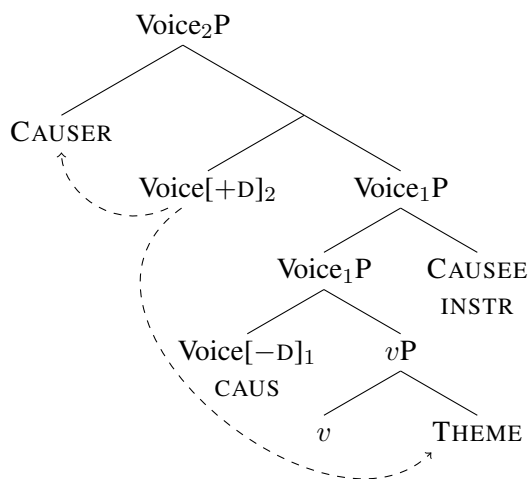
²I speculate that languages with ‘low’ causative marking, where causative morphology is found closer to the verb than transitivity morphology, are likely to have monocausal causatives.

Myler & Mali also show that Xhosa has an alternative way of constructing a causative where the causee is an instrumental adjunct (205). Like other Xhosa causees, the instrumental causee cannot control agent-orient modifiers, indicating that it is non-agentive (206).

- I suggest that in the instrumental causative construction, the embedded VoiceP is headed by Voice[−D], which prohibits a specifier. The causee is therefore forced to merge and be licensed as an instrumental adjunct to the embedded Voice₁P, as illustrated in (207). I assume that the causee is licensed as a PP adjunct where it receives instrumental marking. The theme is licensed by the higher Voice[+D]₂, much like in a simple transitive clause.³

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(207) Xhosa instrumental causative



Thus while Xhosa has a restriction against agentive causees and therefore against an embedded active Voice[+D], the language does allow non-active flavours of Voice to be embedded. Furthermore, the fact that there are two non-active flavours of Voice (Voice[\emptyset] and Voice[-D]) makes it a natural possibility for non-agentive causees to merge in two different ways in the structure.

Returning briefly to the issue of recursion, recall from the previous subsection that monocausal causatives do not permit multiple causee arguments. I suggested that this can be explained by Thematic Uniqueness. Note, however, that this issue is only relevant for biagentive causatives, since active Voice[+D] embeds another active Voice[+D]; its input is identical to its output and can therefore (in principle) recurse. In monoagentive causatives, Voice[+D] can only embed a non-active Voice. Since its input and output differ, Voice[+D] cannot recurse. In other words, a ban against an active lower Voice is also a ban against causative recursion.

4.3.3 Licensing restrictions

Xhosa is a recursive applicative language in which licensing is fairly free; all argument introducing heads are nominal licensors. This property of Xhosa makes restrictions on the flavour of the em-

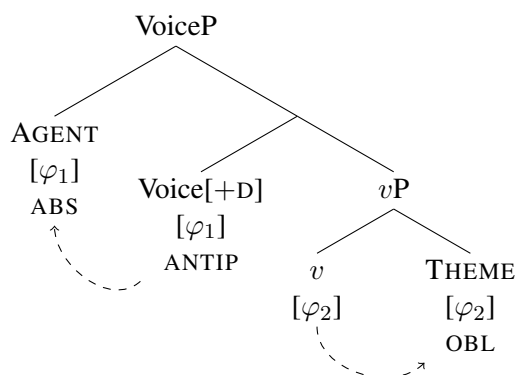
bedded Voice particularly clear. However, languages can also exhibit restrictions on the *licensing* properties of the embedded Voice. I show that Halkomelem Salish is such a language.

In Halkomelem, simple transitives can be either marked by the transitive suffix *-t* and an ergative agreement marker (208b) or expressed in an antipassive construction where the verb is marked by the antipassive suffix *-əm* and the theme is demoted to an oblique (208c). Intransitive predicates receive no special marking on the verb (208a). Null marked arguments are absolutive.

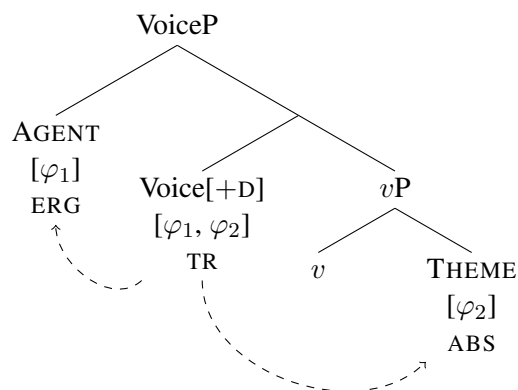
- (208) a. niʔ ʔiməʃ tθə swiwləs.
 AUX walk DET boy
 ‘The boy walked.’ (Gerdts, 2004, 769)
- b. niʔ qʷəl-t-əs θə sʔeniʔ tθə səplil.
 AUX bake-TR-3ERG DET woman DET bread
 ‘The woman baked the bread.’
- c. niʔ qʷəl-əm θə sʔeniʔ ʔə tθə səplil.
 AUX bake-ANTIP DET woman OBL DET bread
 ‘The woman baked the bread.’ (Gerdts, 1980, 300)

I assume that Halkomelem has the typical ergative–antipassive alternation where Voice licenses both the agent and the theme in the transitive clause but only the agent in the antipassive (see Chapter 2.4). In ergative clauses (210), Voice[+D] licenses two arguments: the highest unlicensed argument that it c-commands (the theme), assigning it absolutive Case, and its specifier, assigning it ergative Case. Voice[+D] has thus acquired two bundles of φ -features and is spelled out by the transitive marker. In antipassive transitive clauses (209), *v* licenses and assigns oblique Case to the theme, and Voice[+D] licenses only its external argument, assigning it absolutive Case. Voice[+D] with a single set of φ -features is spelled out by the antipassive marker.

(209) Antipassive construction



(210) Ergative construction



In constructions with three arguments such as in (211), the verb is marked with applicative, transitive and ergative agreement suffixes, and the theme is oblique. The applied argument is absolutive, suggesting that it is licensed by Voice and thus triggers transitive *-t* morphology on the verb. As in many languages with overt applicative marking (Marantz, 1984; Baker, 1988), then, the applied argument in Halkomelem is introduced by an applicative head but behaves syntactically like a transitive object. This is supported by the fact that the applied argument can extract but the theme cannot (Gerdt, 2010). Halkomelem is a non-recursive applicative language, indicating that Appl is not a nominal licenser.

- (211) a. ni? q'wəl-əlc-t-əs łə-nə ten θə sleni? ?ə tθə səplil.
 AUX bake-BEN-TR-3ERG DET-1SG.POSS mother DET woman OBL DET bread
 'My mother baked the bread for the woman.' (Gerdt, 2010, 1)
- b. ni? ?am-əs-t-əs k^wθə swiw'ləs k^wθə sq^wəmey' ?ə k^wθə stθam'.
 AUX give-APPL-TR-3ERG DET boy DET dog OBL DET bone
 'The boy gave the dog the bone.' (Gerdt, 2010, 4)

Turning now to causatives in the language, (212) gives the causativised versions of the sentences in (208). The causative suffix is *-stəx^w*, which also encodes object agreement with the causee. As Gerdt (1980, 2004) points out, Halkomelem exhibits an interesting restriction on causatives, where intransitives (212a) and antipassives may be embedded (212c), but transitives

cannot (212b). It must be the causee that triggers object agreement, as obliques do not control agreement in the language.⁴

- (212) a. *niʔ cən ʔiməʃ-stəx^w tθə swiwləs.*
 AUX 1SBJ walk-CAUS.3OBJ DET boy
 ‘I made the boy walk.’
- b. **niʔ cən q^wəl-ət-stəx^w θə sɛniʔ (ʔə) tθə səplil.*
 AUX 1SBJ bake-TR-CAUS.3OBJ DET woman OBL DET bread
 Intended: ‘I made the woman bake the bread.’
- c. *niʔ cən q^wəl-əm-stəx^w θə sɛniʔ ʔə tθə səplil.*
 AUX 1SBJ bake-ANTIP-CAUS.3OBJ DET woman OBL DET bread
 ‘I made the woman bake the bread.’ (Gerdts, 2004, 769)

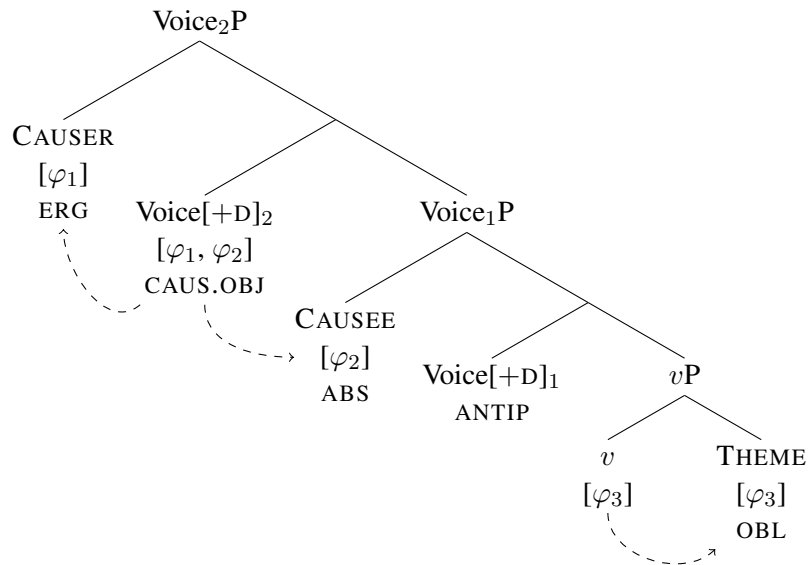
Although I have not found agenthood tests for Halkomelem causees confirming this, I assume based on their syntactic properties that causees of unergative and transitive predicates merge as the specifier of an embedded Voice[+D]. Recall that the highest Voice[+D] head in the functional sequence is able to license up to two arguments because it is the highest head in the thematic domain and is therefore the most local to T. A lower argument-introducing head, such as Appl or an embedded Voice, however, may or may not have the ability to license in a given language. I suggest that, like Appl, embedded Voice is not a nominal licenser in Halkomelem.

The derivation for a causative of an antipassive is given in (213). *v* licenses and assigns oblique Case to its complement. The embedded Voice[+D]₁ introduces the causee but cannot license it. The causee must therefore be licensed by the higher Voice[+D]₂, triggering absolutive Case assignment and object agreement. Voice[+D]₂ then licenses and assigns ergative Case to the causer. The higher Voice[+D]₂ is thus the locus of transitivity in the clause. Because embedded Voice[+D]₁ does not license two arguments, it is spelled out as the antipassive marker.⁵

⁴The data in (212) are consistent with the observation that no ergative language with affixal causatives allows ergative causees (Deal, 2010; Nie, 2017b); in other words, causatives never embed true transitives cross-linguistically. I propose that this is because only the highest Voice is responsible for transitivity, since the highest Voice is the closest head in the thematic domain to T.

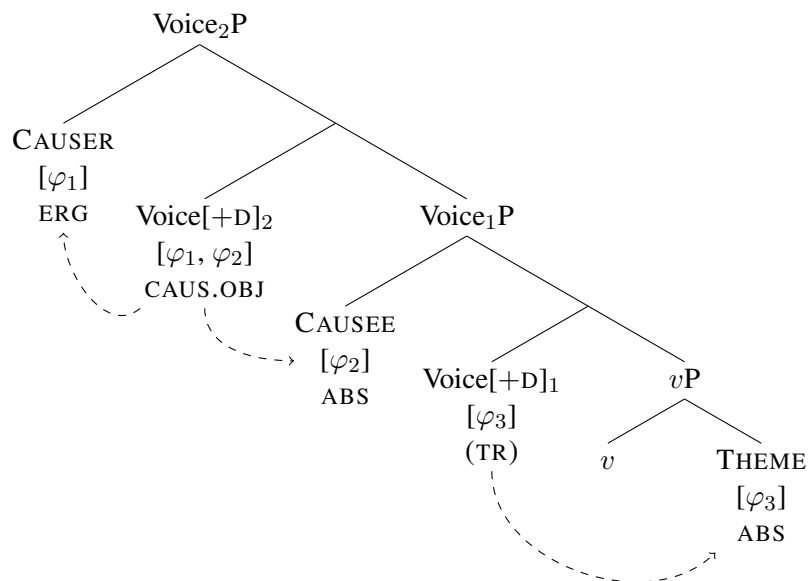
⁵In Chapter 2.4.1, I claimed that the antipassive marker *-əm* spells out Voice[+D] with one set of φ -features. Given that an embedded Voice[+D] has no φ -features at all, *-əm* may instead be a default/elsewhere realisation of Voice[+D].

(213) Causative of antipassive



The lower **Voice[+D]₁** in (213) is not a nominal licenser and bears no φ -features. If **Voice[+D]₁** were a licenser, then we should be able to derive a causative of a syntactic transitive, as in (214), where **Voice[+D]₁** agrees with and licenses the theme and copies its φ -features. However, this was shown to be ungrammatical in (212b); the lower VoiceP cannot be syntactically transitive.

(214) Causative of syntactic transitive (ungrammatical)



Alternative derivations where Voice[+D]₁ licenses the causee, either in addition or instead of the theme, are also ungrammatical. Halkomelem simply does not allow an embedded Voice to license. I suggest that this prohibition against causatives of syntactic transitives in Halkomelem can be modelled as a φ -featural restriction on the embedded Voice: in Halkomelem, Voice cannot embed another Voice with φ -features. Therefore properties of nominal licensing can also contribute to restrictions on causatives.

Summing up this section so far, I have argued that productive affixal causatives can be monocausal and involve the recursion of Voice rather than *v*. We have also seen that some languages exhibit restrictions on the embedded Voice, in either its lexical flavour or its φ -features. In Section 4.4, I present a detailed case study from Tagalog causatives showing how nominal licensing and the flavours of Voice interact with each other.

4.3.4 Against complement size

Before we turn to Tagalog, however, I would like to address an influential proposal from Pylkkänen (2002, 2008) that productive affixal causatives differ cross-linguistically in whether they embed *v*P or VoiceP under a causative head. I show that her proposal does not make the right predictions for Xhosa and Zulu. Variation in causatives can therefore be more fruitfully accounted for by assuming that all causatives embed VoiceP, and that languages vary in their featural restrictions on the embedded Voice.

The syntax proposed by Pylkkänen (2002, 2008) for productive affixal causatives is a variant of the CAUSE theory, where a causing event headed by *v*_{CAUSE} is introduced over a caused event headed by another flavour of *v*. All productive causatives in her approach are therefore assumed to be bicausal, and cross-linguistic differences are attributed to the selectional properties of *v*_{CAUSE}, which can select a *v*P or a VoiceP complement. She argues that embedding complements of different sizes correlates with a number of argument structure and interpretive properties

of the caused event. VoiceP-selecting causatives have agentive causees, which are compatible with agent-oriented modifiers and high applicatives; the presence of Voice should also allow the complement to be compatible with passive morphology. *v*P-selecting causatives lack a Voice head and thus do not allow agentive causees or applicative or passive morphology. These properties are summarised in Table in 4.4. For completeness, I also include root-selecting causatives, which are non-productive causatives of the monocausal monoagentive type.

	Root	<i>v</i> P	VoiceP
Productive	No	Yes	Yes
Causee can be modified by agent-oriented modifiers	No	No	Yes
Complement can contain a high applicative	No	No	Yes
Complement can contain passive morphology	No	No	Yes

Table 4.4: Pylkkänen’s (2008) causative typology based on complement selection

While attractive, Pylkkänen’s proposal immediately runs into the empirical issue that plagues all CAUSE theory approaches and that was discussed extensively above: not all affixal causatives are bicausal. In monocausal biagentive causatives, there is no additional causative head *v*_{CAUSE} that introduces a causing event on top of the caused event. The complement selection proposal crucially hinges on the presence of such a causative head, however, since it is the *v*_{CAUSE} itself which selects for the complement. Pylkkänen’s approach therefore does not extend to monocausal causatives in any coherent way. Even setting aside the issue of eventivity, however, evidence can be adduced from several languages that the properties claimed in (4.4) to correlate with *v*P vs VoiceP complement selection do not always align. I show that Pylkkänen’s diagnostics yield mixed results when applied to Xhosa and Zulu.

It is well known that valency-related verbal suffixes in Bantu languages generally obey the CARP template (Hyman, 2003), where they appear in the following order:

(215) Verb–Causative–Applicative–Reciprocal–Passive

Individual languages vary in their extent to which the CARP template can be violated. I am aware of no Bantu language, however, where the passive morpheme can occur in between the verb and the causative marker, either in interpretation or in morpheme order. Because the causative complement never allows passive morphology, we would expect, based on Pylkkänen’s diagnostics, for causatives in the Bantu language family to be, on the whole, *v*P-selecting.

However, Myler & Mali themselves report that the complement of the causative head can contain an high applicative in Xhosa. In (216), the applicative marker *-el-* occurs in between the verb and the causative marker *-is-*. This CARP-violating morpheme order results in an interpretation where the applied argument is the beneficiary of the caused event rather than the causing or helping event. This is a problem for the claim that Xhosa causatives are *v*P-selecting, as the availability of a high applicative in the complement is meant to be a positive diagnostic for VoiceP-selecting causatives.

- (216) uThemba u-phek-**el-is**-e umfazi abantwana umngqusho.
Themba 3S-cook-APPL-CAUS-PFV woman child samp
‘Themba made/helped the woman cook samp for the children.’

(Myler & Mali, submitted, 5)

Similar results are found in Zulu causatives, which pattern as *v*P-selecting with respect to lack of agent-oriented modification of causees (217), but VoiceP-selecting with respect to the availability of applicatives within the causative complement (218).

- (217) uThemba u-fail-is-a uSipho itest ngamabomu.
AUG.1Themba 1SM-fail-CAUS-FV AUG.1Sipho AUG.5test deliberately
Available: ‘Themba, on purpose, made Sipho fail the test.’

Not available: ‘Themba made Sipho, on purpose, fail the test.’ (Halpert, 2015, 50)

While (218) displays the CARP-obeying order of the causative and applicative affixes, the applied argument is nonetheless interpreted as part of the causative complement; the chief is the beneficiary of the singing event rather than the causing event.

- (218) ubaba u-cul-is-el-a inkosi abantwana
 AUG.1father 1SM-sing-CAUS-APPL-FV AUG.9chief AUG.2children
 i-Nkosi Sikelel' iAfrika.
 AUG5-9lord bless AUG.5Africa
 'Father made the children sing the chief the national anthem.' (Halpert, 2015, 51)

The complement selection diagnostics provided by Pytkänen therefore yield contradictory results for Xhosa and Zulu causatives.

This evidence suggests that the syntactic and semantic properties of causatives have nothing to do with the size of the causative complement. Rather, causatives always embed VoiceP, and restrictions on causatives has to do with the features of the embedded Voice head. In Section 4.3.2, I showed that causatives in Xhosa can be captured within a Voice over Voice approach, where the embedded Voice is non-active. This analysis explains both the availability of applicatives and lack of agentive causees in the language. Thus the Voice over Voice approach makes the right predictions for the properties of monocausal causatives cross-linguistically.

4.4 Tagalog causatives

As discussed in previous sections, productive affixal causatives in Tagalog are monocausal and therefore involve recursion of Voice rather than *v* heads. In this section, I present the most detailed discussion of Tagalog causatives to date, showing that they can embed a full range of predicates, including unaccusatives (Section 4.4.1), unergatives (4.4.2) and transitives (4.4.3). I argue that the embedded Voice in Tagalog is not a nominal licenser but can come in all three lexical flavours (+D, −D, ∅), which have different consequences for the licensing and interpretation of the causee. The fact that embedded Voice cannot license supports my claim that the special licensing abilities

of the highest Voice head elucidated in the previous chapters are not inherent to Voice itself but a derived property of being under T. I also provide evidence that causatives and applicatives can combine in Tagalog, but with certain restrictions on verb class and applied argument thematic role (Section 4.4.4).

4.4.1 Causatives of unaccusatives

There are two ways to causativise unaccusatives in Tagalog. Some unaccusative predicates can form simple, non-productive causatives using one of the transitive Agent Voice forms (see Chapter 2.3). Others form productive causatives, which surface with the productive *pa-* prefix in all voices. I examine both of these strategies in turn.

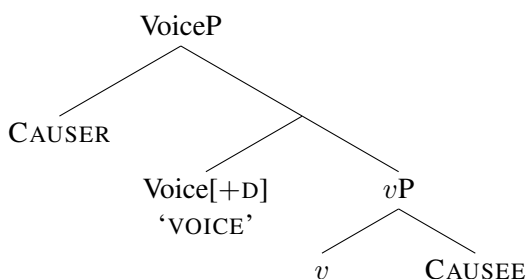
Non-productive causatives in Tagalog participate in the classic causative–anticausative alternation. Anticausatives are marked with non-active morphology, either Voice[−D] or Voice[∅]. The causative variant is marked with either Voice[∅] or Voice[+D]. The reader is referred to Chapter 2.3 for more details on these classes of voice alternations. I focus here on causatives introduced by Voice[+D]. For example, the anticausative of *basag* ‘shatter’ in (219a) has the *ma-* prefix indicative of Voice[−D]. Its causative counterpart in (219b) takes the *mag-* form in the Agent Voice, which is Voice[+D].

- (219) a. **Na-basag** [ang plorera].
 NONVOL.PFV-shatter NOM vase
 ‘The vase shattered.’
- b. **Nag-basag** [ng baso] [ang bata].
 AV.PAG.PFV-shatter GEN vase NOM child
 ‘The child shattered a vase.’

Both the anticausative and causative variants are marked in Tagalog, and the causative is monocausal (Nie, 2020), supporting the Voice approach to non-productive causatives (see Section 4.1). Non-productive causatives in Tagalog therefore have a simple transitive structure, given in (220).

The unaccusative causee is generated as the complement of the verb, and the causer is introduced as the specifier of Voice[+D]. Based on the licensing properties of the clause, Voice[+D] can be spelled out as either an Agent Voice or Patient Voice form.

(220) Non-productive causative



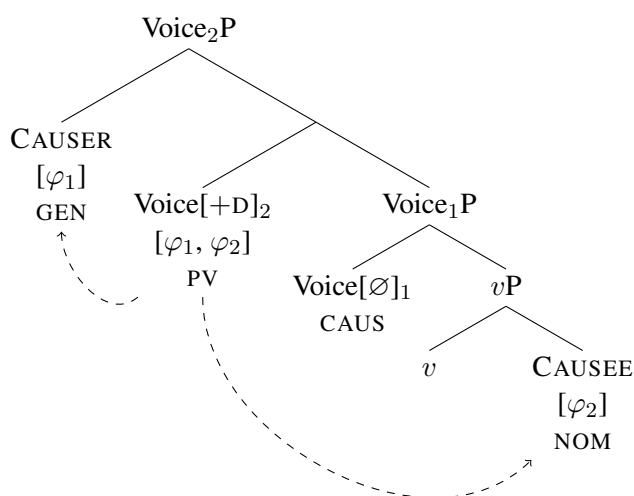
Productive causatives of unaccusatives in Tagalog employ the causative marker *pa-* in both the Agent Voice and Patient Voice forms, as shown in (221).

- (221) a. Nag-**pa**-hulog [ako] [ng bata].
 AV.PAG.PFV-CAUS-fall 1SG.NOM GEN child
 'I made a child fall.' Agent Voice
- b. P<in>a-tumba-Ø [ko] [ang bata].
 <PFV>CAUS-fall-PV 1SG.GEN NOM child
 'I made the child fall.' Patient Voice

Note that the causative marker *pa-* appears closer to the verb root than voice morphology. As Nie (2020) points out, this actually reflects the syntactic scope of *pa-* and voice morphology. Voice morphology in productive causatives tracks the pivot properties of the entire causative rather than the embedded predicate. That is, Agent Voice marking in (221a) reflects nominative case on the subject of the entire clause (the causer), rather than the subject of the unaccusative (the causee). In a Voice over Voice approach to causatives, this means that voice morphology spells out the higher Voice head and causative *pa-* spells out the lower Voice head. The Agent Voice form *mag-* also indicates that the higher Voice head is Voice[+D].

The structure proposed for productive causatives of unaccusatives is given in (222) in the Patient Voice construction. The causee merges as the complement of the unaccusative *v*, which selects for a non-active flavour of Voice; I propose that this flavour must be Voice[\emptyset]₁. Voice[+D]₂ introduces the causer and licenses both the causer and causee arguments, thus gaining two sets of φ -features and being spelled out as Patient Voice. The embedded Voice[\emptyset]₁ is spelled out as the causative marker *pa-*.

(222) Productive causative of unaccusative



In (222), the embedded non-active Voice is assumed to be Voice[\emptyset]. In Chapter 2.3.1, we saw that the other non-active Voice head, Voice[−D], is compatible with a passive-like interpretation where an agent is implied. If Voice[−D] were to be embedded in a causative, then, it should be possible for the construction to have an implied agent in the lower VoiceP; that is, it should be able to express an implied agentive causee. However, there is no evidence in causatives of unaccusatives for an agentive causee, implied or otherwise; the causee merges as the complement of the verb. An embedded Voice[\emptyset], by contrast, does not allow a passive-like meaning and therefore produces the correct interpretations for productive causatives of unaccusatives.

This causative structure also shows that it is the highest Voice head that is the locus of syntactic transitivity. Embedded Voice heads, by contrast, do not affect overall licensing in the

clause. The fact that (highest) Voice can delimit the licensing domain of the clause and license two arguments is thus not an inherent property of the Voice head. Rather, it is a property derived from Voice being the highest thematic head in the clause and therefore most local to T. It is thus *Voice under T* which defines the licensing domain of the clause.

4.4.2 Causatives of unergatives

Causatives of unergatives similarly divide into two classes. While both classes are marked with the productive causative marker *pa-*, they differ in whether they undergo the Agent Voice–Patient Voice alternation. Causatives of unergatives with agentive causees cannot appear in the Agent Voice form, while causatives of unergatives with non-agentive causees can.

Recall that some causatives of unergatives in Tagalog allow agentive causees.⁶ Previous examples demonstrating that unergative causees can be subject to agent-oriented modification were given in the Patient Voice form of the causative, as in (223) for the unergative predicate *iyak* ‘cry’.

- (223) P<in>a-iyak-Ø ko si Kiko nang sinasadya.
 <PFV>CAUS-cry-PV 1SG.GEN NOM.PN Kiko ADV deliberately
 ‘I₁ made Kiko₂ cry deliberately_{1/2}.’ (Nie, 2020, 114)

However, it turns out that the same unergative predicate *iyak* is incompatible with the Agent Voice form of the causative (224a). I have found the same pattern for a handful of verbs, which seem to be mostly bodily emission verbs, such as *tawa* ‘laugh’ and *suka* ‘vomit’.

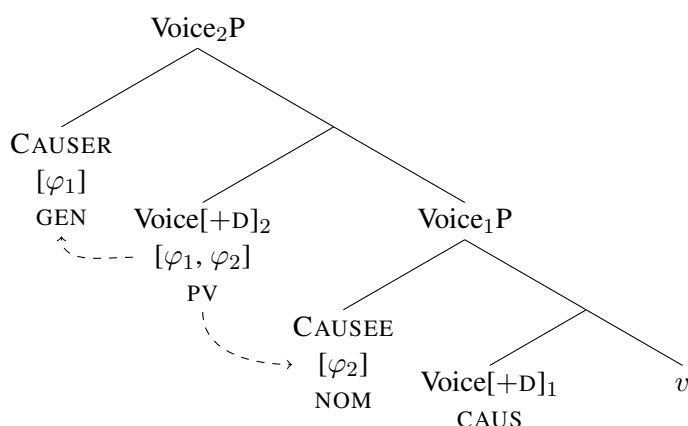
- (224) a. ***Nag**-pa-iyak [ako] [ng bata].
 AV.PAG.PFV-CAUS-cry 1SG.NOM GEN child
 ‘I made a child cry.’ Agent Voice
- b. P<in>a-iyak-Ø [ko] [ang bata].
 <PFV>CAUS-cry-PV 1SG.GEN NOM child
 ‘I made the child cry.’ Patient Voice

⁶I discuss causees as being agentive or non-agentive, although the right distinction may be one of volitionality.

I propose that the Agent Voice form of the causative is impossible because, like applied arguments, agentive causees are not licensed by the head that introduces them and must therefore be licensed by a higher head. That is, agentive causees are introduced by an embedded Voice[+D], which crucially is not a syntactic licenser. Therefore, in order for the derivation to converge, the causee must be licensed by the higher Voice, triggering Patient Voice on the verb.

This is illustrated in (225). The agentive causee is introduced by the lower Voice[+D]₁, which is unable to license it. Voice[+D]₂ must therefore license the causee, assigning it nominative case. Voice[+D]₂ then licenses the causer, assigning it genitive Case, and is thus left with two bundles of φ -features, triggering the spell out of Patient Voice.

(225) Causative of agentive unergative



The proposed analysis then begs the question of why the embedded Voice is not a nominal licensing head, given that the higher Voice is a licenser. It was suggested in Chapter 2 that the higher Voice has the ability to license two arguments and assign nominative pivot marking because it is the highest argument-introducing head in the thematic domain and therefore the closest to T. No lower head has this special ability; *v* can only license its complement, assigning it genitive Case, and Appl does not license at all. The evidence presented here suggests that, like Appl, an embedded Voice is also unable to license its specifier, supporting the proposal that the licensing properties of Voice are not features of the lexical head but inherited from T in the syntax. It will be shown in

the next section that the embedded Voice in causatives of transitives is also unable to license its specifier.

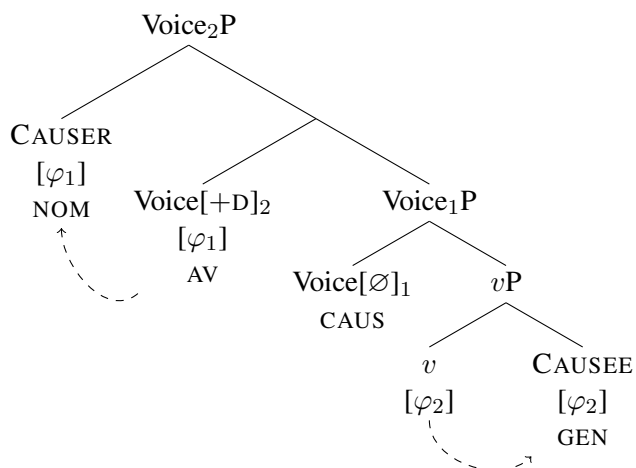
It is worth further highlighting that my approach to causatives of unergatives with agentive causees has many parallels to applicative constructions. Appl and the embedded Voice are not nominal licensers and do not assign inherent genitive Case. The result is that both agentive unergative causees and applied arguments cannot surface with genitive Case and are incompatible with the Agent Voice. These parallels are consistent with the observation that causatives can behave like applicative constructions cross-linguistically (Marantz, 1984; Baker, 1985; Kim, 2011a; Legate, 2014; Nash, 2017, a.o.). Causatives do, however, differ from applicatives in Tagalog in that causee pivots trigger Patient Voice rather than Locative or Circumstantial Voice (see Chapter 3.3). The reason for this is so far unclear but would prove an interesting topic for further research.

While causatives of unergatives with agentive causees cannot appear in the Agent Voice form, other causatives can. As shown in (226), the causative of the unergative predicate *kanta* ‘sing’ freely undergoes the Agent Voice–Patient Voice alternation.

- (226) a. **Nag**-pa-kanta [ako] [ng bata].
AV.PAG.PFV-CAUS-sing 1SG.NOM GEN child
 ‘I made a child sing.’ Agent Voice
- b. P<in>a-kanta-Ø [ko] [ang bata].
 <PFV>CAUS-sing-**PV** 1SG.GEN NOM child
 ‘I made the child sing.’ Patient Voice

I suggest that the causees of predicates like *kanta* are non-agentive (at least in the Agent Voice form) and merge not in the specifier of Voice[+D] but as the complement of the verb. Causatives of unergatives with non-agentive causees therefore have the same structure as causatives with unaccusatives. This is shown in (227), where the causee is generated in the complement of *v*, and the causative involves Voice[+D] over Voice[Ø]. In the Agent Voice derivation, *v* licenses the causee and assigns it inherent genitive Case. Voice[+D]₁ then licenses the agent and marks it as the pivot.

(227) Causative of non-agentive unergative (Agent Voice)



This analysis gives a uniform structure to causatives with non-agentive causees, whether the predicate is unaccusative or unergative. This correctly predicts that causatives of unaccusatives and causatives of non-agentive unergatives both undergo the Agent Voice–Patient Voice alternation.

Each of the two classes of causative of unergative presented in this section finds support in other Austronesian languages. The agentive class is attested, for instance, in Samoan. Samoan exhibits a VSO–VOS alternation, where VSO themes of simple transitives appear with a determiner (228a) while VOS themes are bare (228b) (Mosel & Hovdhaugen, 1992). Massam (2001) suggest that these bare nominals have undergone ‘pseudo noun incorporation’ (PNI) as they occur strictly adjacent to the verb and tend to receive non-specific interpretations. These bare nominals thus have similar interpretative properties to Agent Voice themes in Tagalog.

- (228) a. E su‘e pea [e le teine] [le maile ula].
 PRS search continually ERG DET girl DET dog mischievous
 ‘The girl continually searches for the mischievous dog.’

- b. E [su‘e maile ula] pea [le teine]
 PRS search dog mischievous continually DET girl
 ‘The girl continually searches for mischievous dogs.’

(J.N. Collins, 2016, 3)

Productive affixal causatives in Samoan are formed with the prefix *fa'a-* (Mosel & Hovdhaugen, 1992; Read, 2010), which can attach to both unaccusative (229a) and unergative predicates (230a). Unaccusative causees may undergo PNI (229b), but unergative causees crucially cannot (230b) (J.N. Collins, 2016). This ban on incorporated unergative causees in Samoan echoes the ban on agentive Agent Voice (i.e. genitive) causees in Tagalog.

- (229) a. E fa'a-alu [e le tama] [le tupe].
 PRS CAUS-go ERG DET boy DET money
 'The boy wastes (lets go) the money.'
- b. E [fa'a-alu tupe] [le tama]
 PRS CAUS-go money DET boy
 'The boy wastes money.' (J.N. Collins, 2016, 41)
- (230) a. E fa'a-siva [e le faiā'oga] [le tama].
 PRS CAUS-dance ERG DET teacher DET boy
 'The teacher makes the boy dance.'
- b. *E [fa'a-siva tama] [le faiā'oga]
 PRS CAUS-dance boy DET teacher
 'The teacher makes boys dance.' (J.N. Collins, 2016, 42)

Collins (2016) suggests that in Samoan the unaccusative causee merges as complement of the verb and can therefore be incorporated, while the unergative causee merges above the verb and thus cannot be incorporated. I have similarly proposed that non-agentive causees are generated in the complement of the verb and can therefore receive inherent genitive Case, while agentive causees are introduced by embedded Voice and thus cannot receive genitive Case.

The non-agentive class of causatives of unergatives finds its kin in Acehnese. As argued for extensively by Legate (2014), all unergative causees in Acehnese are non-agentive. The example in (231), for instance, "receives the interpretation in which a parent is holding a baby, moving the baby up and down" (Legate, 2014, 120); the baby is unable to jump on its own.

- (231) Lôn peu-grôp aneuk nyan.
 1SG CAUS-jump child DEM
 ‘I made the child jump.’ (Legate, 2014, 120)

Legate argues that causatives of unergative predicates are thus indistinguishable from causatives of unaccusatives in Acehnese, and that causees always merge as the complement of the verb. Nash (2017) similarly suggests that causatives of unergatives are often interpreted as change of state predicates and therefore have the same structure as a causative of unaccusative. I assume the same for causatives of non-agentive unergatives in Tagalog. Samoan and Acehnese each instantiate one class of causatives of unergatives; Tagalog has both.

4.4.3 Causatives of transitives

Productive causatives of transitives are formed with the causative marker *pa-*. Causer pivots trigger Agent Voice marking on the verb (232a), causee pivots trigger Patient Voice (232b), and theme pivots trigger Circumstantial Voice (232c). The non-pivot causees in the Agent Voice and Circumstantial Voice are marked with oblique case, consistent with the ban on genitive agentive causees observed in causatives of unergatives (Section 4.4.2).

- (232) a. **Nag**-pa-basa [ako] [sa bata] [ng libro].
 AV.PAG.PFV-CAUS-read 1SG.NOM OBL child GEN book
 ‘I made the child read a book.’ Agent Voice
- b. P<in>a-basa-Ø [ko] [ang bata] [ng libro].
 <PFV>CAUS-read-PV 1SG.GEN NOM child GEN book
 ‘I made the child read a book.’ Patient Voice
- c. **I**-p<in>a-basa [ko] [sa bata] [ang libro].
 CV-<PFV>CAUS-read 1SG.GEN OBL child NOM book
 ‘I made the child read the book.’ Circumstantial Voice

It was shown in Section 4.2.1 that transitive causees in Tagalog are agentive. I have assumed, along with many others, that agentive causees are generally introduced by an embedded Voice[+D], which assigns an agentive semantics to the argument that it introduces. However, Voice[+D] also has the syntactic selectional requirement of needing a specifier. That is, for an embedded Voice[+D], a causee must obligatorily merge in its specifier in order for the derivation to converge. The relevance of this syntactic requirement is illustrated in (233), in which the causee is omitted from each clause. Each version of the causative is interpreted as having an implied causee. In the Patient Voice version, the implied causee receives a pronominal interpretation (233b). This suggests that a null *pro* obligatorily merges as the argument of Voice[+D] in order to satisfy its selectional requirement. However, in the Agent Voice (233a) and Circumstantial Voice causatives (233b), the implied causee is interpreted as non-specific/indefinite. This passive-like interpretation suggests that a causee need not obligatorily merge in the Agent Voice and Circumstantial Voice.

- ⁷The theme pivot of both simple transitives (1a) and causatives (1b) with *bukas* ‘open’, for example, trigger Locative Voice instead of Circumstantial Voice.

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- c. I-p<in>a-basa [ko] [ang libro].
 CV-<PFV>CAUS-read 1SG.GEN NOM book
 ‘I made someone/*him read the book.’

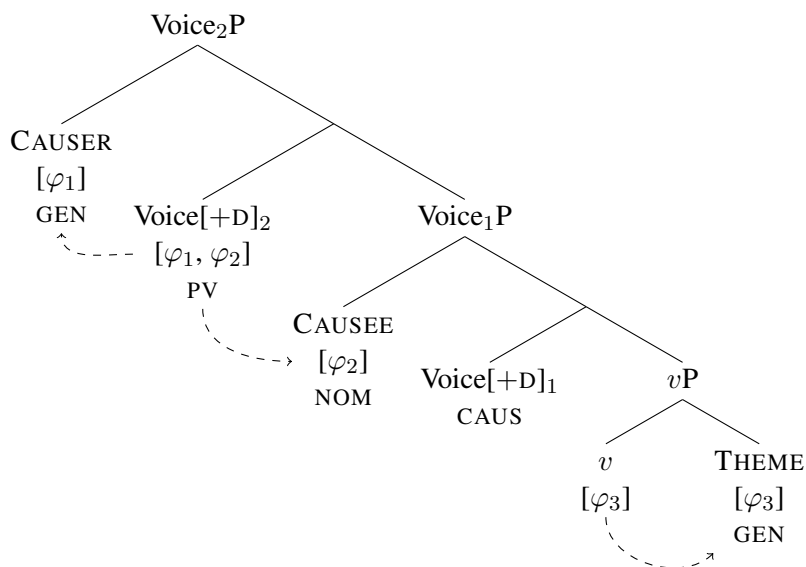
Circumstantial Voice

The Patient Voice causative is therefore consistent with a Voice[+D] over Voice[+D] analysis, where the embedded Voice[+D] obligatorily introduces a causee.⁸ The evidence suggests that the other two causative variants, however, should receive a different analysis. Specifically, they should embed a flavour of Voice that is compatible with a passive-like interpretation where an agent is implied. Voice[−D] was shown in Chapter 2.3.1 to be exactly such a Voice when modified by an agentive root $\sqrt{\text{ACTION}}$ (Kastner, 2017). I therefore propose that Agent Voice and Circumstantial Voice causatives embed Voice[−D], and the causee argument merges as an adjunct to the embedded VoiceP. I sketch the syntax of all three variants in more detail below, starting with the Patient Voice causative.

In a Patient Voice causative of transitive, the causee is the pivot of the clause. The derivation is given in (234). The theme is licensed and assigned genitive Case by *v*. The embedded Voice[+D]₁ obligatorily introduces an external argument, the causee. However, as was discussed for causatives of agentive unergatives (Section 4.4.2), the embedded Voice[+D]₁ cannot license its specifier. The causee must therefore be licensed by the higher Voice[+D]₂, which assigns it nominative pivot marking. Voice[+D]₂ then licenses and assigns genitive Case to the causer, and is eventually spelled out with Patient Voice morphology.

⁸While Voice[+D] seems to be the most parsimonious way of implementing this requirement, it should be noted for completeness that an embedded Voice[∅] with an $\sqrt{\text{ACTION}}$ modifier could also require an overtly realised causee (Chapter 2.3.1).

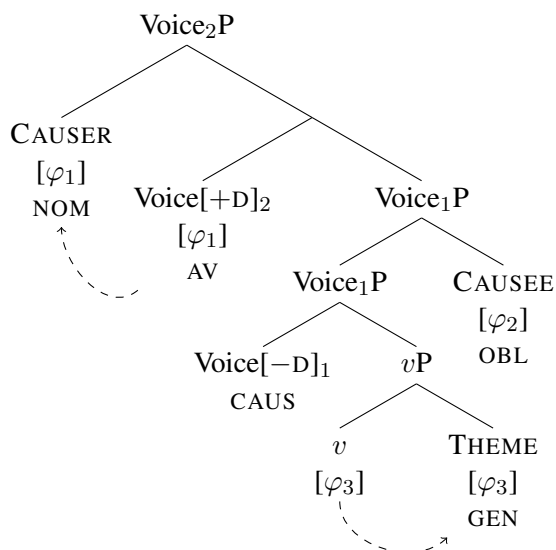
(234) Patient Voice causative of transitive



As was also noted for causatives of unergatives, it is unclear why agentive causee pivots trigger Patient Voice rather than Locative or Circumstantial Voice as applied arguments do. That is, causees can be licensed directly by the higher Voice[+D]₂ without having to move to a raising applicative position. Why this is so is left for further study.

The Agent Voice and Circumstantial Voice causatives of transitives both involve Voice[+D] over Voice[−D]. Voice[−D] with an adjoined $\sqrt{\text{ACTION}}$ modifier has a passive-like interpretation in which an agent is implied but nonetheless prohibits an argument from merging in its specifier. An embedded Voice[−D] with $\sqrt{\text{ACTION}}$ in a causative similarly results in an interpretation with an implicit causee. Since the causee, when overt, cannot merge in the specifier of Voice[−D], I suggest that it merges as an adjunct to Voice[−D]P. I assume that the adjunct argument is able to saturate the causee thematic role. The derivation for an Agent Voice causative is given in (235). *v* licenses and assigns genitive Case to the theme. Voice[−D]₁ prohibits a specifier, so any overt causee must be introduced as an oblique PP adjunct to Voice[−D]₁P. The higher Voice[+D]₂ licenses just its specifier, assigning it nominative case, and is spelled out as Agent Voice.

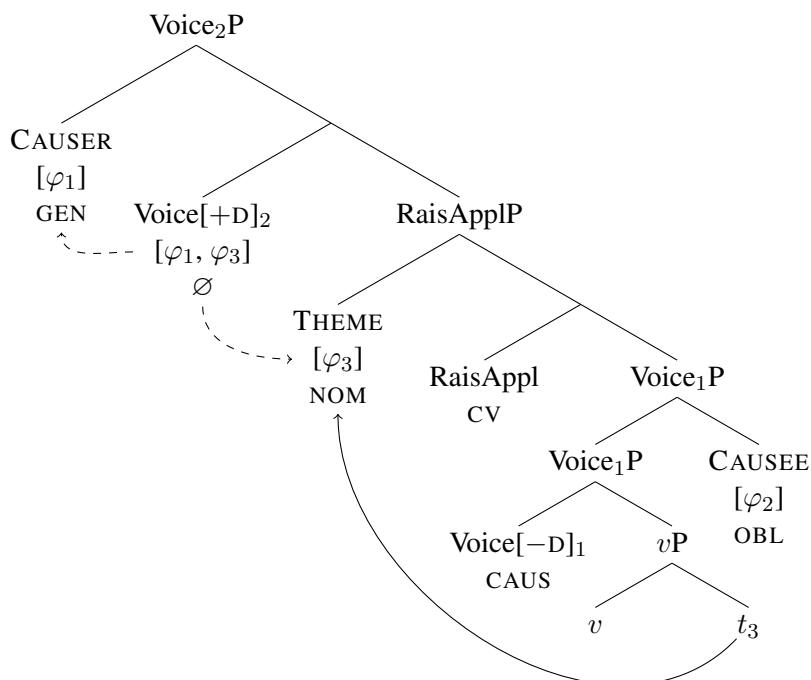
(235) Agent Voice causative of transitive



Nash (2017) similarly argues that causatives of transitives in Georgian have a non-active embedded Voice. She suggests that the (dative-marked) causee is introduced in the specifier of an Appl head that merges above the non-active Voice. Nash’s analysis for Georgian cannot extend to Tagalog, however, as applicatives in Tagalog are always pivots (Chapter 3.3). The oblique causee in Agent Voice causatives must therefore be introduced as an adjunct.

The Circumstantial Voice causative in Tagalog has the same Voice[+D] over Voice[−D] structure as the Agent Voice but differs in that the theme is the pivot of the clause. Like theme pivots of ditransitives, the theme pivot of a causative of transitive raises to a position below the highest Voice head called RaisAppl (Chapter 3.3; see also Nie, 2019). This is shown in (236). Voice[+D]₂ licenses the theme in Spec-RaisAppl and assigns it nominative pivot marking. Voice[+D]₂ then licenses and assigns genitive Case to the causer. RaisAppl is spelled out as the Circumstantial Voice prefix, and Voice[+D]₂ is phonologically null in the context of RaisAppl.

(236) Circumstantial Voice causative of transitive



Like its Agent Voice counterpart, the Circumstantial Voice causee is introduced as an adjunct to the embedded VoiceP, accounting for its non-specific interpretation when omitted.

Summing up, I have shown that causatives of transitives can have either a Voice[+D] over Voice[+D] or Voice[+D] over Voice[−D] configuration, which has consequences for the licensing and interpretation of the causee and pivot marking. One question that arises in my system is whether anything would go wrong if we built a Voice[+D] over Voice[∅] structure, since Voice[∅] is compatible with transitive predicates and can be embedded under Voice[+D] (Section 4.4.1). There appear to be no issues with licensing; the causee can be introduced as either a specifier or an adjunct to Voice[∅], where it would be marked as nominative pivot or oblique, respectively. However, we have seen that causatives of transitives generally have an implied causee, even when it is null, and Voice[∅] does not have a reading with an implied agent. As it stands, then, a Voice[+D] over Voice[∅] structure for causatives of transitives is unattested in Tagalog.

4.4.4 Causatives and applicatives

To my knowledge, there has been little discussion in the literature on Tagalog on how causatives and applicatives combine. While Schachter & Otnes (1972) show that verbs can indeed appear with both causative and applicative morphology, the resulting constructions are subject to a number of restrictions.⁹ First of all, causatives with applicatives appear most commonly with *mag*-verbs, i.e. verbs that take Voice[+D]. Recall that applied arguments are always pivots in Tagalog (Chapter 3.3); thus causatives with applicatives must appear in either Locative Voice or Circumstantial Voice, and the causee, if present, must be oblique. To illustrate, the causatives of the *mag*-verbs *sulat* ‘write’ (240) and *luto* ‘cook’ (238) can appear with a goal or benefactive pivot in the Locative Voice.¹⁰

- (237) P<in>a-sulat-**an** [siya] [sa akin] [ng liham] [ang alkalde].
 <PFV>CAUS-write-LV 3SG.GEN OBL 1SG.OBL GEN letter NOM mayor
 ‘He made me write a letter to the mayor.’ (Schachter & Otnes, 1972, 328)

- (238) P<in>a-lutu-**an** [ko] [ang kapatid ko] [ng sabaw] [sa kusinera].
 <PFV>CAUS-cook-LV 1SG.GEN NOM sibling 1SG.GEN GEN soup OBL cook
 ‘I made the cook make soup for my sibling.’

Similarly, the causatives of *luto* (240) and another *mag*-verb *linis* ‘clean’ (239) are compatible with a benefactive pivot in the Circumstantial Voice.

- (239) I-pag-pa~pa-luto [ko] [ng tinola] [ang lahat ng Pilipino].
 CV-PAG-IPFV~CAUS-cook 1SG.GEN GEN tinola NOM all GEN Filipino
 ‘I will have tinola cooked for all the Filipinos.’ (Daniel Kaufman, p.c.)

⁹I thank Daniel Kaufman for his very helpful discussion of this topic.

¹⁰I set aside examples with verbs with inherently Locative Voice theme pivots, as it is not clear whether these should be treated as true applicatives. For instance, while *bukas* ‘open’ is compatible with causative and applicative morphology in (1), it is the theme that triggers Locative Voice, rather than an applied argument.

- (1) P<in>a-buks-**an** [ko] [kay Pedro] [ang kahon].
 <PFV>CAUS-open-LV 1SG.GEN OBL.PN Pedro NOM box
 ‘I made Pedro open the box.’ (Schachter & Otnes, 1972, 328)

- (240) I-pag-pa~pa-linis [ko] [kayo] [ng mesa] [sa katulong].
 CV-PAG-IPFV~CAUS-clean 1SG.GEN 2PL.NOM GEN table OBL maid
 ‘I will have the maid clean a table for you.’ (Schachter & Otones, 1972, 329)

Note that like Agent Voice causatives, Circumstantial Voice causatives with applicatives must overtly spell out the *pag-* form associated with (the higher) Voice[+D]. It has been a long-standing puzzle why *pag-* occurs overtly in some constructions and not others; I set this issue aside for the purposes of this discussion.

Non-*mag-* verbs, by contrast, generally cannot appear with both causative and applicative morphology. For instance, causatives with the *um* verb *basa* ‘read’, which have a Patient Voice form as in (241), are incompatible with a goal pivot (242) or a benefactive pivot (243).

- (241) P<in>a-basa-Ø [ko] [ang bata] [ng libro] [kay Tina].
 <PFV>CAUS-read-PV 1SG.GEN NOM child GEN book OBL.PN Tina
 ‘I made the child read a book to Tina.’

- (242) *P<in>a-basa-**han** [ko] [sa bata] [ng libro] [si Tina].
 <PFV>CAUS-read-LV 1SG.GEN OBL child GEN book NOM.PN Tina
 Intended: ‘I made the child read a book to Tina.’

- (243) *I-(pag-)p<in>a-basa [ko] [sa bata] [ng libro] [si Tina].
 CV-PAG-<PFV>CAUS-read 1SG.GEN OBL child GEN book NOM.PN Tina
 Intended: ‘I made the child read a book for Tina.’

The observation that causatives with applicatives are only available for verbs that take Voice[+D] indicates that applied arguments merge low in causative constructions, within the lower VoiceP, in order to be locally conditioned by the verb. I will return to the question of where the applied argument merges later in this subsection.

In addition, Schachter & Otones (1972, 329) note that instrumental applicatives cannot co-occur with causatives. This observation accords with a similar generalisation in Bantu that causees and instruments do not occur in the same clause. Simango (1999) and Jerro (2016) suggest that the causees and instruments overlap in meaning, giving rise to a general semantics that encompasses

both. Their approach can be implemented here by assuming that causees and instruments bear essentially the same thematic role, so that their co-occurrence would violate Thematic Uniqueness.

Finally, it should be noted that while many of the examples of causative and applicative combinations in Schachter & Otnes (1972) include an overtly expressed causee, this is highly dispreferred. Most of the examples of causatives with applicatives I have found on Google omit the causee, and some consultants reject overt causees entirely.

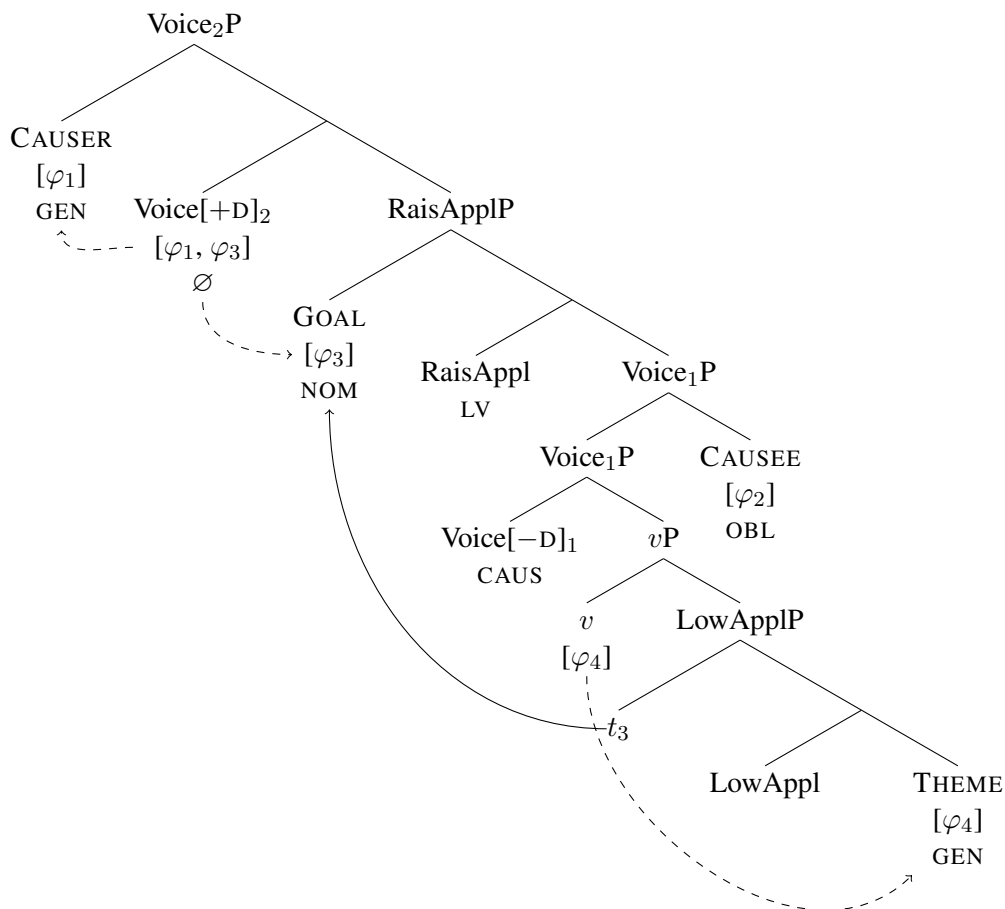
- (244) P<in>a-bigy-**an** [ko] [ang bata] [ng sabaw] ??[sa kusinera].
 <PFV>CAUS-give-LV 1SG.GEN NOM child GEN soup OBL cook
 ‘I had someone/??the cook give soup to the child.’

- (245) P<in>a-ayus-**an** [ko] [ng kwarto] [si Tina] ??[sa katulong].
 <PFV>CAUS-arrange-LV 1SG.GEN GEN room NOM.PN Tina OBL maid
 ‘I had someone/??the maid clean up a room for Tina.’

I assume that this dispreference for overt expression of the causee is due to processing reasons, rather than a grammatical constraint against combinatorial possibilities in the syntax. Further experimental work may shed light on the nature of this dispreference.

From the perspective of licensing, causatives with applied argument pivots are indeed predicted to be available in Tagalog. This is illustrated for the Locative Voice causative with goal pivot in (246), whose derivation is shown in (247). The theme merges as the complement of LowAppl, which introduces the goal argument. LowAppl merges as the complement of *v*, which licenses and assigns genitive Case to the theme. We know from Agent Voice and Circumstantial Voice causatives, which have non-pivot causees, that the embedded Voice is Voice[−D]₁, and the causee merges as an oblique PP adjunct to Voice₁P. The goal is not licensed in Spec-LowAppl and therefore moves to Spec-RaisAppl where it is licensed and assigned pivot marking by Voice[+D]₂; Locative Voice spells out RaisAppl in accordance with the Vocabulary Items proposed in Chapter 3.3.2. Voice[+D]₂ licenses and assigns genitive Case to the causer.

- (246) P<in>a-sulat-**an** [siya] [sa akin] [ng liham] [ang alkalde].
 <PFV>CAUS-write-LV 3SG.GEN OBL 1SG.OBL GEN letter NOM mayor
 ‘He made me write a letter to the mayor.’ (Schachter & Otones, 1972, 328)
- (247) Causative with low applicative

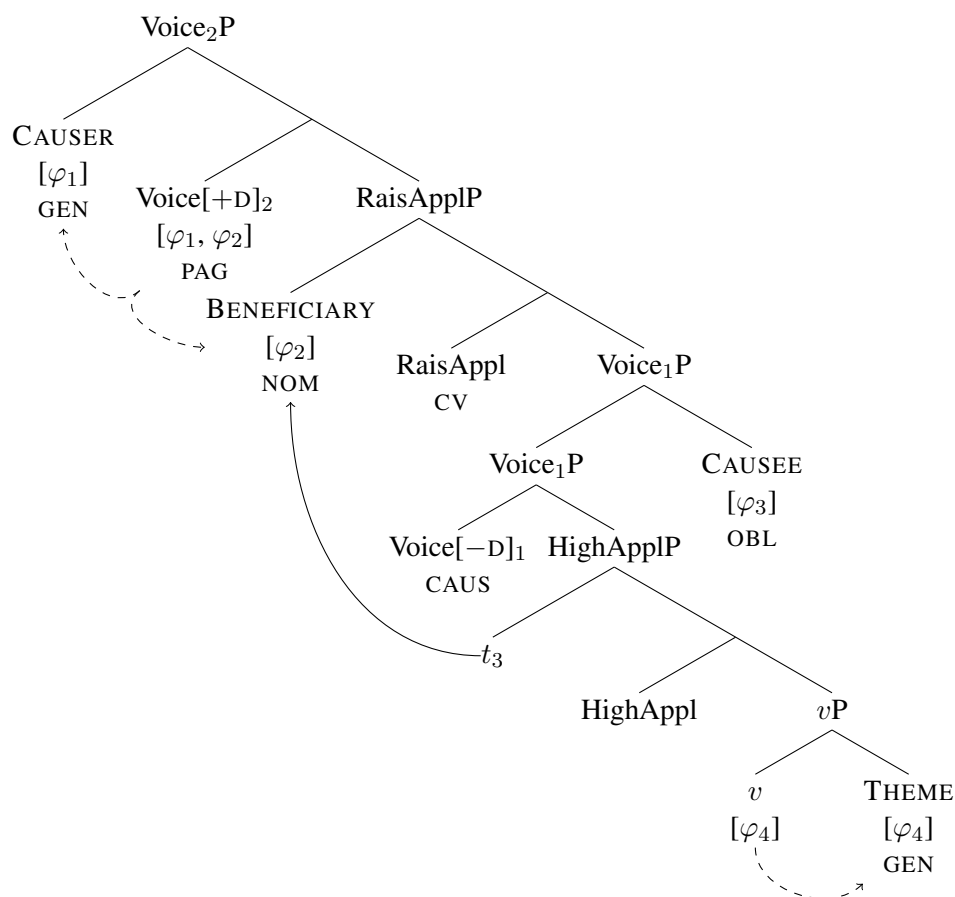


In causatives with low applicatives, the applied argument by definition merges low in the structure, below the verb in the lower Voice₁P. Recall that causatives and applicatives are generally only compatible with *mag*- verbs; LowApplP is local to the verb and may therefore be conditioned by its verb class. By the same reasoning, we might expect benefactive applied arguments to also merge within the lower Voice₁P in causative constructions. The derivation for the Circumstantial Voice causative with benefactive pivot in (248) is shown in (249). The theme is licensed and assigned genitive Case by the verb. The beneficiary is introduced by HighAppl but not licensed by

it. The causee merges as an oblique adjunct to the embedded Voice₁P headed by Voice[−D]₁. The beneficiary then moves to Spec-RaisAppl where it is licensed and assigned nominative pivot marking by Voice[+D]₂, which also licenses and assigns genitive Case to the causer. RaisAppl is spelled out as Circumstantial Voice, and Voice[+D]₂ is spelled out as *pag-*.

- (248) I-pag-pa~pa-linis [ko] [kayo] [ng mesa] [sa katulong].
 CV-PAG-IPFV~CAUS-clean 1SG.GEN 2PL.NOM GEN table OBL maid
 ‘I will have the maid clean a table for you.’ (Schachter & Otones, 1972, 329)

- (249) Causative with high applicative



From the perspective of licensing, then, the beneficiary could very well merge within Voice₁P. By the same measure, however, the beneficiary could equally merge above Voice₁P, just under RaisAppl. Thus there seem to be two possible positions for the base generation of high

applicatives in causative constructions. Indeed, many languages allow causatives of applicatives, where the applicative is merged within Voice₁P, as well as applicatives of causatives, where the applicative is merged outside of Voice₁P, as discussed in Chapter 3.4. However, these distinct structures are crucially posited on the basis of their different morpheme order and/or interpretation. Hiaki, for instance, allows Verb-APPL-CAUS and Verb-CAUS-APPL morpheme orders, which give rise to different interpretations in accordance with the Mirror Principle (Harley, 2013). This is evidence for two attachment possibilities for (high) applicatives in Hiaki. In Tagalog, by contrast, there is no evidence of two attachment possibilities for high applicatives. Applicative morphology always occurs outside of causative morphology, and the resulting construction never seems to be ambiguous between two readings; this latter point is itself intriguing and would be worthy of closer investigation.¹¹ Thus in Tagalog it seems likely that high applicatives can only attach in at a single position. Paired with the fact that the availability of applicatives appear to be conditioned by verb class, this single position is likely to be within the lower Voice₁P.

4.4.5 Summary

To conclude this presentation and discussion of Tagalog causatives, I have shown that the Voice[+D] head which introduces the causer can embed all three of the flavours of Voice, which have different consequences for the interpretation and licensing of the causee. Causees can be introduced and licensed in a number of ways. Non-agentive causees of unergatives and unaccusatives merge as the complement of the verb, in accordance with Legate (2014), while agentive causees merge as either the specifier of the embedded Voice or as an adjunct. I argued that, like Appl, an embedded Voice[+D] obligatorily introduces an external argument but cannot license it; the causee must

¹¹If high applicatives denote a relation between an individual and an event (Pylkkänen, 2002, 2008), and if Tagalog causatives are truly monocausal, as is claimed, then we might actually expect only one possible reading for high applicatives, as there is only one event for the high applicative to modify. However, this raises the question of how apparently monocausal causatives in other languages, such as Zulu and Xhosa (see Chapter 3.4), might permit two interpretations in their causative with applicative constructions.

therefore be licensed and assigned nominative pivot marking by the higher Voice[+D]. Finally, I showed that causatives of *mag-* verbs can combine with applicatives in Tagalog.

4.5 Bicausal causatives

We now turn to bicausal causatives, which, unlike monocausal causatives, encode an additional causing event. I argue that bicausal causatives involve the embedding of *v* heads, as in the CAUSE theory approach to causatives (see Section 4.1). I propose that Turkish has bicausal monoagentive causatives whereby the causative *v* selects for a non-active VoiceP (Section 4.5.1) and show that causative recursion is possible in Turkish, contra claims made by Key (2013). Novel data from Hokkaido Japanese also demonstrates the availability of causative recursion (Section 4.5.2). I propose that causatives in Hokkaido Japanese involve the embedding of both *v* and an active Voice head.

4.5.1 Bicausal monoagentive causatives

Key (2013) shows that Turkish productive affixal causatives with *-Dir* encode two events but have a non-agentive causee. A negated causative clause in Turkish is ambiguous between two interpretations, one where the negation can scope over the causing event, and another where negation scopes over only the caused event. This is exemplified in (250).

- (250) Mehmet Ayşe-yi çalış-**tır**-ma-dı.
 Mehmet Ayşe-ACC work-CAUS-NEG-PST
 Available interpretations:

‘Mehmet didn’t make Ayşe work.’

‘Mehmet made Ayşe not work.’ (Key, 2013, 177)

The interpretation where negation scopes below the causing event results in a potential Mirror Principle violation. I set this issue aside and refer the interested reader to Key (2013) for a possible

solution. Despite productive causatives containing two events, one involving a causer and the other involving a causee, the causee is not agentive in Turkish. This is demonstrated by the fact that causees cannot control agent-oriented adverbials (251).

(251) Tarkan Hasan-a Mehmet-i bil-erek döv-dür-dü.

Tarkan Hasan-DAT Mehmet-ACC know-PART beat-CAUS-PST

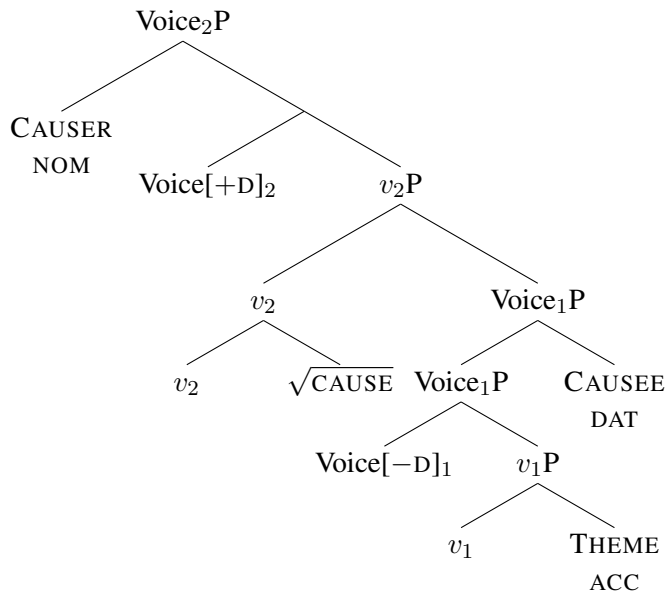
Available interpretation: ‘Tarkan, on purpose, made Hasan beat Mehmet.’

Not available: ‘Tarkan made Hasan, on purpose, beat Mehmet.’ (Key, 2013, 175)

Productive causatives in Turkish therefore encode two events, but only the causer is agentive.

As illustrated in (252), I suggest that Turkish causatives have two event-introducing *v* heads and a single Voice[+D] that introduces the causer. My proposal adopts a version of the CAUSE theory (see Section 4.1) for bicausal causatives, where a lexical root and *v* introduces the caused event and another $\sqrt{\text{CAUSE}}$ and *v* introduces the causing event. Consistent with the assumption that every *v* comes with some flavour of Voice (Chapter 3.1), I propose that a non-active Voice[−D]₁ merges with the lower *v*₁. The non-agentive causee merges as a dative adjunct to the lower Voice₁P (Key, 2013). The higher *v*₂ with adjoined $\sqrt{\text{CAUSE}}$ takes Voice₁P as its complement; $\sqrt{\text{CAUSE}}$ is spelled out as the causative affix. Voice[+D]₂ introduces the causer. In bicausal monoagentive causatives, then, causative *v* may only select for Voice[−D]P.

(252) Turkish causative



Key (2013), however, argues against the CAUSE theory approach to bicausal causatives. He points out that in the CAUSE theory, the *v* associated with the caused event is embedded under another *v*, which opens the door to unlimited recursion of events. Key claims that no language allows unlimited recursion of events in causatives (see also Svenonius, 2005). He suggests that while some languages appear to allow “double” causatives with two instances of causative marking and two causees, these constructions do not involve the stacking of causing events but reduplication of the causative morpheme. For example, it is possible in Turkish to form a causative with two causees and two instances of the productive causative affix *-Dir*, as shown in (253a). The clause contains a dative causee, which participates in the caused event, as well as an oblique causee associated with the preposition *aracılığıyla* ‘by means of’, which does not participate in the caused event; Key refers to these causees as the direct and indirect causee, respectively. Key shows that the same situation involving two causees can be expressed using a single instance of *-Dir* (253b).

- (253) a. Müdür, yardımcısı aracılığıyla işçi-ler temsilci-si-ne yeni bir
 director assistant-3SG by.means.of worker-PL representative-3SG-DAT new a
 yönetmelik yaz-**dır-t**-tı.
 by-laws write-CAUS-CAUS-PST
 ‘The director, via his assistant, had the workers’ representative write new by-laws.’
- b. Müdür, yardımcısı aracılığıyla işçi-ler temsilci-si-ne yeni bir
 director assistant-3SG by.means.of worker-PL representative-3SG-DAT new a
 yönetmelik yaz-**dır**-dı.
 by-laws write-CAUS-PST
 ‘The director, via his assistant, had the workers’ representative write new by-laws.’
- (Key, 2013, 223)

Furthermore, Turkish also allows the reverse: a single causee can co-occur with double *-Dir* marking, as shown with an implied causee in (254b).

- (254) a. Saç-ım-ı kes-**tir**-di-m
 hair-1SG-ACC cut-CAUS-PST-1SG
 ‘I had my hair cut.’
- b. Saç-ım-ı kes-**tir-t**-ti-m
 hair-1SG-ACC cut-CAUS-CAUS-PST-1SG
 ‘I had my hair cut.’ (Göksel & Kerslake, 2005)

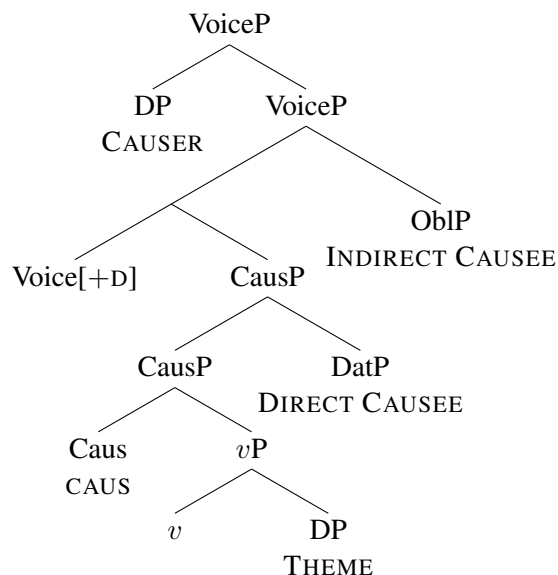
Thus there is no one-to-one mapping between number of causees and number of causative affixes in Turkish. Key provides evidence that Hungarian, Kashmiri and Tsez exhibit the same property.

Arguing against a CAUSE theory approach to causatives, where causative *v* embeds a lexical *v* and is spelled out by causative marking, Key suggests that double causative marking does not mean two causative *v* heads and therefore two causing events in the syntax. Instead, he proposes that double causative marking in languages like Turkish is the result of morphological reduplication of a single syntactic head. The event structure of causatives with double marking is therefore identical to that of causatives with single causative marking. Furthermore, Key suggests that the availability of multiple causees is not dependent on there being multiple events, but is independently made possible by the semantics of indirect causation, “which allows any number of inter-

mediate events” (2013, 226). Finally, he extends his argument to all languages, suggesting that there are never more than two events in a causative (one causing event and one caused event). That is, the recursion of events in causatives is impossible cross-linguistically.

In order to capture the introduction of multiple causees without the introduction of multiple causing events, Key posits a dedicated causative head, *Caus*, which both introduces a causing event and can be associated with a non-agentive direct causee. In Turkish, causees merge as adjuncts, as shown in (255), where the direct causee is merged as a dative adjunct to *CausP* and the indirect causee is merged as an oblique adjunct to *VoiceP*. *Voice* is reserved for introducing the causer.

(255) Turkish causative with two causees (adapted from Key, 2013, 230)



The use of different heads (*v*, *Caus*, *Voice*) along a fixed hierarchy of functional projections enables him to avoid the issue of recursion altogether (see also Harley, 2017). To account for double marking, Key suggests that the causative morpheme *-Dir* is reduplicated when *Caus* has a [+focus] feature; see his dissertation for evidence that causative reduplication involves contrastive focus.

While reduplication may be an appropriate analysis for some causatives with double marking, Key (2013) is simply wrong in stating that Turkish does not allow event recursion. This is

made very clear in Ergelen (2017) and references therein. Turkish double causatives can be interpreted as having three events, one caused event and two causing events (Özlem Ergelen, p.c.). This can be shown using scope of negation. In the double causative of an unergative in (256), for example, negation can scope over the caused event, the causing event, or the intermediate event. The same is true of the double causative of a transitive in (257); note that both the direct and indirect causees can be dative in this example.

- (256) Doktor bana Ayşe-yi uyu-**t-tır-ma**-dı.
 doctor me.DAT Ayşe-ACC sleep-CAUS-CAUS-NEG-PST.3SG
 Available interpretations:

‘The doctor did not make me make Ayşe sleep.’

‘The doctor made me not make Ayşe sleep.’

‘The doctor made me make Ayşe not sleep.’

- (257) Doktor bana sigara-yı anne-m-e
 doctor me.DAT cigarette-ACC mother-POSS.1SG-DAT
 iç-**ir-t-me**-di.
 drink-CAUS-CAUS-NEG-PST.3SG
 Available interpretations:

‘The doctor did not make me make my mother smoke the cigarette.’

‘The doctor made me not make my mother smoke the cigarette.’

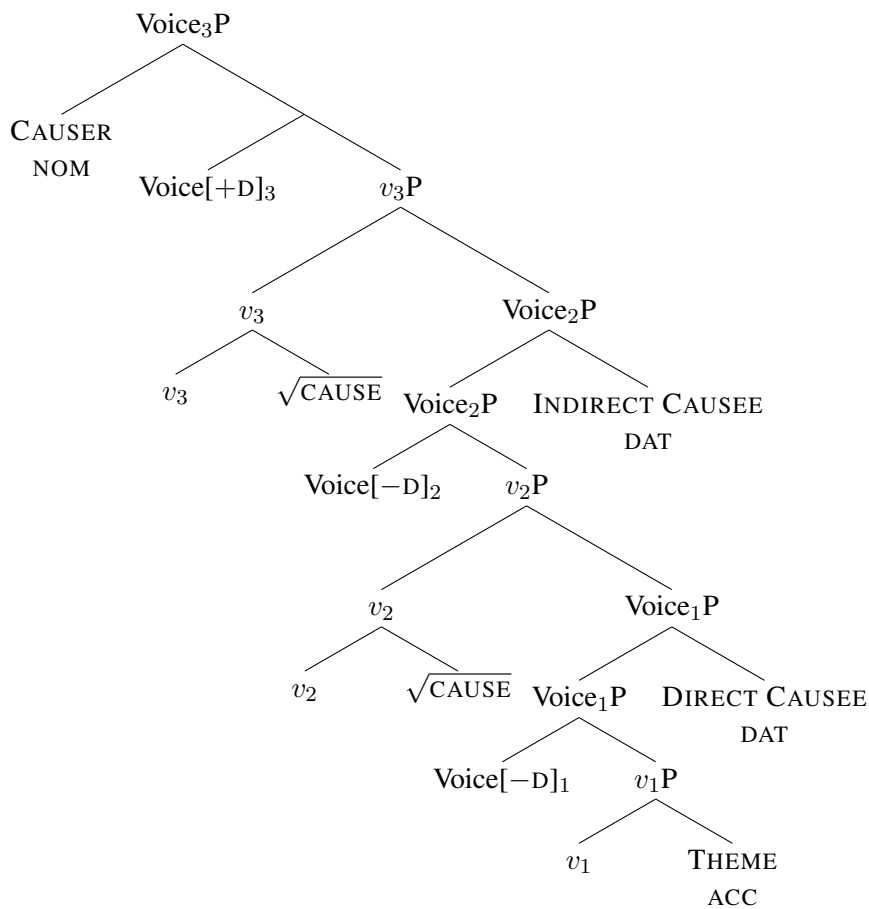
‘The doctor made me make my mother not smoke the cigarette.’

Key’s argument against the CAUSE theory therefore does not stack up against the evidence. Recursion is indeed permitted in Turkish causatives. There is no need for a fixed functional hierarchy of heads in causatives. We have also seen that there are languages such as Tagalog and Xhosa whose causatives are monocausal. There is no evidence in these languages of a dedicated Caus head which is associated with both a causing event and a (non-agentive) causee. Furthermore, recall that the principle of Thematic Uniqueness prevents two arguments from bearing the same

thematic role within a single thematic domain. Key's approach provides no explanation for why multiple causees are permitted in a single clause.

The structure proposed for a true double causative of transitive in Turkish is given in (258), where lexical root adjoined to v_1 introduces the caused event, and $\sqrt{\text{CAUSE}}$ adjoined to v_2 and v_3 introduces causing events. The direct causee merges as an adjunct to $\text{Voice}[-D]_1$ and the indirect causee as an adjunct to $\text{Voice}[-D]_2$.

(258) Turkish double causative



I suggest that multiple causees are permitted in Turkish and not ruled out by Thematic Uniqueness, because bicausal causatives have multiple events. I propose that a new event domain is established every time a new event is introduced, and furthermore, that each event domain is associated with its

own thematic domain. Event domains consequently define thematic domains, such that Thematic Uniqueness applies within a single event domain and not across two distinct event domains.

4.5.2 Bicausal biagentive causatives

Productive affixal causatives in Japanese, also known as *-(s)ase* causatives, encode two agents and two events (Kuroda, 1965a,b; Shibatani, 1972; Miyagawa, 1984; Harley, 1995, 2008). Both the causer and causee can be volitional agents, as shown by their ability to be modified by the *-te* adverbial in (259b).

- (259) a. Hanako-wa arui-te it-ta.
 Hanako-TOP walk-TE go-PST
 ‘Hanako, walking, went.’
- b. Taroo-wa arui-te Hanako-O ik-ase-ita.
 Taroo-TOP walk-TE Hanako-ACC go-CAUS-PST
 Available interpretations:
 ‘Taroo, walking, made Hanako go.’
 ‘Taroo made Hanako go, walking.’ (Harley, 2008, 30)

Japanese *-(s)ase* causatives are also bicausal, as shown by the fact that the causing event and caused event can receive independent temporal modification in (260).

- (260) Nichiyoubi-ni donari, Taro-wa getsuyoubi-ni kodomo-ni sara-o araw-ase-ta.
 Sunday-DAT yell Taro-TOP Monday-DAT child-DAT dish-ACC wash-CAUS-PST
 ‘Taro made the child wash the dishes on Monday by yelling at him on Sunday.’

The same result obtains when we test *again*-attachment possibilities in a causative of a change of state predicate. The resulting causative with *mata* ‘again’ has the restitutive reading (261a) and the repetitive reading over the whole clause (261c). It crucially also has the interpretation where *mata* scopes over just the change of state event (261b), unlike Tagalog causatives (Section 4.3.1).

- (261) Kangohu-ga akachan-o mata nemur-ase-ta.
 nurse-NOM baby-ACC again sleep-CAUS-PST
 ‘The nurse made the baby fall asleep again.’

- a. CAUSE > BECOME > *mata* > STATE

Context: Luz gave birth to a beautiful new baby. The baby was miraculously asleep when he was born. Soon he woke up and started crying. The nurse picked him up and rocked him until he fell asleep.

- b. CAUSE > *mata* > BECOME > STATE

Context: Luz gave birth to a beautiful new baby. The baby was awake and crying when he was born. The doctor picked him up and rocked him until he fell asleep. A few hours later the baby woke up and starting crying. The nurse came and rocked him to sleep.

- c. *mata* > CAUSE > BECOME > STATE

Context: Luz gave birth to a beautiful new baby. The baby was awake and crying when he was born. The nurse picked him up and rocked him until he fell asleep. A few hours later the baby woke up and starting crying. The nurse came and rocked him to sleep.

Again-attachment thus diagnoses the presence of a syntactically represented causing event in -*(s)ase* causatives.

A final diagnostic for bieventivity comes from scope of negation. Negation can scope over both the causing event and caused event (262a) or just the caused event on its own (262b); this is also seen overtly in the order of morphemes on the verb.

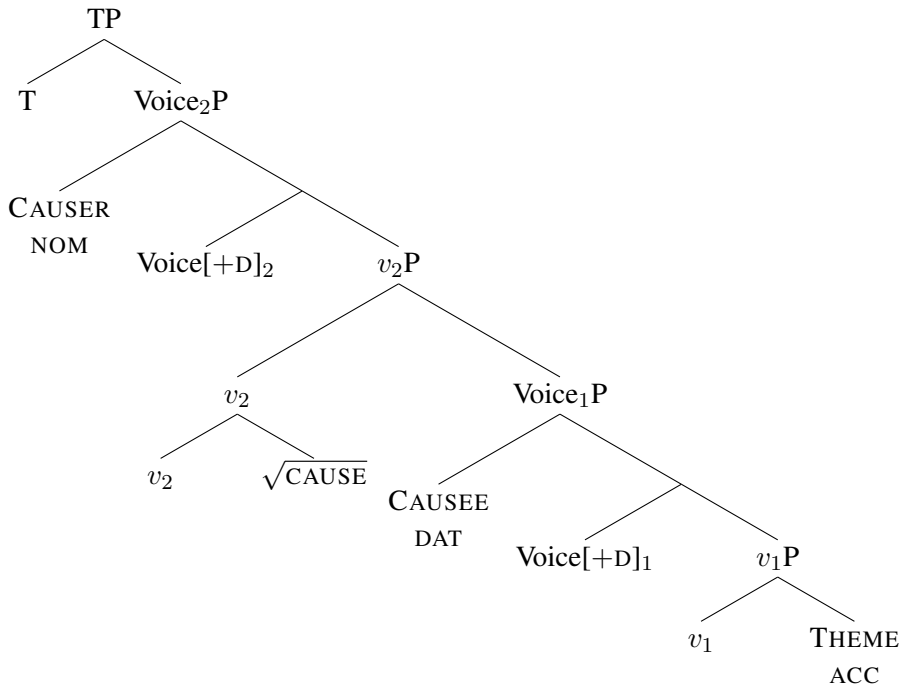
- (262) a. Toru-wa Yoko-o ik-ase-ta.
 Toru-TOP Yoko-ACC go-CAUS-PST
 ‘Toru made Yoko go.’
 b. Toru-wa Yoko-o ik-ase-nakat-ta.
 Toru-TOP Yoko-ACC go-CAUS-NEG-PST
 ‘Toru did not make Yoko go.’

- c. Toru-wa Yoko-o ik-anaku-sase-ta.
 Toru-TOP Yoko-ACC go-NEG-CAUS-PST
 ‘Toru made Yoko not go.’

(cited in Key, 2013, 171)

There is no short supply of evidence, then, that *-(s)ase* causatives are both bicausal and biagentive. I therefore propose that Japanese *-(s)ase* causatives contain two *v* and two Voice[+D] heads. As shown in (263), the embedded Voice[+D]₁ introduces the causee. *v*₂ with an adjoined $\sqrt{\text{CAUSE}}$ root is able to select for an active VoiceP in Japanese, and Voice[+D]₂ introduces the causer.

(263) Japanese causative



The embedding of *v* under causative *v* predicts the possibility of true causative recursion. Key (2013), however, argues that such recursion is not in fact possible in Japanese. He reports data originally from Kuroda (1993) of *-(s)ase* causatives that allow multiple causees without multiple causative marking. Take the causative of unergative in (264a). As shown in (264b), the addition of an indirect causee does not co-occur with more causative marking. The same situation is observed in the causative of transitive in (265b).

- (264) a. George-ga Ken-o oki-sase-ru.
George-NOM Ken-ACC get.up-CAUS-PRS
'George will make Ken get up.'
- b. George-ga Naomi-ni Ken-o oki-sase-ru.
George-NOM Naomi-DAT Ken-ACC get.up-CAUS-PRS
'George will make Naomi make Ken get up.' (Kuroda, 1993, 9–10)
- (265) a. George-ga Ken-ni tabako-o suw-ase-ru.
George-NOM Ken-DAT cigarette-ACC smoke-CAUS-PRS
'George will make Ken smoke a cigarette.'
- b. George-ga Naomi-ni Ken-ni tabako-o suw-ase-ru.
George-NOM Naomi-DAT Ken-DAT cigarette-ACC smoke-CAUS-PRS
'George will make Naomi make Ken smoke a cigarette.' (Kuroda, 1993, 9–10)

Key takes the lack of multiple causative marking to mean that *-(s)ase* causatives do not encode multiple events. Again, however, he does not provide eventhood diagnostics to support his claim. In the remainder of this section, I demonstrate with tests that some varieties of Japanese indeed allow recursion of events in causatives. I note that this applies only to some varieties as there seems to be a great deal of dialectal and interspeaker variation when it comes to causatives. Not every speaker I have consulted allows the multiple causees in (264b) and (265b). As we will see, however, speakers of Hokkaido Japanese allow multiple causees as well as multiple events.

While Kuroda (1993) reports that causatives involving two causees are possible with single causative marking, he judges the same causatives as ungrammatical if they have double marking. However, speakers of Hokkaido Japanese find single and double causative marking equally acceptable. This variation in judgments is indicated with % in (266).

- (266) a. %George-ga Naomi-ni Ken-o oki-sas-ase-ru.
George-NOM Naomi-DAT Ken-ACC get.up-CAUS-CAUS-PRS
'George will make Naomi make Ken get up.'
- b. %George-ga Naomi-ni Ken-ni tabako-o suw-ase-sase-ru.
George-NOM Naomi-DAT Ken-DAT cigarette-ACC smoke-CAUS-CAUS-PRS
'George will make Naomi make Ken smoke a cigarette.'

Hokkaido Japanese has been previously noted to differ from other varieties in its use of transitivity morphology, for example in having the passive form *-rasar* (Sasaki, 2016; Oseki, 2017). From the perspective of Key, then, Hokkaido Japanese may simply allow the reduplication of the causative morpheme, without actual recursion of causing events (see Section 4.5.1). However, Kuroda actually takes the opposite tack: he takes the double-marked causatives in (266) to be the underlying form of their single-marked counterparts, which have undergone haplology.

The question of what the syntax of these causatives really is can only be settled using eventhood diagnostics. Events that are syntactically represented can, for instance, be modified by temporal adverbials. This is shown for the simple causative of transitive in (267), where the causing event and caused event are independently targeted for temporal modification, confirming that there are indeed two events in the syntax.

- (267) George-ga getsuyoubi-ni Ken-ni suiyoubi-ni tabako-o
 George-NOM Monday-DAT Ken-DAT Wednesday-DAT cigarette-ACC
 suw-ase-ta.
 smoke-CAUS-PST
 ‘George on Monday made Ken smoke a cigarette on Wednesday.’

Applying the temporal modification test to double causatives in Hokkaido Japanese, three events are found to be represented in the syntax. As (268) shows, there are three events available for independent temporal modification in the syntax. Thus Hokkaido Japanese does appear to allow the recursion of events in causatives, contra Key.

- (268) George-ga getsuyoubi-ni Naomi-ni kayoubi-ni Ken-ni suiyoubi-ni
 George-NOM Monday-DAT Naomi-DAT Tuesday-DAT Ken-DAT Wednesday-DAT
 tabako-o suw-(ase-)sase-ta.
 cigarette-ACC smoke-(CAUS-)CAUS-PST
 ‘George on Monday made Naomi make Ken on Tuesday smoke a cigarette on Wednesday.’

Note that three-way temporal modification is possible whether or not *-(s)ase* appears twice on the verb, indicating that there are three events in double causatives regardless of how the verb is overtly

marked. This provides support for Kuroda's analysis of single causative marking as haplology over Key's analysis of double marking as reduplication.

Scope of negation also identifies three event variables in the syntax. As (269) shows, negation can scope over the caused event, the causing event, or the intermediate event.

- (269) George-ga Naomi-ni Ken-ni tabako-o suw-ase-nakat-ta.
 George-NOM Naomi-DAT Ken-DAT cigarette-ACC smoke-CAUS-NEG-PST
 Available interpretations:

'George did not make Naomi make Ken smoke a cigarette.'

'George made Naomi not make Ken smoke a cigarette.'

'George made Naomi make Ken not smoke a cigarette.'

Thus the eventhood diagnostics confirm that double causatives in at least the Hokkaido variety of Japanese have multiple causing events, showing once again that event recursion is possible in affixal causatives, contra Key (2013). Furthermore, if events define domains of thematic interpretation, then we have an explanation for why multiple causees are permitted in Japanese: an added event 'resets' Thematic Uniqueness.

Finally, it should be noted that *-(s)ase* causatives often have a permissive reading with animate causees, where the causer, rather than coercing the causee to participate in the lower event, instead simply does not interfere with the causee's action (Shibatani, 1972; Miyagawa, 1984; Kuroda, 1993). An example is given in (270).

- (270) George-ga Naomi-o soko-de ori-sase-ta.
 George-NOM Naomi-ACC there drop-CAUS-PST
 'George let Naomi get out (of the car) there.' (Kuroda, 1993, 50)

Using the Hokkaido Japanese double causatives from above, repeated in (271) and (272), we find that a permissive reading is available for either of the two higher events. That is, a permissive event can scope above or below a causing event. Again, the same interpretations are available whether or not causative marking is realised twice on the verb.

- (271) George-ga Naomi-ni Ken-o oki-(sas-)ase-ta.
 George-NOM Naomi-DAT Ken-ACC get.up-(CAUS-)CAUS-PST

Available interpretations:

‘George made Naomi make Ken get up.’

‘George let Naomi make Ken get up.’

‘George made Naomi let Ken get up.’

- (272) George-ga Naomi-ni Ken-ni tabako-o suw-(as-)ase-ta.
 George-NOM Naomi-DAT Ken-DAT cigarette-ACC smoke-(CAUS-)CAUS-PST

Available interpretations:

‘George made Naomi make Ken smoke a cigarette.’

‘George let Naomi make Ken smoke a cigarette.’

‘George made Naomi let Ken smoke a cigarette.’

The fact that the permissive and causing events can occur in either scopal order provides evidence against a fixed hierarchy of functional heads in causatives and supports an approach where events can be freely embedded by one another. In other words, the scopal ambiguity found in double causatives points to true recursion of events, which are introduced by, say, $\sqrt{\text{CAUSE}}$ and $\sqrt{\text{LET}}$ roots. I am unable here to provide a full discussion of permissive causatives and potential differences with causatives with unmarked meanings. However, permissive readings of causatives are common cross-linguistically (Dixon, 2000) and would be worthy of further study.

Summing up this discussion of bicausal causatives, I have argued that bicausal causatives involve a *v* over *v* structure, as in the CAUSE theory. While Turkish causatives embeds a non-active Voice under *v* and Japanese an active Voice, both types allow event recursion.

4.6 Summary

I have argued in this chapter that productive affixal causatives across languages all involve true recursion but differ fundamentally in whether they recurse *v* or Voice. The kind of embedding

involved has implications for the number of events that are encoded in a causative construction. Events were argued to define thematic domains, such that multiple events leads to the possibility of multiple causees. Variation in the flavour and licensing capabilities of the embedded Voice also affect the agentivity of the causee. The proposed structures for the four major types of productive affixal causatives are summarised in Table 4.5.

Causer	$\sqrt{\text{CAUSE}}$	Causee	$\sqrt{\text{ROOT}}$	Properties	Example
Voice[+D] ₂		Voice[+D] ₁	v_1	Monocausal biagentive	Tagalog
Voice[+D] ₂		Voice[−D]/[Ø] ₁	v_1	Monocausal monoagentive	Xhosa
Voice[+D] ₂	v_2	Voice[+D] ₁	v_1	Bicausal biagentive	Japanese
Voice[+D] ₂	v_2	Voice[−D]/[Ø] ₁	v_1	Bicausal monoagentive	Turkish

Table 4.5: Structure of productive affixal causatives

The typology developed in this chapter may aid in clarifying the long-standing distinction made in the literature between “direct” vs “indirect” causation (e.g. Fodor, 1970; Shibatani, 1972).¹² The term “indirect causation” has been used in multiple senses, to variously describe causative constructions with implicit causees, causatives without physical manipulation by the causer, as well as causatives with permissive readings. Shibatani & Pardeshi (2002, 90), however, suggest that the “ultimate defining feature of direct and indirect causation is the spatio-temporal configuration” of the components of the causative. Under this view, direct causation involving a causing subevent and caused subevent with “the same spatio-temporal profile”—in the terms used here, a monocausal construction. Indirect causation, by contrast, involves two subevents with distinct spatio-temporal profiles—a bicausal construction. Shibatani & Pardeshi’s semantic distinction based on eventhood is encoded here as a syntactic distinction in the type of embedding: direct causatives embed participants, while indirect causatives embed events.

¹²I thank Amy Rose Deal for suggesting this connection.

Chapter 5

Conclusion

The central claim of this dissertation is that the syntactic distribution of arguments depends not only on thematic introduction but also on abstract licensing. Every nominal must be (i) assigned a thematic role and (ii) licensed via abstract φ -agreement; these requirements hold of nominals in every language. Languages differ in which heads are able to assign thematic roles and check φ -features. The inventory of nominal licensing heads in a language is a subset of the inventory of the thematic heads of the language. For example, if a language has Voice, HighAppl, LowAppl and v as thematic heads, it may have anywhere between one (just Voice) to all four of these heads available as nominal licensors. Fewer nominal licensors result in fewer arguments in the clause; more nominal licensors will lead to greater argument recursion. This was seen most clearly with applicative constructions. In Chapter 3, I argued that the availability of applicative recursion is a consequence of differences in nominal licensing, namely whether the applicative heads in a given language are nominal licensors. I proposed that languages in which Appl is a nominal licensor will allow applicative recursion. Conversely, languages in which Appl is not a nominal licensor will not allow applicative recursion.

In many languages, applied arguments are not licensed in situ and must raise to a raising applicative position just below Voice. I showed that movement to this position derives a number of

apparently unrelated phenomena: symmetric applicative constructions commonly found in Bantu languages, applicative “voice” marking in Tagalog, and cross-linguistic variation in how applicatives and causatives may combine. I also demonstrated how the raising applicative can derive the rigid Causative-Applicative (CARP) morpheme order found in many Bantu languages without the need for selection or morphological templates. Whether all CARP effects can be reduced to nominal licensing properties would be an interesting avenue for future work.

The focus of my discussion of applicative constructions was on languages which have overt applicative morphology on the verb and whose applied arguments behave as syntactic objects, as in double object constructions (Marantz, 1984; Baker, 1988). However, the question of recursion can equally be asked of languages without double object constructions. Like unmarked applied arguments in Swahili, dative applied arguments in Germanic and Romance languages cannot recurse arbitrarily. Further research may show that an approach based on nominal licensing can be extended to datives.

I also claimed in this dissertation that Voice under T defines the licensing domain of the clause, such that all nominals must be licensed within the highest VoiceP. In general, each nominal licensing head can only license one argument. Voice under T, however, is able to license two arguments: its external argument and the highest argument it c-commands that has not already been licensed, such as a theme or applied argument. Because of its ability to license one or two arguments, Voice under T is the locus of syntactic transitivity alternations, such as the Agent Voice \sim Patient Voice alternation in Philippine-type voice languages and the ergative \sim antipassive alternation in ergative languages, and is also responsible for assigning ergative and accusative Case (Legate, 2014). In Chapter 2, I showed that Voice with one set of φ -features derives Agent Voice and antipassive constructions, while Voice with two sets of φ -features derives ergative or Patient Voice constructions. The configuration where Voice acquires two bundles of φ -features gives rise to “dependent” Case and agreement phenomena: ergative Case is assigned upwards by Voice with two bundles of φ -features, while accusative Case is assigned downwards.

While Voice under T defines the licensing domain, events define thematic domains, such that the addition of an event means the addition of a new thematic domain. I assumed that event variables are introduced by lexical roots, which are verbalised by adjunction to a syntactic categorising head *v*. In the discussion of affixal causatives in Chapter 4, I showed that languages can have monocausal causatives, which involve the addition of an external argument via Voice, or bicausal causatives, which involve the addition of a causing event via *v* and a $\sqrt{\text{CAUSE}}$ root. Monocausal causatives permit one causee per clause, as predicted by the principle of Thematic Uniqueness. By contrast, bicausal causatives, which can have multiple causing events, allow as many causees as there are causing events. Thematic Uniqueness therefore seems to be sensitive to *events*. Causative recursion thus depends on event recursion.

Future work may show that the contrast between monocausal and bicausal causatives is not limited to affixal causatives. There is some preliminary evidence that a parallel distinction may be found in periphrastic causatives, which involve an independent causative verb such as *faire* ‘do, make’ in French (Kayne, 1975) or *láta* ‘let’ in Icelandic (Thráinsson, 1979). Sigurðsson & Wood (2020) propose that, like monocausal affixal causatives, periphrastic causatives in Icelandic have a Voice over Voice structure, where *láta* is associated with the higher Voice head rather than an additional *v* and root complex. Also like monocausal causatives, the Icelandic causative cannot recurse. The Icelandic causative can therefore be contrasted with the English *make*-causative, which involves multiple events and does recurse. Thus evidence is emerging that, like their affixal counterparts, periphrastic causatives may also come in monocausal or bicausal varieties.

In sum, I have provided in this dissertation a framework for understanding argument recursion and licensing, with the hope of shedding light on not only the nature of nominal licensing but also the interaction between argument structure and event structure.

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