Applied Asymmetries:
Syntax of applicative constructions in Tukang Besi

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Abstract

Minimalist accounts of object asymmetries have focused on Indo-European and Bantu languages and have not addressed multiple applicative constructions—applicative stacking. The Austronesian language Tukang Besi has a variety of applicative constructions, including stacking, and has only been analyzed in terms of a thematic hierarchy. This thesis attempts to remedy these gaps by examining Tukang Besi applicatives through a minimalist lens, specifically through the adaptation of the high and low applicative heads introduced by Pylkkänen (2008).

The analysis here posits three types of applicative, differentiated by the size of the complement the applicative head selects, based on certain object targeting constructions and their interaction with the three applicative morphemes as described in Donohue's (1999) grammar of Tukang Besi: passives, object relative clauses, wh-questions, and the subject topic v. object topic or actor voice v. patient voice distinction common in the Austronesian language family.

Dedication

They say it takes a village to raise a child. In my case, it was a school district. This thesis is dedicated to the educators who believed in me before anyone knew what they were believing in.

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Chapter 1

Introduction

Asymmetrical behavior of objects in multiple object constructions has been the subject of significant discussion amongst the linguistic community. Thus far, scholarship has largely focused on Indo-European and Bantu languages to the exclusion of other language families. This thesis attempts to apply the results of these analyses to the Austronesian language Tukang Besi. Especially of interest in Tukang Besi is the phenomenon of applicative stacking. Though previous literature (most notably Baker 1988, Marantz 1993, and Pylkkänen 2008) has focused largely on languages which permit only one additional object to be introduced to a given clause by means of applicative morphology, Tukang Besi allows multiple applicative morphemes to appear on a single verb.

Tukang Besi applicatives appear on base intransitive verbs such as *wila* 'go' as shown in (2) and (3), as well as transitive verbs as in (5). An example of a stacked applicative construction, with two different applicative morphemes occurring on a single base, is shown in (6). (All citations in example sentences refer to pages in Donohue (1999) unless otherwise indicated.)

(1) No-wila kua Wa Darwin
3R-go to Wa Darwin
'She went to Wa Darwin' (71)

(2) No-wila-**ngkene** te **kene-su**
3R-go-COM DET friend-1sPOSS
'They went **with my friend**' (228)

(3) No-wila-ako te ina-no i daoa
3R-go-APPL DET mother-3POSS OBL market
'She went to the market for her mother' (232)

(4) No-homoru te wurai
3R-weave DET sarong
'She's weaving a sarong' (88)

(5) No-homoru-**ngkene** te **kene-no** te wurai na
3R-weave-COM DET friend-3POSS DET sarong TOP
ompu-su
grandparent-1sPOSS
'My grandmother wove a sarong **with her friend**' (229)

(6) No-homoru-**ngkene**-ako te iaku te **kene-no** te wurai na
3R-weave-COM-APPL DET 1s DET friend-3POSS DET sarong TOP
ompu-su
grandparent-1sPOSS
'My grandmother wove a sarong for me **with her friend**' (251)

In constructions like (5), where applicative morphology makes an otherwise monotransitive verb ditransitive, the object which would usually occur with the unaltered base verb—*te wurai* 'a sarong' in (5)—will be referred to as a **base object** (BO) and the object introduced by applicative morphology the **applied object** (AO). In stacked applicatives, the applied object corresponding to the morphology closer to the verb—*te kene* 'her friend' and *-ngkene* in (6)—is called the **first applied object** and the applied object corresponding to morphology farther from the root—*te iaku* 'me' and *-ako*—the **second applied object**. In most cases, only one of the objects in an applicative construction behaves like the object of a non-applicative clause. In this, Tukang Besi applicative constructions are asymmetrical.

Only one scholar, Mark Donohue, has collected any significant amount of data on Tukang Besi. Donohue's *Grammar of Tukang Besi* (1999), the source of most

of the data in this thesis, analyzes the applicative system according to a thematic hierarchy, in which nominal arguments are hierarchically ordered in "what is hoped to be an independently motivated grouping or set of potential groupings of thematic roles" (M93 :113). Thus Donohue has explained differences between applicative heads assuming thematic roles to be the main motivating factor behind differences in the various applicative constructions. For example, Donohue suggests that only the argument highest on the thematic hierarchy is eligible to be indexed by object suffixes. In the constructions included in this thesis,[1] the applied object is always higher than the base object in terms of this thematic hierarchy, and thus the applied object not the base object is always the one eligible for such indexation.

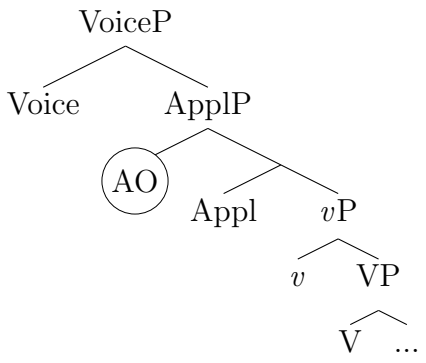
This thesis works instead in the minimalist paradigm, which has largely discarded notions of thematic roles for explanation of syntactic phenomena, turning instead to differences in structural position and phase boundaries as Pylkkänen (2008) and McGinnis (2001a&b) have already done for applicatives in other languages. Essential to these minimalist analyses is the concept of an extended projection of the verb[2] which includes not only the lexical root of the verb but also a light verb head and a separate, external argument introducing head. These are labeled V, *v*, and Voice, respectively (ch9 ; Harley 2010; Harley 2013).

Pylkkänen's (2008) explanation of object asymmetries argues that applicative morphemes are heads belonging to the category Appl, which project a phrase (ApplP) and that applied objects are introduced in the specifier of ApplP. Pylkkänen proposes two possible locations for merger of an applicative head, and thus two positions applied objects might occupy in the structure: one high, i.e. merging after the verb but within the extended projection of the verb, as in (7a); the other low, merging with the base object in the complement of V, as in (7b).

[1] So called 'theme,' 'cause,' and 'purpose' applicatives are not included in the main body of the thesis, and behave differently from those which are included in ways shown in Appendix A.

[2] For more on an extended verb structure see Grimshaw (1991).

(7) a.



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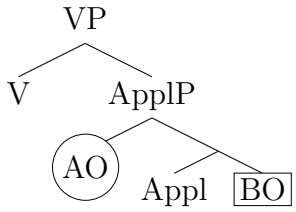
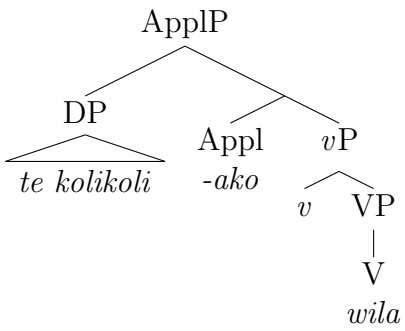


Pylkkänen distinguishes between high and low applicative structures by testing the applied object's availability for depictive secondary predication and the applicative's ability to occur with unergative and stative verbs (Pylkkänen 2008:33). Data on the interaction of secondary predication and stative verbs with applicativization is largely unavailable for Tukang Besi. Applicative interaction with unergativity, on the other hand, is thoroughly evidenced. All the constructions included here occur both on transitive verbs and with *wila* 'go' or *kede* 'sit,' which Donohue (1996) concludes are unergative.[3] This suggests that all of Tukang Besi's applicatives are 'high' and merge above little *v*, as in (9).

(8) No-wila-**ako** te **kolikoli**
3R-go-APPL DET canoe
'He went **by means of a canoe**' (235)

[3]Donohue's evidence for an ergativity split in Tukang Besi is extensive and convincing, but largely depends on causatives and other syntactic structures not otherwise relevant to this thesis. The reader may wish to refer to Donohue (1996) for further details.

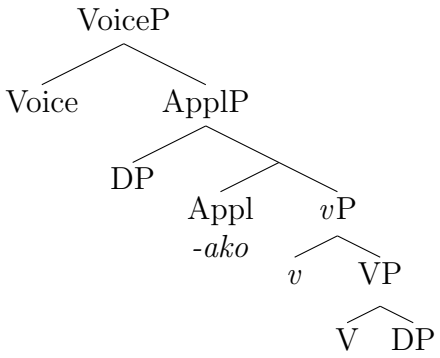
(9)



For two of the three applicative morphemes present in Tukang Besi, *-ngkene* and *-ako*, this high applicative analysis appropriately predicts the asymmetrical behavior of base and applied objects. Certain symmetries between base object and applied object in constructions using the third morpheme, *-(VC)i*, suggest that *-(VC)i* is not a high applicative, however, despite its ability to merge with unergative verbs.

The conclusion of this analysis is that each of Tukang Besi's three applicative morphemes corresponds to a different position in the sentence structure, as shown in (10)-(12).

(10)



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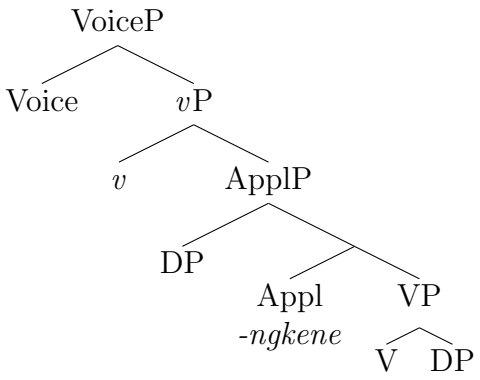
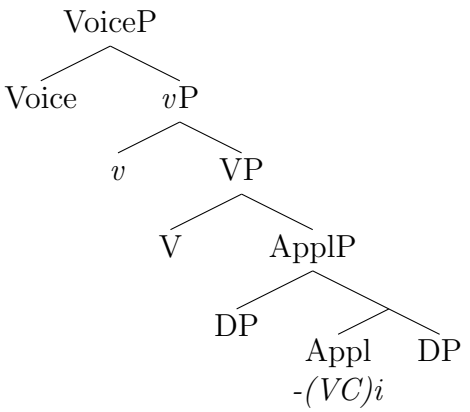


(12)



The following bullets summarize the properties of applied and base objects in the various applicative constructions which lead to the positions suggested in (10)-(12).

- Applied objects can be topics. Base objects cannot.
- Base objects cannot be the subjects of passives.
  - An *-ngkene* applied object may be the subject of a passive only if there are no other objects in the construction. (When *-ngkene* applies to an transitive base, no passive form is possible.)
  - *-ako* and *-(VC)i* applied objects may become subjects in passive constructions.
- Applied objects can head object relative clauses and be the focus of content questions.
  - Base objects in *-(VC)i* applicative structures can also head object relative clauses and be the focus of content questions.
  - Base objects in *-ako* and *-ngkene* applicative structures cannot.

The following chapters seek to provide the necessary background for understanding how these properties lead to the trees seen in (10)-(12). Chapter 2 provides background discussion of Tukang Besi with respect to word order and morphological case, the applicative construction specifically, and the other syntactic constructions used in my analysis. Chapter 3 examines the syntax of object-related tests as they apply to applicatives and concludes with a summary of the proposed structure for

Tukang Besi applicatives. Chapter 4 summarizes the results of Chapter 3 and speculates about the possible directions for future research. Appendix A includes data for structures not covered in the main body of the thesis and some tables concerning Tukang Besi morphology.

Chapter 2

Tukang Besi

2.1 Background

Tukang Besi is an Austronesian language spoken in Indonesia. The Tukang Besi archipelago, *Kepulauan Tukang Besi*, is southeast of Buton, which is itself off the southeastern corner of Sulawesi, one of the larger islands in Indonesia. The population of the archipelago is estimated to be around 80,000, all of whom are native speakers of Tukang Besi. Speakers living in other areas may so much as double the population count to a total estimate of 160,000 speakers (Donohue 1999:3).

Culturally and economically, the four island groups where Tukang Besi is spoken differ significantly, though an insistence that outsiders (including trading partners and government officials) learn the local language and communicate in it seems common to the entire archipelago. Stereotypically, Wanci islanders are formal traders with established routes and schedules. Residents of Kaledupa traditionally hold strong values with respect to education, frequently sending their sons away to learn and expecting well-educated teachers to return to Kaledupa. In comparison to the other islands, Kaledupa residents are known for their lack of both seafaring abilities and business acumen. Tomea is best known for their cultural products, such as dance and

music, and for having the most elegant speech. Bingonko is the poorest of the islands and has very little fresh water, and thus crafting has replaced agriculture as the livelihood of most occupants. The name Tukang Besi (which means "blacksmith" in Indonesian) was first acquired by the widely-known Bingonko blacksmiths. (Donohue 1999:4)

Mark Donohue's works on Tukang Besi seem to be the only scholarship on the language besides a few word lists published in the late 1970s and '80s and some analyses of structural elements of Tukang Besi as they relate to other languages (Donohue 1999:6-7). The majority of the data included in this thesis on the facts of Tukang Besi comes from Donohue's 1999 grammar, though he has also published several smaller papers on specific aspects of Tukang Besi, of which Donohue (1996) and Donohue (1998) are the most influential for the present investigation of syntactic phenomena in Tukang Besi. Unless otherwise noted, citations in examples are to pages from the 1999 grammar.

There are significant dialectal differences between the northern island groups and southern islands groups, perhaps enough to establish Northern Tukang Besi and Southern Tukang Besi as separate languages, though these have minimal grammatical differences. The variety represented in Donohue's grammar is that of Rupu, a subdialect of Wanci speech (Donohue 1999:13).

2.2 Typology

Tukang Besi is a largely head-marking language and nominative/accusative aligned with respect to verb indexation. Verbal prefixes are portmanteau morphemes marking realis or irrealis mood and agreement for person with a subject (of either a transitive or intransitive verb), *no-* '3R' in (13). These prefixes also mark number in first and second person. Similarly, some forms include suffixes which mark person (and

sometimes number) of objects. Example (14a) shows an example without object agreement and (14b) its counterpart with object agreement. Tables A.4 and A.5 in the appendixes include these morphemes and their allomorphs in a position class chart of verbal affixes.

(13) No-buti na ana
3R-fall TOP child
'The child fell down' (51)

(14) a. No-kiki?i te iko?o na beka
3R-bite DET 2S TOP cat
'The cat bit you'

b. No-kiki?i-ko (na iko?o) te beka
3R-bite-2SOBJ (TOP 2S) DET cat
'The cat bit you' (53)

All nouns in Tukang Besi are preceded by a morpheme which might be analyzed as a preposition, case marker or determiner. In (13)-(14), these are the morphemes *na* and *te*, which I've glossed TOP and DET for topic and determiner. Donohue's work on Tukang Besi refers to these instead as case markers: *na* marking a nominative pivot and *te* marking all other core arguments.

Exactly one argument in every Tukang Besi sentence is marked with *na*. Which argument *na* precedes correlates with the presence or absence of object agreement on the verb. When object agreement is present, *na* will precede the object, and when object suffixes are absent, it will instead precede the subject. The analysis adopted here is that *na* marks a sentence's topic (thus the gloss 'TOP') and that unsuffixed verbs have subject topics and suffixed verbs object topics. This construction is similar to one observed in languages like Tagalog (Donohue 1999:160 cites Kroeger 1993 and Schachter 1976).

My decision to gloss *na* as a topic marker is based in part on its complementary distribution with wh-questions. Question words in wh-questions are necessarily fo-

cused, and the one restriction on the position of a wh-question word in Tukang Besi is that it must not appear in a *na* marked phrase. The simplest explanation for this is that Tukang Besi requires a topical argument in every sentence, and that the focus inherent to wh-questioning is incompatible with such topicality.

The determiner *te* precedes all arguments not marked by *na* or certain other morphemes such as *di* OBLIQUE or *nu* GENITIVE. In general *te* seems to be an elsewhere marker, in that it fills the required determiner slot when no other morpheme has been specified.

It is possible for nominal arguments not to be overtly present in the sentence, as in (14b) where the indexed object is only optionally present. This is often the case in Tukang Besi: pro-drop is prevalent and speakers will frequently omit arguments inferable from context (Donohue 1999:51).[1]

Except for certain clefting or fronting constructions discussed in 2.5, Tukang Besi sentences are verb-initial. Ordering of subjects (S) and objects (O) is flexible when object agreement is present, as in (15), and rigidly VOS in its absence, as in (16).

(15) a. No-ʔita-ʔe na kene-no te ana
3R-see-3OBJ TOP friend-3POSS DET child
'The child saw its friend'

b. No-ʔita-ʔe te ana na kene-no
3R-see-3OBJ DET child TOP friend-3POSS
'The child saw its friend' (51)

(16) a. No-ʔita te kadadi na wowine
3R-see DET bird TOP woman
'The woman watched the birds'

[1]Restrictions on which objects must be overt and which can be dropped are complicated. Indexed arguments can almost always be dropped: the exception is certain verbs like *molinga* 'forget' which require object agreement and an overt object NP. Unindexed objects also can often be dropped. This phenomenon has been called unspecified object deletion (UOD) to distinguish it from specified argument deletion, here referred to as pro-drop, which can occur in a different set of circumstances. Restrictions on UOD are few. Certain restictions on UOD in applicative constructions are addressed in appendix A.

b. * No-ʔita na wowine te kadadi
3R-see TOP woman DET bird
'The woman watched the birds' (Donohue 2009:771)

In ditransitives, word order is flexible where roles are unambiguous, but where roles cannot be inferred from context, word order is fixed with the recipient preceding the theme, as in (17).

(17) No-huʔu te tuduʔa te raja
3R-give DET slave DET ruler
'She gave the king to a slave' (*'She gave a slave to the king') (55)

2.3 Applicatives

Applicative formation is a valence changing operation, meaning that it affects the number of arguments which can be introduced to a clause by a verb. Applicative constructions specifically affect valence by adding an object. In Tukang Besi, this change is marked by one of the three applicative suffixes: *-ako*, *-ngkene*, and *-(VC)i*.

(18) and (19) show applicative verbs alongside their non-applicative counterparts. In (18), the intransitive *wila* 'go' occurs with a prepositional phrase *i daoa* 'to the market' as well as an applicative morpheme *-ako* and the additional argument it introduces, *ina-no* 'her mother.'

In (19), the applicative is added to the transitive base verb *ala* 'fetch.' The base un-applicativized form of *ala* takes an object *kau* 'the wood,' and the applicative morpheme adds an additional object *ina-su* 'my mother.' To distinguish between the two objects in an applicative construction, the object present in the base construction is called a base object (BO) and the additional object in the applicative construction an applied object (AO).

(18) a. No-wila i daoa
3R-go OBL market
'She went to the market' (431)

b. No-wila-**ako** te **ina-no** i daoa
3R-go-APPL DET mother-3POSS OBL market
'She went to the market **for her mother**' (232)

c. No-wila-**ako** te **kolikoli**
3R-go-APPL DET canoe
'He went **by means of a canoe**' (235)

(19) a. No-ala te kau
3R-fetch DET wood
'She fetched the wood' (231)

b. No-ala-**ako** te **ina-su** te kau
3R-fetch-APPL DET mother-1SPOSS DET wood
'She fetched the wood **as a favour for my mother**' (231)

Essential to the definition of an applicative is that the added argument be an object. Thus far, the only property distinguishing Tukang Besi objects from subjects that has been introduced in this thesis has been availability for object indexation (abbreviated OTop in tables). Other object related properties include passivization (PassS) and object relative clauses (ORC), as well as behavior concerning wh-questions (WH).

Objects' behavior with respect to these tests forms the core of this thesis. The function and distribution of the three applicative morphemes themselves will be discussed in 2.3.1-2.3.3, after which I will turn to descriptions of these object related tests in 2.4.

2.3.1 *-ako*

Tukang Besi's most general purpose applicative, *-ako*, introduces instruments, recipients, and beneficiaries.[2] Beneficiaries and recipients generally behave identically and are referred to together by Donohue as 'dative.' I will use the term 'goal' instead, as

[2] *-ako* is also found in a few other constructions, which Donohue calls 'theme,' 'purpose,' and 'cause' applicatives. Data concerning these can be found in appendix A.

'dative' is often used to refer to case rather than thematic role.

(19b) above, repeated as (20), provides an example of a goal applicative in which the applied object is interpreted as a beneficiary of the action of the verb: *ina-su* 'my mother' identifies the person who benefits from the action described by the verb *ala* 'fetch.' (18c), repeated as (21), shows an applicative construction in which the added argument *kolikoli* 'the canoe' is interpreted as an instrument with which the action *no-wila* 'he went' is carried out.

(20) No-ala-**ako** te **ina-su** te kau
3R-fetch-APPL DET mother-1sPOSS DET wood
'She fetched the wood **as a favour for my mother**' (231)

(21) No-wila-**ako** te **kolikoli**
3R-go-APPL DET canoe
'He went **by means of a canoe**' (235)

2.3.2 *-ngkene*

The second applicative morpheme, *-ngkene*, is glossed "COM" for comitative, and the object it introduces is interpreted as a co-participant in the action.

(22) No-wila-**ngkene** te **kene-su**
3R-go-COM DET friend-1sPOSS
'They went **with my friend**' (228)

(23) a. No-homoru-do te wurai
3R-weave-EMPH DET sarong
'She's now weaving a sarong' (175)

b. No-homoru-**ngkene** te **kene-no** te wurai na
3R-weave-COM DET friend-3POSS DET sarong TOP
ompu-su
grandparent-1sPOSS
'My grandmother wove a sarong **with her friend**' (229)

The comitative *-ngkene* occurs only with agentive predicates and forces a more agentive reading on potentially ambiguous verbs. For example, both (24) and (25)

are grammatical, but the un-applicativized form suggests only that the two people mentioned slept in near vicinity to each other, while the second requires them to be more active participants in the action and cannot mean they did something as passive as sleeping.

(24) No-moturu kene wowine ane ke hotu mopera.
3R-sleep and woman exist and hair short
'He and the woman with the short hair slept near each other'
(# they had sex together) (231)

(25) No-moturu-**ngkene** te **wowine** ane ke hotu mopera.
3R-sleep-COM DET woman exist and hair short
'He had sex with the woman with the short hair'
(*they simply slept near each other without activity) (231)

This phenomenon also occurs for such other words as, among others, *mate* 'die, be dead' and *molango* 'be drunk or seasick' which, when suffixed with *-ngkene*, mean respectively 'commit suicide with (someone)' and 'intentionally drink with the aim of becoming drunk with (someone)' (Donohue 1999:231).

2.3.3 *-(VC)i*

The last of the three applicative morphemes is *-(VC)i*. *-(VC)i* essentially stands for a collection of applicative morphemes all of which behave identically with respect to the object properties in 2.4, but have slightly differing semantic implications. Because of their syntactic similarity and an underlying theme of directionality that they all share semantically, these morphemes are treated in this thesis as allomorphs of each other.

The phonological realization of *-(VC)i* can be *-i*, *-Ci*, or *-VCi*, where V and C stand for varying vowels and consonants. A few examples of these are included in the examples below: *-isi*, *-mi*, and *-api*. For a comprehensive list and further commentary on the historical source of these morphemes, see Donohue (1999:243).

(26) No-wil(a)-**isi** te **ama-su**
3R-go-LOC DET father-1sPOSS
'They visited my father' (226)

(27) No-kede-**mi** te **kadera**
3R-sit-LOC DET chair
'He sat on the chair'
(intended result of his actions) (245)

(28) No-kede-**api** te **ta?(i) u kadola**
3R-sit-LOC DET feces GEN chicken
'He sat in the chicken shit'
(unintentionally, and has suffered as a result) (226)

(26) through (28) each include a sense of directionality in that the *-(VC)i* morpheme introduces an additional argument toward which the action of the verb is directed. In (26), *amasu* 'my father' is introduced as a direction in which *nowila* 'they went.' In (27) and (28), the added argument is a noun on or in which the subject *kede* 'sat'; the difference between the applicative morphemes *-api* (28) and *-mi* (27) is the intentionality of the motion.

(29) shows a transitive verb and a prepositional phrase *kua tolidano* 'to his cousin' that expresses the direction of the action. (30) shows an applicative construction expressing the same thing, but in this example *tolidano* 'his cousin' is introduced by *-api* as an argument of the verb, thus preceded by a determiner, *te*, instead of the oblique preposition.

(29) No-aso te bae kua tolida-no
3R-sell DET rice to cousin-3GEN
'She sold the rice to his cousin'

(30) No-aso-**api** te **tolida-no** te bae
3R-sell-LOC DET cousin-3GEN DET rice
'She sold the rice to his cousin' (Donohue 2001:221)

Though applicatives introduce additional phrases as object arguments, not all

objects are created equal. Applicative constructions differ from each other and from base transitive sentences concerning what properties are attributable to applied and base objects. The following section examines the distribution of these properties.

2.3.4 Symmetry

An 'object' is defined by certain properties. In Tukang Besi, these properties include the abilities to become subjects in passive constructions, to head object relative clauses, and to be indexed on a verb by suffixes. In applicative constructions, applied objects usually show these properties while base objects lack them (see tables 2.1 and 2.2). Because objects in Tukang Besi double object constructions do not generally behave identically, the language can be said to have an asymmetrical applicative system (other languages in which the two objects are the same with respect to these tests have symmetrical systems).

Because these asymmetries are the main focus of this thesis, it will be beneficial to establish some abbreviations with which to refer to the syntactic tests which demonstrate said differences. In addition to the object-specific tests listed above, the ability of arguments to be the focus of a content question and expressed by a wh-word will also be used to differentiate between constructions. The result is a list of four tests:[3]

- **PassS** The ability to be a subject in a passive construction
- **OTop** The ability to be indexed by suffixation on a verb
- **ORC** The ability to head an object relative clause
- **WH** The ability to be expressed by a content question word

The various applicative constructions each behave slightly differently with respect to these four tests as shown in tables 2.1 and 2.2. Table 2.1 shows *-ngkene* applied

[3]Donohue uses two other tests: reciprocalization and unspecified object deletion, which are illustrated in Appendix A

objects' special behavior with respect to passivization, and table 2.2 *-(VC)i* base objects' special behavior regarding ORC and WH.

Test	(base verb)	*-ako*	*-ngkene*	*-(VC)i*
OTop	(intrans)	✓	✓	✓
	(trans)	✓	✓	✓
PassS	(intrans)	✓	✓	✓
	(trans)	✓	*	✓
ORC	(intrans)	✓	✓	✓
	(trans)	✓	✓	✓
WH	(intrans)	✓	✓	✓
	(trans)	✓	✓	✓

Table 2.1: Properties of applied objects with base intransitive and base transitive verb roots.

Test	*-ako*	*-ngkene*	*-(VC)i*
OTop	*	*	*
PassS	*	*	*
ORC	*	*	✓
WH	*	*	✓

Table 2.2: Properties of base objects in applicative constructions

Section 2.4 provides purely descriptive outlines of each test. Chapter 3 begins an analysis of their syntax.

2.3.5 Stacking

In several instances, more than one applicative morpheme may appear on a single verb, though the same applicative morpheme may not be repeated. These constructions in which multiple applicative morphemes occur on a single root are referred to as 'applicative stacking.'

All logical pairs of the three morphemes are possible, though the relative order of the morphemes is fixed: *-(VC)i-ako*, *-(VC)i-ngkene*, and *-ngkene-ako* are all attested (31), but reverse orderings such as **-ako-ngkene* (32) are not. The attested orderings (including two interpretations of *-(VC)i-ako*) are shown in the examples below and

discussed in the following section.

(31) No-wila-**ngkene**-ako te ina-no te **Wa Ki?i**
3R-go-COM-APPL DET mother-3POSS DET Wa Ki?i
'She went **with Wa Kii** for her mother' (248)

(32) * No-wila-**ako**-ngkene te ina-no
3R-go-APPL-COM DET mother-3POSS
'She went **for someone** with her mother' (248)

(33) Ku-wil(a)-**isi**-ngkene te kene-su di **ompu-no**
3R-go-LOC-COM DET friend-1sPOSS OBL grandmother-3POSS
'I visited **his grandmother** with my friend' (265)

(34) No-wil(a)-**isi**-ako te ina-no te **ompu-no** na
3R-go-LOC-APPL DET mother-3POSS DET grandparent-3POSS DET
kene-su
friend-1sPOSS
'My friend visited **her grandmother** as a favour to her mother' (253)

(35) Ku-wil(a)-**isi**-ako te **kene-su** te honda-su
1s-go-LOC-APPL DET friend-1sPOSS DET motorbike-1sPOSS
'I visited **my friend** by means of my motorbike' (256)

Of the arguments *-ako* introduces, only goals and instruments can appear in these constructions. The other *-ako* applicatives such as purpose, theme, and cause which are included in appendix A do not occur in multiple applicative environments. Further, instrument applicatives may only occur with locative applicatives (*-(VC)i*), not comitative ones (*-ngkene*). Examples of all the possible applicative combinations are given in the latter portions of this section.

In most stacked applicative constructions, the object which shows the most object properties (ORC,OTop, and WH—PassS is disallowed for all stacked applicatives) is that applied object corresponding to the applicative morpheme farther from the root—the morpheme which is pronounced second. To distinguish between the two applied objects, the object corresponding to the outer applicative morpheme will be called the second applied object and the object corresponding to the inner applicative

morpheme—the one which is pronounced first—the first applied object. To help distinguish the various applicative suffixes and objects, first applicatives and applied objects are **bolded** and second applicatives and applied objects are underlined.

Two of the four stacked applicative constructions behave identically with respect to the object properties listed in the previous section: *-(VC)i-ngkene* and *-(VC)i-ako* when the *-ako* applied object is interpreted as a goal. In these constructions, the second applied object may be a topic, the gap in an object relative clause, or a wh-word. Passives are disallowed in double applicative constructions. (36) shows goal and comitative applicatives on an intransitive root and (37) the same applicatives on a transitive root.

(36) Ku-wil(a)-**isi**-ngkene te kene-su di **ompu-no**
3R-go-LOC-COM DET friend-1sPOSS OBL grandmother-3POSS
'I visited **his grandmother** with my friend' (265)

(37) Ku-tau-**pi**-ngkene te iai-su te marica te
1s-put-LOC-COM DET younger.sibling-1sPOSS DET pepper DET
roukau i-helo?a-su
vegetables OP-cook-1sPOSS
'I put pepper **in the vegetables** that I was cooking with my younger sister' (250)

Some objects in stacked applicatives occur preceded by *di* 'OBLIQUE,' unlike single applicative constructions in which (non-topic) objects are preceded only by *te*. Second applied objects are always *te*-marked (unless topicalized, in which case they are *na*-marked). Each of the four stacked applicative constructions behaves differently with respect to which other objects it assigns *di* and which *te*. These 'other objects' are of three types: base objects of underlyingly transitive verbs, first applied objects in constructions with base transitive verbs, and first applied objects in constructions with base intransitive verbs. The distribution of articles on these objects is summarized in table 2.3.

Appl heads	Appl Roles	Determiners on 'other' obj		
		Intrans	Trans	
		1st	Base	1st
-(VC)i-ngkene	Loc+Com	*di*	*di*	*te/di*
-(VC)i-ako	Loc+Goal	*te*	*di*	*te/di*
-(VC)i-ako	Loc+Instr	*te*	*di*	*di*
-ngkene-ako	Com+Goal		*te*	*te*

Table 2.3: Determiners preceding the first applied and base objects in stacked applicative constructions

In *-(VC)i-ngkene* constructions, any of the three objects may be *di*-marked, as *ompu-no* 'his grandmother' is in (36). First applied objects may alternatively be *te* marked when applied to base transitive forms as *roukau* 'vegetables' is in (37).

The remaining three stacking constructions all include *-ako* as the second applicative morpheme. The *-ako* applied object may be interpreted as a goal when combined with either *-ngkene* or *-(VC)i*. *-ako* applied objects may be interpreted as instruments only when combined with *-(VC)i*. The COM+GOAL construction is more similar to LOC+INSTR than the LOC+GOAL with respect to object properties.

Examples (38) and (39) show *-(VC)i-ako* applicatives in which the second applied objects, *ina-no* 'his mother' and *ina-su* 'my mother,' are interpreted as goals. In these constructions the goal object, like the comitative in the *-(VC)i-ngkene* constructions, can be topical, relativized, or questioned.

(38) No-wil(a)-**isi**-ako te ina-no te **ompu-no** na
3R-go-LOC-APPL DET mother-3POSS DET grandparent-3POSS DET
kene-su
friend-1sPOSS
'My friend visited **her grandmother** as a favour to her mother' (253)

(39) Ku-tau-**pi**-ako te ina-su te **marica** di roukau
1s-put-LOC-APPL DET mother-1sPOSS DET pepper OBL vegetables
i-helo?a-su
OP-cook-1sPOSS
'I put pepper **in the vegetables** that I was cooking for my mother' (254)

Donohue (1999:266) asserts that first applied objects on intransitive roots must

be *te*-marked, but that first applied objects on transitive bases may be either *di* or *te* marked. Further, Donohue (1999:266) asserts that base objects must be *di*-marked. In (39) the base object of *tau* 'put' is marked with *di* as predicted, *di roukau* 'the vegetables,' and the first applied object is marked with *te*, *te marica* 'the pepper,' again as predicted.

The translation for this sentence 'I put pepper in the vegetables that I was cooking for my mother,' suggests 'pepper' as the base object of *tau* 'put,' and 'vegetables' as the locative applied object. The same issue is apparent in the LOC+INST (41). It is not entirely what makes this interpretation of the sentence grammatical—if *te marica* is the first applied object as its determiner suggests and *di roukau* the base object, one would expect the translation 'I put the vegetables in the pepper.' This apparent inconsistency is deserving of further investigation in future research.

Examples (40) and (41) show *-(VC)i-ako* applicatives in which the second applied objects, *honda-su* 'my motorbike' and *sidu* 'spoon,' are interpreted as instruments. In these constructions the instrument object can be a question word, and, when applied to a base transitive verb, can be the gap in an object relative clause. The instrument applied object cannot be topicalized, or be a gap in an object relative clause if the base verb is intransitive.

(40) Ku-wil(a)-**isi**-ako te **kene-su** te honda-su
1s-go-LOC-APPL DET friend-1sPOSS DET motorbike-1sPOSS
'I visited **my friend** by means of my motorbike' (256)

(41) Ku-tau-**pi**-ako te sidu te **marica** (di/*te) roukau
1s-put-LOC-APPL DET spoon DET pepper OBL/*DET vegetables
i-helo?a-su
OP-cook-1sPOSS
'I put pepper **in the vegetables** that I was cooking with a spoon' (257)

In LOC+INST constructions on intransitive roots, the first applied object must be *te*-marked. When these are applied to a transitive root, both the base object and the

first applied object are *di*-marked.

Donohue (1999:251) asserts that the *-ngkene-ako* construction "is only found with transitive base verbs." However, he also provides an example of both these morphemes on the intransitive *wila*. I have also used this as example (31) in the same context as Donohue—illustrating the ordering of applicative morphemes. Because this thesis is unable to explore stacked applicatives in depth, this discrepancy has not been crucial to my analysis. However, it does deserve further study to confirm the grammaticality of examples like (42).

(42) No-wila-**ngkene**-ako te ina-no te **Wa Ki?i**
3R-go-COM-APPL DET mother-3POSS DET Wa Ki?i
'She went with Wa Kii for her mother'(248)

(43) No-homoru-**ngkene**-ako te iaku te **kene-no** te wurai na
3R-weave-COM-APPL DET 1s DET friend-3POSS DET sarong TOP
ompu-su
grandparent-1sPOSS
'My grandmother wove a sarong for me with her friend' (251)

In *ngkene-ako* stacked applicatives on transitive roots[4], no objects may be question words, or gaps in relative clauses. However, the **first applied object** may be a topic and marked with *na*. This is interesting, because in all other cases of applicative stacking the second applied object has more syntactic features than the first.

Table 2.4 summarizes all the asymmetries discussed above.

Appl heads	Appl Roles	OTop		ORC		WH	
		Intrans	Trans	Intrans	Trans	Intrans	Trans
-(VC)i-ngkene	Loc+Com	✓	✓	✓	✓	✓	✓
-(VC)i-ako	Loc+Goal	✓	✓	✓	✓	✓	✓
-(VC)i-ako	Loc+Instr	*	*	*	✓	✓	✓
-ngkene-ako	Com+Goal		(1st)		*		*

Table 2.4: Properties of the second applied object in double applicative constructions based on intransitive and transitive root verbs.

[4]Data on intransitve roots is unavailable

2.4 Syntactic Structures (Descriptively)

This section describes each of the tests for object symmetry referred to in earlier sections of this thesis.

2.4.1 Object Agreement

Where syntax permits either the suffixed form of the verb or the unsuffixed one, discourse features determine whether the suffixed or unsuffixed form of the verb will appear. In general, object agreement seems to occur where the object is topical.[5] For these discourse-related preferences to come into play, however, the syntactic environment must meet certain conditions.

Object agreement may only appear in clauses with a valence of two or more (never on intransitives or passives), and is necessary for some ambitransitive verbs to appear in transitive constructions. Note that in these cases, the subject of the intransitive version of the ambitransitive is the object of the transitive version, showing an unaccusative alternation. For example, in the transitive sentence (45) the argument indexed as an object is the same as the subject of the analogous intransitive form (45) *na anasu* 'my children.'

(see (45) and other examples with the verb *like* 'wake up' (Donohue 1999:164).

(44) No-hesowui na ana-su
3R-wash TOP child-1sPOSS
'My children are washing' (159)

(45) No-hesowui-ʔe na ana-su ... te wowine-su
3R-wash-3OBJ TOP child-1sPOSS ... DET woman-1sPOSS
'My wife is washing my children'

Object marking is similarly obligatory for certain verbs such as *molinga* 'forget,'

[5]This analysis differs from Donohue's, and is largely based on object agreement's interaction with focus, as discussed in 2.5.

which is one of Tukang Besi's few verbs which require an overt, indexed object (pro-drop and unspecified object deletion are disallowed).

(46) ʔu-molinga-ʔe na ngaa-su?
2sR-forget-3OBJ TOP name-1sPOSS
'Have you forgotten my name?' (163)

In higher-valence predicates, ditransitives and applicative forms, only one object is available for this indexation. In underived ditransitives with goal and theme objects only the goal object may be indexed on the verb and preceded by *na* as the sentence's topic.[6]

(47) Ko-huʔu te ika (na ikoʔo) te iaku
2sI-give DET fish TOP 2s DET 1s
'You will give me some fish' (55)

(48) Ko-huʔu-aku te ika (na iaku) (te ikoʔo)
2sI-give-1sOBJ DET fish TOP 1s DET 2s
'You will give me some fish' (55)

(49) * Ko-huʔu-ke na ika (te ikoʔo) te iaku
2sI-give-3OBJ TOP fish DET 2s DET 1s
'You will give me some fish' (okay as 'You will give me to the fish') (55)

2.4.2 Passive

Tukang Besi has three passive prefixes, *to-*, *te-*, and *mo-*. Semantically these differ in that *te-* implies that the action of the sentence was non-volitional (an accident or a work of nature), *mo-* implies that the passive subject has undergone a significant change of state, and *to-* serves as a more general-purpose passive marker. Speakers prefer that all three of these morphemes co-occur with the perfective suffix, *-mo*, though the preference is not as strong for *mo-* as for *te-* and *to-*.

[6]Tukang Besi also has at one other kind of underived ditransitive which takes instrument and theme objects, like *simbi* 'slash (something) (with something).' The differences between these unmorphologically marked ditransitives and verbs with applicative morphology is certainly worth further inquiry (see A.3), but is beyond the scope of this thesis.

Passive morphemes occur on underlyingly transitive or ditransitive verbs, in clauses where the argument which would be an object of the unpassivized verb instead behaves as a subject and the argument which would be the subject of the base form of the verb is entirely absent from the sentence. Tukang Besi does not allow the actor to be expressed as an oblique as many other languages do.

The subject of a Tukang Besi passive is marked with *na* and available to be indexed on the verb by prefixal agreement typically associated with subjects. Alternatively, passive verbs may instead show default third person agreement in the place of agreement with the derived subject, with little or no semantic difference between the two options.

(50) **ʔu**-to-ʔita (na ikoʔo)
2sR-PASS-see TOP 2s

No-to-ʔita na ikoʔo
3R-PASS-see TOP 2s

'You were seen' ∼ 'You were visible' (275)

Notice that the subject still appears preceded by *na*, even when not indexed on the verb. The passive subject may also be the gap in a subject relative clause.

(51) Te mia t<um>o-ʔita iso no-lalo-mo
DET person <SI>PASS-see yon 3R-pass.by-PF
'The person who was seen is passing by' (277)

However, passive subjects do not exhibit other properties which subjects of underived intransitives do, such as co-referential deletion, or the ability to launch floating quantifiers.

(52) a. No-to-ʔita na bangka sabaʔane
2R-PASS-see TOP ship all
'All of the (sailing?) ships were seen' (276)

b. * Sabaʔane no-to-ʔita na bangka
all 2R-PASS-see TOP ship

c. * No-to-ʔita saba ʔane na bangka
2R-PASS-see all TOP ship

2.4.3 Object Relative Clauses

Tukang Besi has many ways of forming a relative clause, which can be differentiated by the role and position of the 'head' or 'gap' of the relative clause.[7] The gap in a relative clause construction is the argument which is core in both the main and subordinate clauses, but overtly present in only one of them. In (53) *the game* is the head of the relative clause in that it is both the thing that Ryan dislikes and the thing that Jessica plays. (54) is not a grammatical relative clause construction, as *the game* is overt in both clauses and there is no gap.

(53) Ryan dislikes the game$_i$ Jessica plays t$_i$

(54) * Ryan dislikes the game Jessica plays the game.

In Tukang Besi, the gap can be overt either in the matrix clause or in the subordinate clause. The latter construction is called an internal relative clause and is discussed further in 2.5. The former, the external relative clause, takes a different form depending on the gap's role in the subordinate clause. Of Tukang Besi's three external relative clause types—subject, object, and instrument—object relative clauses are most relevant to this thesis.

Object relative clauses (ORC) in Tukang Besi are formed with the prefix *i-* (glossed OP for 'object prefix' according to Donohue's notation), which occupies the same position as subject agreement and blocks subject agreement on the relative verb. Within the ORC subjects are instead expressed in the genitive case, either via suffixation or as a genitive phrase. (55) shows a simple ORC in which the object of the the relative is the subject of the matrix clause, and (56) one with a subject marked by genitive suffixation (subjects as genitive marked DPs are shown in (57) and (58)).

[7] As headedness is also a concept used in syntax to describe a different structural relationship, I will use the term gap for relative clauses for the remainder of this thesis.

(55) O-koruo na kengke [i-hembula di Wanse]
3R-many TOP cloves [OP-plant OBL Wanci]
'The cloves [that are grown on Wanci] are many' (386)

(56) Te ia te mia [i-ʔita-su]
DET 3S DET person [OP-see-1SPOSS]
'S/he is the person who I am looking at' (379)

In relative clauses with more than one argument in addition to the gap, any of those additional arguments may be expressed in the genitive, resulting in some ambiguity. In (57), which has only one genitive marked noun, the third person possessive marking can represent either the recipient object of *huʔu* 'give' or its subject. In (58) the two genitive marked arguments, *-su* 'for/by me' and *u ina-no* 'for/by his mother,' can each be interpreted either as subject or applied object.

(57) Te baju [i-huʔu-no] o-saori-leama
DET shirt [OP-give-3POSS] 3R-very-good
'The shirt given to him is very beautiful' OR
'The shirt that he gave is very beautiful' (379)

(58) Te poʔo [i-balu-ako-su u ina-no]
DET mango [OP-buy-APPL-1SPOSS GEN mother-3POSS]
'The mango that was bought for me by his mother...' OR
'The mango that was bought for his mother by me...' (379)

2.4.4 Content Questions

Content questions in Tukang Besi are formed using an in situ wh-word (*emai* 'who' in the examples included here). Such content questions words are incompatible with *na* marking. Thus, subjects of transitive verbs only occur as in situ wh-words when object agreement is present, as in (59), and objects only when object agreement is absent, shown in (60).

(59) a. No-nabu-ʔe (na pandanga-su) te emai i aba?
3R-drop-3OBJ TOP spear-1sPOSS DET who OBL previous
'Who dropped my spear just then?'

b. * No-nabu te pandanga-su na emai i aba?
3R-drop DET spear-1sPOSS TOP who OBL previous
'Who dropped my spear just then?' (129)

(60) a. U-ʔita te emai?
2sR-see DET who
'Who did you see?'

b. * U-ʔita-ʔe na emai?
2sR-see-3OBJ TOP who
'Who did you see?'(128)

With intransitive verbs, where only one argument is present to be in topic position, wh-words may only be used in clefted constructions as in (61), which I will examine more in 2.5.

(61) a. * No-mai na emai i aba?
3R-come TOP who OBL previous
'Who arrived just then?'

b. Te emai na r<um>ato i aba?
DET who TOP SI.arrive OBL previous
'Who (is it who) arrived just then?' (128)

2.5 On clefts and topics

The alternation exhibited by content questions between in situ and clefted constructions occurs in a few other situations in Tukang Besi as well. The internal relative clauses mentioned in 2.4.3 can be interpreted as an in situ version of the external relative clause, the difference between the two constructions being whether the gap of the relative clause moves out of the clause or remains internal to the lower clause. (62) and (63) show examples of internal relative clauses, and (64) repeats one of the

examples of an external relative given above.

(62) No-wila-mo [ku-ʔita-ʔe na mia]
3R-go-PF [1s-see-3OBJ TOP person]
'The person I saw has left' (385)

(63) Ku-ʔita-ʔe [no-wila na mia]
1s-see-3OBJ [3R-go TOP person]
'I saw the person who left' (385)

(64) Te ia te mia [i-ʔita-su]
DET 3s DET person [OP-see-1sPOSS]
'S/he is the person who I am looking at' (379)

Additionally, I've glossed *na* throughout this thesis as TOPIC despite Donohue's description of a second, discontinuous topic construction. *na*'s topicality is evident partially due to its incompatibility with focus wh-questions and partially due to the similarity between *na* marked things in Tukang Besi and topics in other Austronesian languages.

Rather than marking *na* as topic, as I have done here, previous scholarship calls *na* and *te* case markers. This seems accurate in that they do not co-occur with other such markers, such as *di* OBLIQUE or *nu* GENITIVE, but insufficient, as they defy characterization analogous to case positions in other languages.

In any case, in addition to topical *na* phrases, Tukang Besi also has a clefted topic construction, in which the topic occurs with *te* marking and can correspond to either a *te* or a *na* marked phrase in the main clause, and a second, *na* marked, topical phrase may also be present in the clause, as in (66).

(65) Te kene-no, no-ʔita-ʔe te ana
DET friend-3POSS 3R-see-3OBJ DET child
'As for the friend, the child saw her/him' (61)

(66) Te ana, no-ʔita-ʔe na kene-no
DET child 3R-see-3OBJ TOP friend-3POSS
'As for the children, they saw their friend' (61)

If the analysis proposed in the following chapters is correct, these two topic constructions can be thought of as analogous to the two wh-constructions, in situ and clefted. In this case, the alternation is due not to a conflict between focus and topic positions as in wh-questions, but simply an alternative method of representing the same or similar semantics, as with internal v. external relative clauses.

Chapter 3

Applicative Syntax

Pylkkänen's (2008) high applicative position as described in Chapter 1 predicts many of the base/applied object asymmetries observed in Tukang Besi, especially for *-ako* applied objects. However, Pylkkänen's theory is insufficient to explain *-ngkene*'s behavior with respect to passivization or *-(VC)i* base objects' behavior in relative clauses or wh-questions. Additionally, Pylkkänen's data does not address stacked applicatives, which Tukang Besi has.

However, given the functional applicative heads of Pylkkänen's analysis and the multiple positions in which these heads merge, it seems likely that stacked applicatives are simply constructions in which both possible positions for merge of an applicative head are filled simultaneously. In addition, Baker's Mirror Principle (Baker 1985) suggests that the positions of these heads will correspond to the ordering of their morphological realizations. The resulting prediction is a structure in which *-ako*, which always occurs last in stacked constructions, merges later and thus higher in the tree than *-ngkene* which appears closer to the verb root morphologically, and that *-ngkene* will in turn be higher than *-(VC)i*. This is borne out by the data in certain ways which this section will explore.

While the exact tests used in Pylkkänen (2008) to distinguish high and low applica-

tives are not represented in the available data, other tests can be used to determine the structural positions of these morphemes. The available data on Tukang Besi instead describes applicative behavior with respect to the syntactic constructions described in Chapter 2: object agreement (OTop), passives (PassS), in situ content questions (WH), and object relative clauses (ORC).[1] Tukang Besi's multi-purpose applicative, *-ako*, behaves exactly as Pylkkänen's theory predicts a high applicative would in each of these situations. That is, the applied object shows the same properties as the object of an underived transitive, and the base object lacks those properties, as illustrated in table 3.1:

	-ako object properties		
	Applied to *wila* 'go'	Applied to transitive base	Base Object
OTop	✓	✓	*
ORC	✓	✓	*
PassS	✓	✓	*
WH	✓	✓	*

Table 3.1: Properties of objects in constructions with goal and instrument applied objects

The following subsections discuss the syntax of each of these constructions and how the asymmetries exhibited in applicative constructions can be derived.

3.1 Topicality and *-ako*

Subject Topics

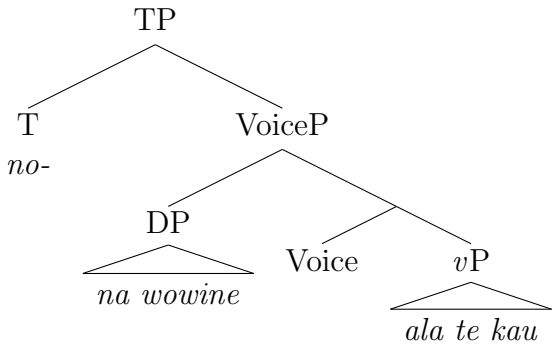
Before describing object topic constructions, the more morphologically marked form of a simple sentence, it's necessary to understand the subject topic form. In a transitive subject topic sentence, a voice head merges with verb and object (I will return to the exact relationship between the latter two in 3.2). The Voice head introduces the

[1] Donohue also includes tests concerning reciprocals and unspecified object deletion, which are least clear in terms of their syntactic requirements and will be set aside for the purposes of this thesis. Data on applicative object behavior in these constructions can be found in Appendix A.

subject in SpecVoiceP. In (67) the subject *na wowine* 'the woman' merges with *ala te kau* 'fetch the wood.'[2] In these constructions the subject is preceded by *na*, which I call a topic marker per the discussion in 2.5.

(67) No-ala te kau na wowine
3R-fetch DET wood TOP woman
'The woman fetched the wood' (231)

(68)

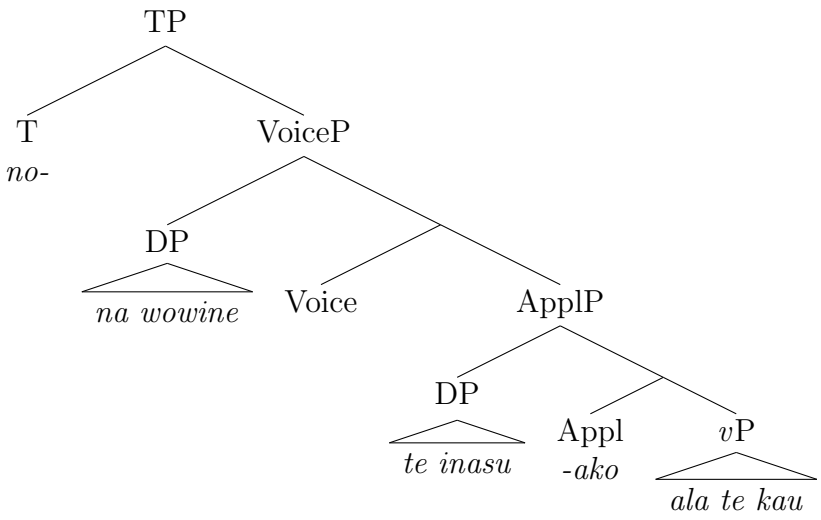


The applicative STop construction is very similar to the unapplicativized STop sentence, the only difference being an additional functional head, Appl, which merges after *v* and introduces the applied object in its specifier. In (70) *-ako* merges as an applicative head after *ala te kau* 'fetch the wood' and introduces the applied object *te inasu* 'my mother' in its specifier, before Voice merges, introducing the subject *na wowine* 'the woman.'

(69) No-ala-ako te ina-su te kau na wowine
3R-fetch-APPL DET mother-1SPOSS DET wood TOP
'The woman fetched the wood as a favour for my mother' (231)

[2]The example given here and a few of the following ones are slightly altered versions of those given by Donohue (1999). I have added an overt subject *na wowine* where Donohue's examples had pro-drop. (The position of *na wowine* is analogous to the position of subjects in sentences with other verb roots. The modification is solely to maintain consistency of lexical roots for simplicity.)

(70)



Unreflected in (68) and (70) is the movement of the verb itself. The verb appears to raise at least as far as the voice head via head movement (in (70) that includes moving through the *-ako* applicative head) and likely raises further after that. I will mostly abstract away from the actual position of the verb and its traces, as this thesis has been unable to account for all of the word order possibilities in Tukang Besi.

Suffice it to say that the verb root moves leftward through a series of head to head movements, and that the suffixes associated with the heads through which the verb moves appear on the verb in the order in which they merge. Thus, where the Voice head is overtly realized, it will appear on the far right of the verb as the last suffixed head with which the verb root merges, and the applicative morphemes will appear between the verb and Voice head, in order corresponding to their hierarchical positions. Verb movement is largely unrepresented in the trees below, as its head to head movement does not interact with the more salient specifier to specifier movements of objects and thus does not affect which constructions various objects can participate in.

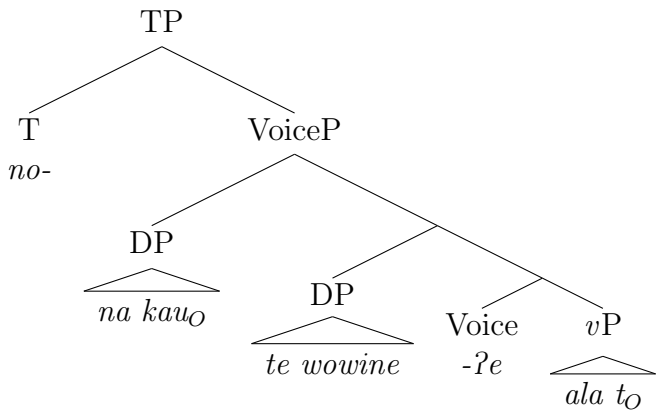
Object Topics

In an object topic construction, the object, rather than the subject, receives *na-* marking. This suggests that the object has moved at least as high as the subject to

be visible to the topic marking head. The present analysis assumes the relevant head to be Voice, which is the lowest possible location for such marking.[3] The addition of a second specifier to VoiceP is reflected by the object agreement suffix that appears on the verb in these constructions.[4]

(71) No-ala-ʔe na kau te wowine
3R-fetch-3OBJ TOP wood DET woman
'The woman fetched the wood'

(72)



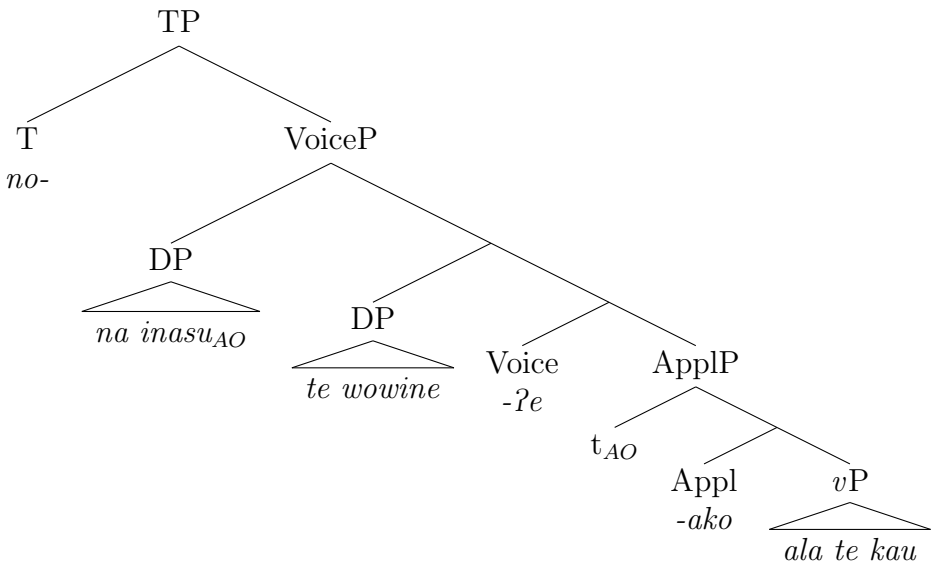
In (72) *kau* 'wood,' the object introduced by *ala* 'fetch,' raises from the verb phrase to the second specifier of VoiceP and is *na*-marked. The process is similar when the topical object is introduced by an applicative head rather than V. It is simply an applied object that raises rather than the lower, base object. In (74), the raised object is *inasu* 'my mother.'

(73) No-ala-ako-ʔe na ina-su te kau te wowine
3R-fetch-APPL-3OBJ TOP mother-1SPOSS DET wood DET woman
'The woman fetched the wood as a favour for my mother' (232)

[3]Attempts to derive the verb initial word order of a Tukang Besi sentence suggest that topicality may actually be associated with a different position higher in the tree, and only appear associated with Voice as VoiceP represents a phase boundary and its specifier(s) an escape hatch. These potential higher positions will be irrelevant to discussion of applicatives.

[4]This analysis requires Voice to project multiple specifiers, which is disallowed by some recent syntactic theories (Kayne 1994). Object topic constructions also happen to be the construction in which a direct correlation between syntax and word order breaks down, as ordering of arguments in these sentences is flexible. The ordering possibilities in object topic constructions, especially in applicative sentences with object topics, is decidedly deserving of future inquiry.

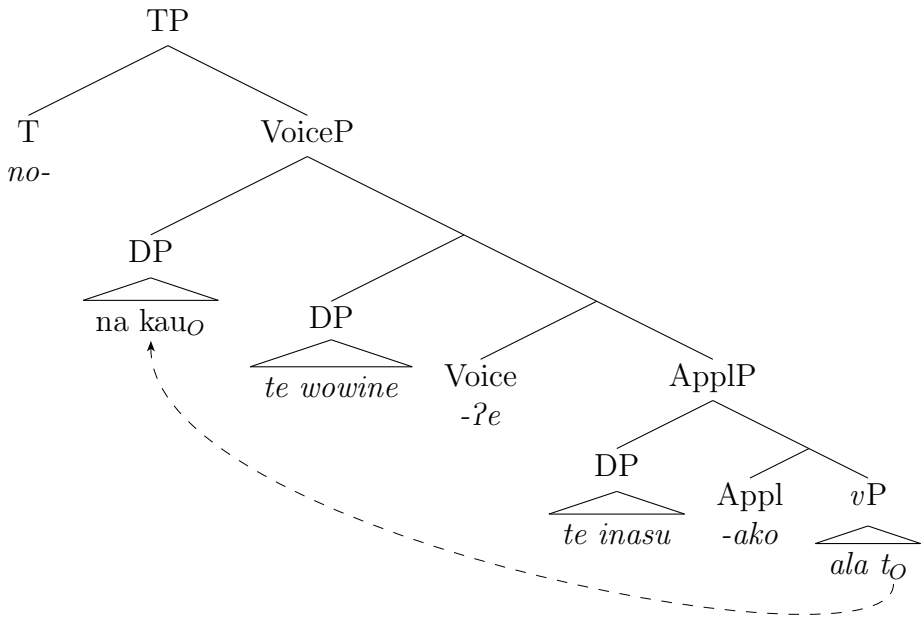
(74)



The presence of the applicative head prevents the base object from raising to VoiceP as it may in the non-applicative example (72). Example (75) and the corresponding tree (76) show the ungrammaticality of such a construction.

(75) * No-ala-ako-ʔe te ina-su na kau te wowine
3R-fetch-APPL-3OBJ DET mother-1SPOSS TOP wood DET woman
'The woman fetched the wood as a favour for my mother' (232)

(76) *



Such ungrammaticality can be explained in terms of the object topic feature which causes the applied object in (74) and the base object in (72) to raise, if we assume that the relevant feature is introduced to the structure with the Voice head. In object topic constructions, the topic feature cannot be checked by the subject introduced in SpecVoiceP, so the head probes downward in the structure to the first DP it finds, and raises that object to check its topic feature. The base object can never raise over an applied object, because the applied object will always be higher up in the structure, and thus raise to the topic position before the voice head 'sees' that object. In this way, the object topic feature is fundamentally different from the wh- and ORC features which will be addressed in 3.3.

3.2 Passives and *-ngkene*

Passive constructions also arise from a difference in the voice head. Rather than carrying an object topic feature and surfacing as suffixed agreement, the passive Voice head is realized as a passive prefix.[5] Passive Voice does not introduce a subject DP, and instead the nearest DP introduced lower in the structure raises to fill this role, very similar to the movement of objects in object topic sentences. While the features of the raised argument do not surface as object agreement suffixes, and the T head may[6] show agreement with the raised DP as it would is with a subject based generated in SpecVoiceP.[7]

To understand passives in *-ngkene* applicatives constructions and on non-applicative verbs, it is necessary to examine the role of v. In passive *-ako* applicative structures, it is possible to abstract away from the exact relationship between v and the base

[5]This could possibly imply that the verb does not raise to Voice via head movement in these constructions, as all other morphemes associated with Voice or heads lower than Voice are realized as suffixes, which would somehow be related to the optionality of subject agreement is passives.

[6]This morpheme may optionally be default third person agreement as exhibited by (50) in 2.4.2. This is super interesting but unfortunately not explained in this thesis.

[7]Passive verbs also often carry a suffix marking perfective. I make no claims about the syntax of this affix.

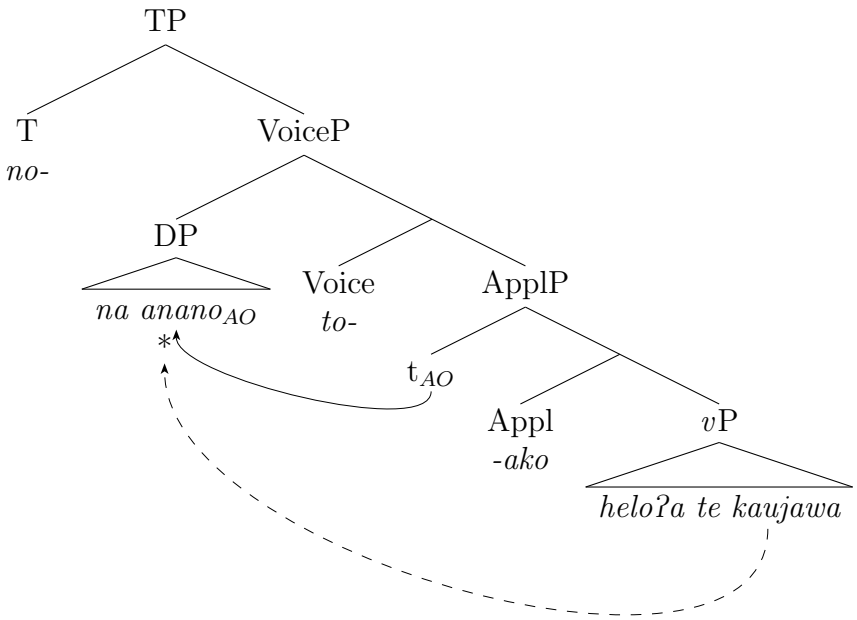
object, thus I will start with those, and return to base transitives after explaining the data on *-ngkene* in passive constructions.

In passive constructions with an *-ako* applicative, the passive Voice head probes downward for a DP to raise to SpecVoiceP as a subject and the closest available DP is the applied object. The applied object then raises to be the subject of the passive; base objects never raise to be passive subjects, because the Voice head finds the applied object before looking that far. Motivation for this is similar to that for the object asymmetry concerning object topics—the applied object is higher in the structure and thus blocks the base object from raising to SpecVoiceP.

The tree in (78) shows the derivation of a passive sentence with an *-ako* applicative and notes that while the applied object *anano* 'her children' can raise to be the passive subject as in (77), the base object *kaujawa* 'cassava' cannot.

(77) No-to-helo?a-ako-mo na ana-no te kaujawa
3R-PASS-cook-APPL-PF TOP child-3POSS DET cassava
'Her children were cooked cassava for' (233)

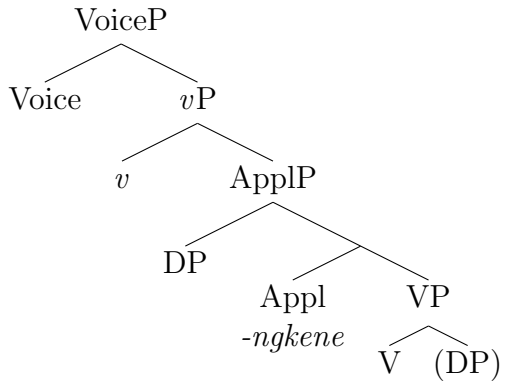
(78)



-ngkene applicatives differ from *-ako* and *-(VC)i* applicatives in that they show more restricted behavior regarding passives than the other constructions. *-ngkene*

applicative structures can passivize when the applied object is the only argument in the clause, but not when another object is introduced by the verb root. Thus, when *-ngkene* attaches to a base intransitive predicate, such as *wila* 'go,' it behaves identically to the other applicatives: the applied object raises to be the subject of the passive (80). However, when *-ngkene* attaches with a base transitive predicate to form a ditransitive, passive constructions are disallowed (82). This can be explained by a difference in the nature of v for transitive verbs from v for intransitive ones, but only if we assume *-ngkene* to merge below v with VP as a complement, unlike *-ako* which merges between v and Voice. The proposed structure for a *-ngkene* applicative is that shown in (79).

(79)



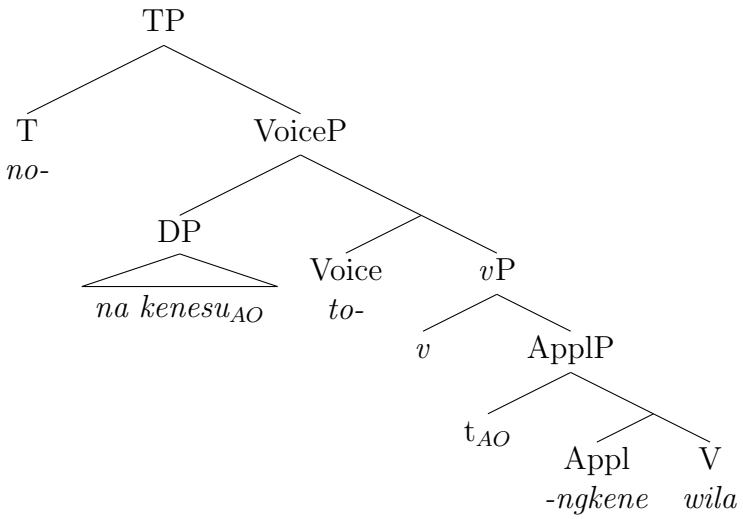
Thus far I have abstracted away from the structure of the verbal elements below Voice and the *-ako* applicative head. With the evidence for the nature of v presented by *-ngkene* in mind, we can now examine v more closely. It seems that the essential difference between transitive and intransitive predicates is whether v assigns case. Intransitive v is caseless, while transitive v assigns accusative case. If this is the case in Tukang Besi, the prohibition against passives when *-ngkene* merges below a transitive v can be explained as an overabundance of case.

To start with a simple version of the passive *-ngkene* sentence: when *-ngkene* is in a structure with an intransitive verb and a passive voice head, the single argument introduced by *-ngkene* raises to SpecVoiceP and acts as a subject. v does not assign

case in the intransitive constructions, so does not influence the grammaticality of the the structure. The tree in (81) shows such a construction, in which the *ngkene* applied object *kenesu* 'my friend' raises to be the subject of the passive form of *wila* 'go,' resulting in the sentence given in (80).

(80) No-to-wila-ngkene-mo na kene-su
3R-PASS-go-COM-PF TOP friend-1SPOSS
'My friend was gone with' (228)

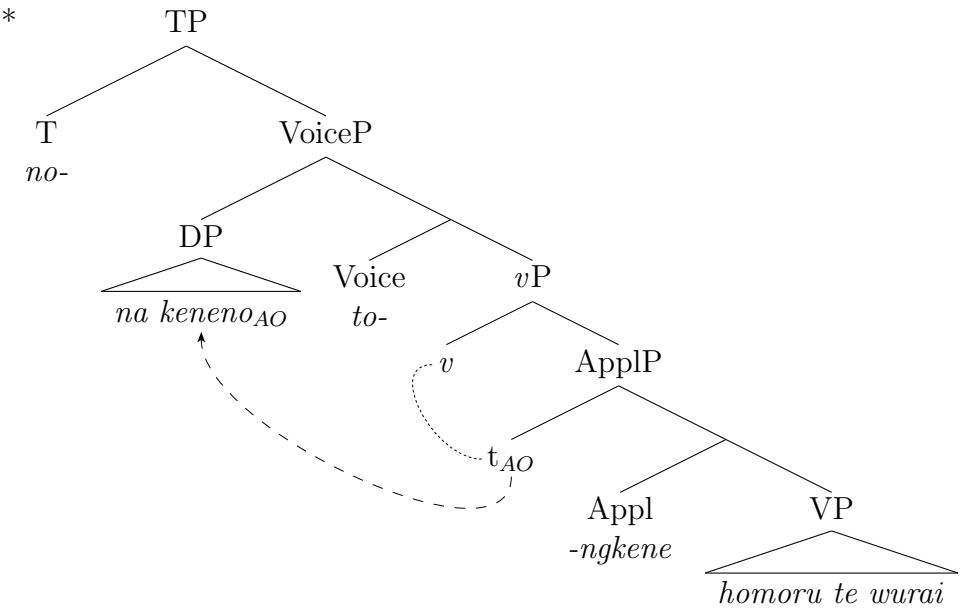
(81)



When *-ngkene* is in a structure with a transitive verb, however, *v* does assign case, and because the *-ngkene* applied object is significantly closer to *v* in the the structure, that case is assigned to the applied object rather than the base object. (This is not true for *-VCi* applicatives, which I will return to in the following section.) In passive constructions, this causes the derivation to fail, as the applied object cannot then raise further to check case in the subject position, SpecVoiceP. The tree in (83) shows the ungrammatical derivation in which the applied object *keneno* 'her friend' checks *v*'s case and raises to SpecVoiceP.

(82) * No-to-homoru-ngkene-mo na kene-no te wurai
3R-PASS-weave-COM-PF TOP friend-3POSS DET sarong
'Her friend was woven a sarong with. (229)'

(83) *

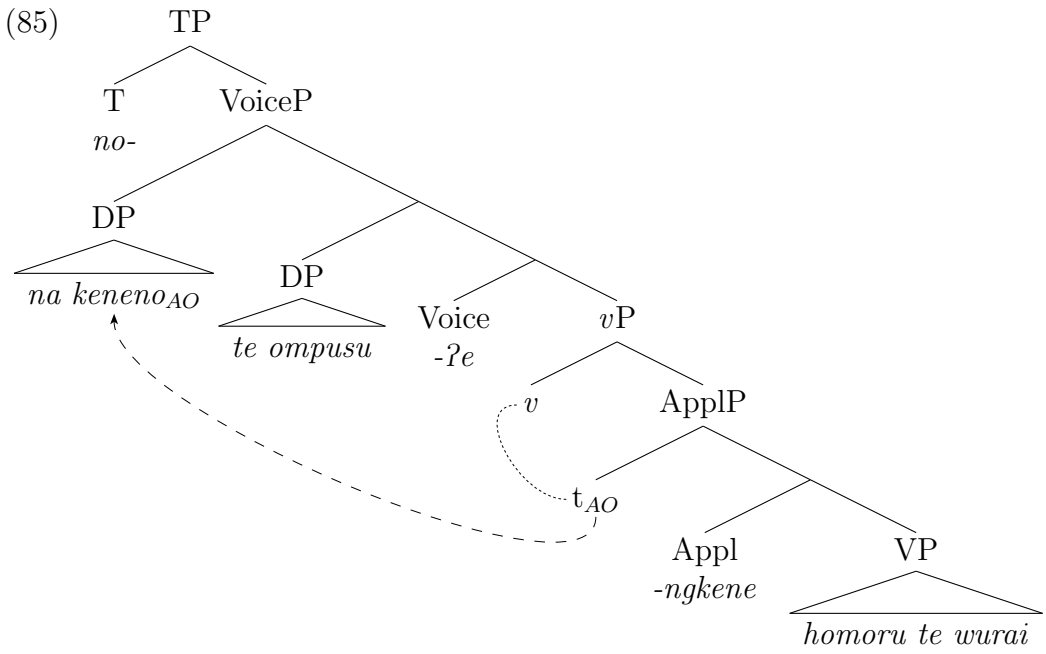


Note that *-ngkene* may apply to base transitives in non-passive constructions. Thus the ungrammaticality of (83) cannot determined by the base object *wurai* 'sarong' not receiving sufficient case, otherwise constructions such as the object topic *-ngkene* sentence shown in (85)—which shows the applied object *keneno* raising to be a topic—would be ungrammatical for the same reasons which prohibit the passive. Crucially, the passive sentence also requires the raised *-ngkene* applied object to carry case of the passive subject. OTop constructions do not require the raised DP to support any additional case, and thus the *-ngkene* applied object can undergo similar raising as in (83) without the derivation crashing.

(84) No-homoru-ngkene-ʔe na kene-no te wurai te
3R-weave-COM-3OBJ TOP friend-3POSS DET sarong DET
ompu-su
grandparent-1SPOSS

'My grandmother wove a sarong with her friend' (229)

(85)



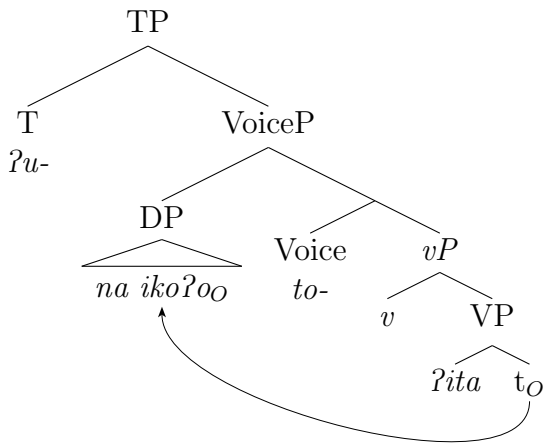
The suggestion that the base object need not be assigned case by a v head is decidedly non-intuitive, but seems consistent with the behavior of *te*-marked nouns in other constructions as well, including the *di/te* alternations in some stacked applicative constructions as discussed in 2.3.5. For more data on the ways in which *te* phrases do not always seem to be full arguments see especially Donohue (1998:90).

Returning to the non-applicative passive, the tree in (87) represents the structure of a simple passive sentence, in which *ikoʔo* '2s' raises to be the subject of the passive *toʔita* 'was seen.' The only way to account for this is to assume that v in passive structures without an applicative does not assign the same case as transitive v in passivized applicatives. This represents a slight inconsistency in my analysis, but it should be possible to account for this behavior fairly easily in future research.

(86) ʔu-to-ʔita na ikoʔo
2sR-PASS-see TOP 2s

'You were seen' (275)

(87)



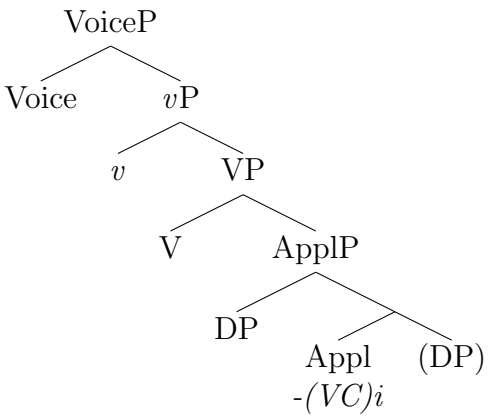
To establish the position of the *-(VC)i* applicative morpheme, I will turn first to object relative clauses and wh-questions, then return to the question of how *-(VC)i* passives differ from *-ngkene* and *-ako* passives.

3.3 *-(VC)i*

The *-ako* and *-ngkene* applicatives discussed thus far have been entirely asymmetrical: for all object related tests, the applied object of *-ngkene* or *-ako* is sufficiently higher in the structure to block any base objects from behaving as objects in non-applicative structures do. This is not the case for *-(VC)i* applicatives in wh-questions and object relative clauses, suggesting that *-(VC)i* applied objects are nearer to base objects syntactically than *-ako* or *-ngkene* applied objects are.

Thus far two separate positions into which *-ako* and *-ngkene* merge have been established: one analogous to the high applicative proposed by Pylkkänen (2008) and the other in a similar, but slightly lower position. To account for the behavior of *-(VC)i*, I will propose a third position that is only slightly different from Pylkkänen's (2008) low applicative. The proposed structure for *-(VC)i* as a low applicative is as shown in (88).

(88)



While the symmetrical behavior of *-(VC)i* applied and base objects with respect to object relative clauses (ORC) and in situ wh-questions (WH) suggests interpreting *-(VC)i* as a low applicative, *-(VC)i* applicatives are still asymmetrical with respect to the tests shown in the trees of prior sections (PassS and OTop). In this way *-(VC)i* applicatives are similar to *-ako* and *-ngkene* constructions. The question then becomes what difference between PassS and OTop on the one hand and ORC and WH on the other causes different behavior with respect to applied object symmetry.

The answer posited here is that the grammaticality of WH and ORC constructions is based on which objects are able to raise from their base positions to the functional heads associated with WH and ORC, not on which object is highest in the structure and visible to a functional head (Voice) probing downward as in the passive and topic constructions. The targeted DPs which are focused in wh-questions and which are the gaps of relative clauses still raise to positions higher in the tree than their base merge positions, but which object moves is determined by a feature inherent to that object, rather than locality.

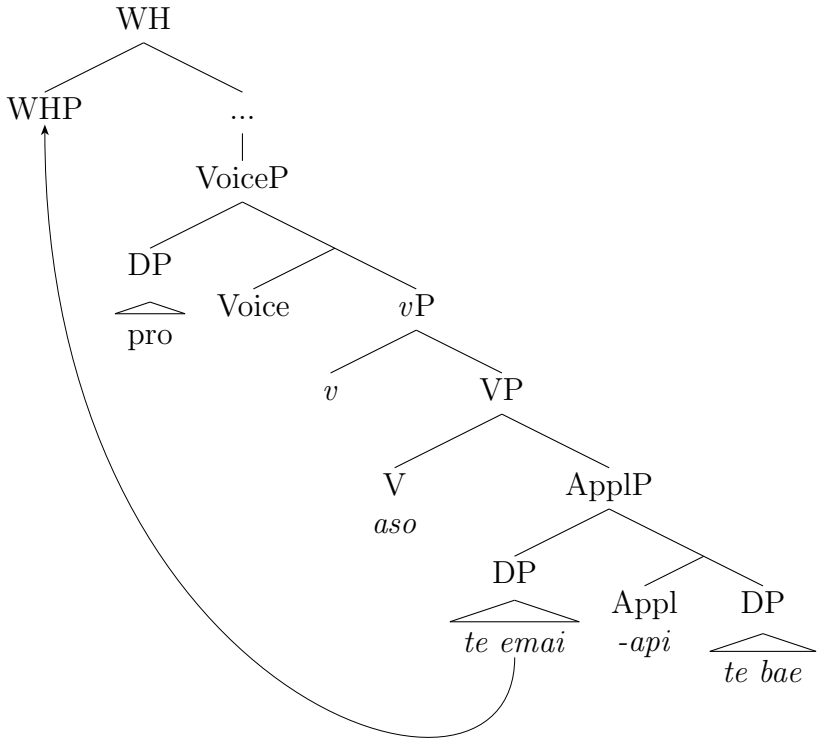
The exact nature of those functional heads and the details of in situ wh-formation, whether movement occurs after spellout or there is some partial feature movement or elsewise, is outside the scope of this thesis. Thus, the trees below label these nodes only with their relevant features, such as WH and WHP. Additionally, I have included arrows that suggest movement but not its exact nature or timing.

(90) shows the grammaticality of a wh-applied object, *emai* '(to) who.' (92) shows the grammaticality of a wh-base object *paira* 'what' in a *-(VC)i* applicative.

(89) No-aso-api te emai te bae?
3R-sell-LOC DET what DET rice

'Who did he sell rice to?' (246).

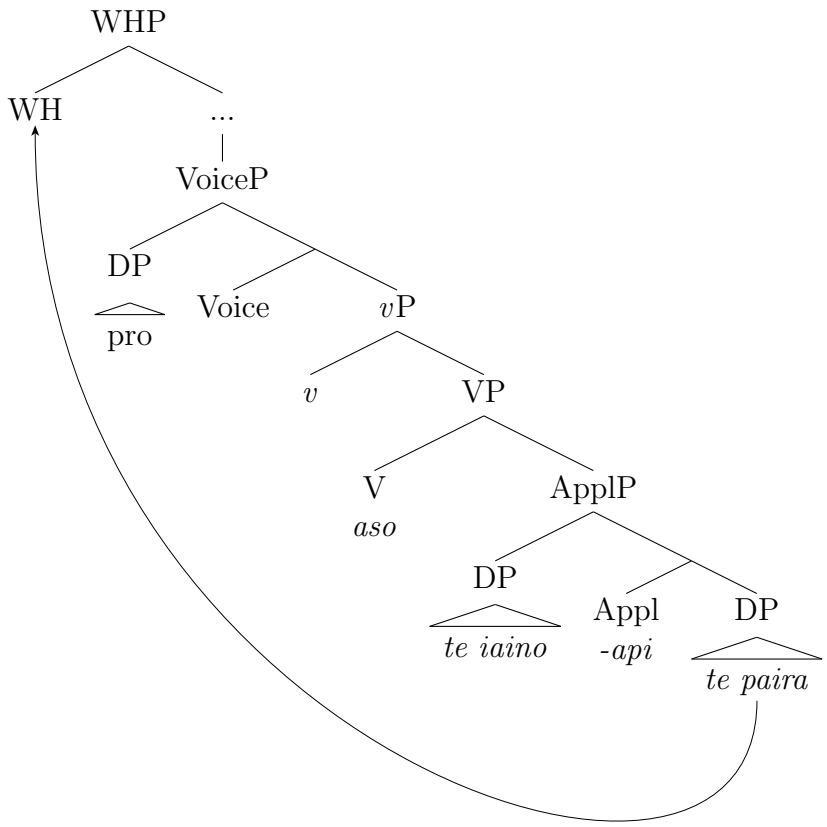
(90)



(91) No-aso-api te paira te iai-no
3R-sell-LOC DET what DET younger.sibling-3POSS

'What did he sell to his younger brother?' (247)

(92)



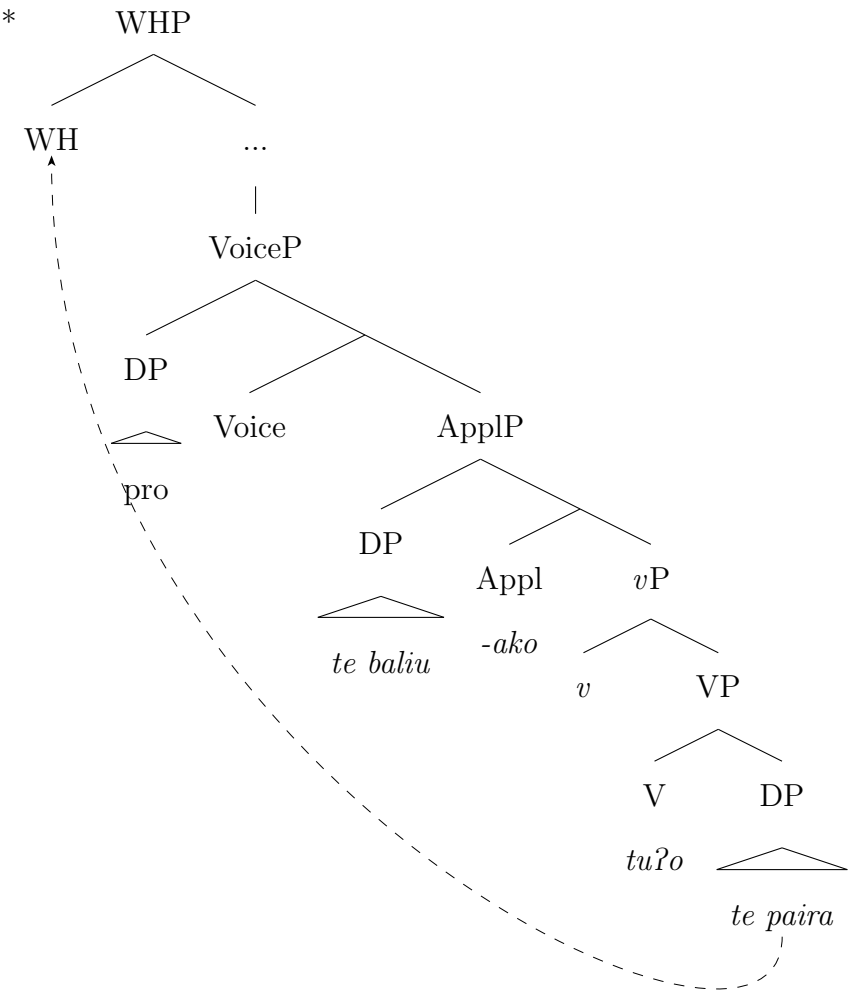
The asymmetry of *-ngkene* and *-ako* is not lost in this theory as the base object cannot raise over the applied object when the base and applied objects are not in the specifier/complement relationship that *-(VC)i* objects occupy, regardless of any WH or ORC features *-ngkene* and *-ako* base objects might carry. (94) shows an ungrammatical *-ako* applicative construction with a wh-base object *paira* 'what.' The ungrammatical raising that the wh-element would have to undergo in such a construction is marked with a dashed arrow.

(93) * No-tu?o-ako te paira (te baliu)?
3R-chop-APPL DET what DET axe

'What did he chop with (the axe)?' (237)

(Good with the (bizarre) reading 'What did he chop the axe with?')

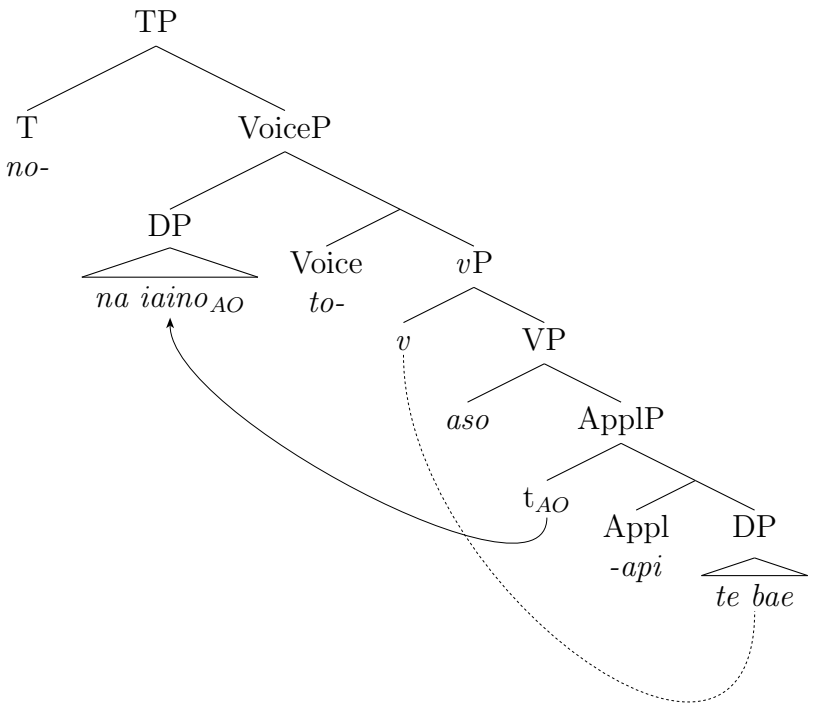
(94) *



In the passive construction, *-(VC)i* behaves similarly to *-ako*. The passive voice head probes downward in the absence of a subject and raises the DP closest to it to SpecVoiceP. Like *-ngkene*, *-(VC)i* merges below *v*; unlike *-ngkene* constructions however, in *-(VC)i* constructions, the base object in the complement of the applicative head is sufficiently local to enter a case relation with *v*. *-(VC)i* applied objects can thus raise to be passive subjects in clauses with both transitive and intransitive base verbs. In (95) the applied object *iaino* 'his younger sibling' raises to be subject of *toaso* 'sell,' while the base object *bae* 'rice' checks case with transitive *v*.

(95) No-to-aso-api-mo na iai-no te bae.
3R-PASS-sell-LOC-PF TOP younger.sibling-3POSS DET rice
'His brother was sold rice to. (246)

(96)

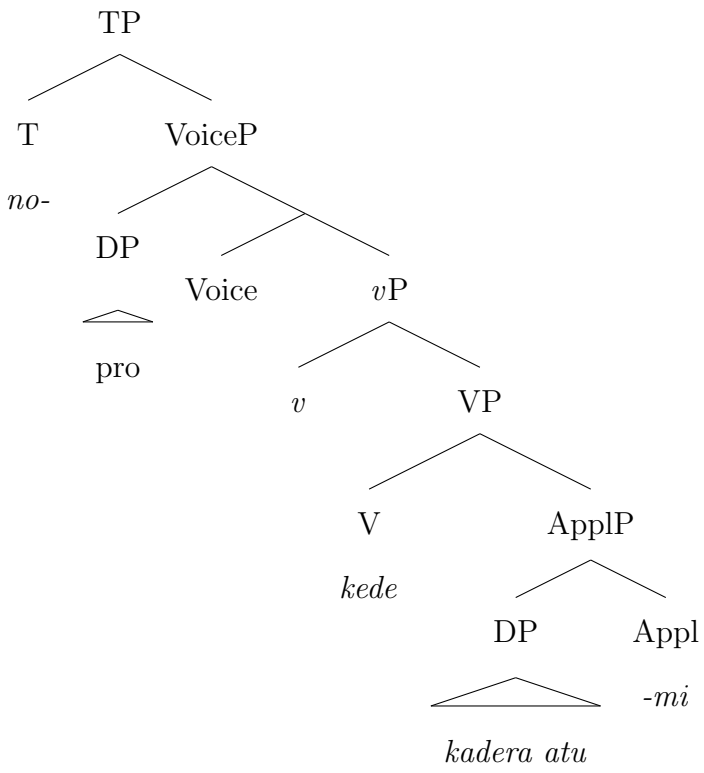


This low applicative is similar, but not identical to the one proposed by Pylkkänen (2008). As mentioned in chapter 1, one of the tests Pylkkänen (2008) uses to differentiate between high and low applicatives is the ability of the applicative to combine with an unergative intransitive verb root. Pylkkänen (2008) suggests that a low applicative such as *-(VC)i* cannot occur on an unergative root, but Donohue clearly shows that *-(VC)i* occurs on *wila* 'go' and *kede* 'sit' (1999:244) and that both of these roots are unergative (1998).

Following the analysis proposed here that *-(VC)i* is a low applicative, the tree for a construction in which *-(VC)i* combines with an unergative root is as in (98). (98) shows the unergative *kede* 'sit' merging with the applicative head *-(VC)i* which has nothing in its complement position.

(97) No-kede-mi te kadera atu.
3R-sit-LOC DET chair that
'She sat on that chair (244)'

(98)



The resulting structure is much more similar to a prepositional phrase than the other applicative constructions have been. This similarity, and the phonological similarity of *-(VC)i* applicatives to the oblique marker *di*, is certainly worthy of attention in future research. For the purposes of this thesis, the low applicative seems the best solution for explaining the symmetries of *-(VC)i*, despite its contradiction of Pylkkänen's diagnostic.

In this chapter, I have proposed three positions for merge of an applicative head corresponding to the three applicative morphemes: low *-(VC)i*, high *-ako*, and less high *-ngkene*. Chapter 4 summarizes these results and speculates on the further research necessary to fully understand them.

Chapter 4

Conclusions

I have now posited explanations for each of the asymmetries summarized in the introduction:

- Applied objects can be topics. Base objects cannot.

This is because object raising to a topic position in SpecVoiceP is motivated by a feature in the Voice head, which attracts the nearest DP lower than it in the structure. Base objects are lower than applied objects and thus never raise to be topics.

- Base objects cannot be the subjects of passives.
  - An *-ngkene* applied object may be the subject of a passive only if there are no other objects in the construction. (When *-ngkene* applies to an transitive base, no passive form is possible)
  - *-ako* and *-(VC)i* applied objects may become subjects in passive constructions

Base objects are never passive subjects for the same reasons as they are never topics. When a Voice head probes for an argument to fill the subject role, the applied argument is always higher than the base object and thus the applied argument is

the one which raises. *-ngkene* applied objects cannot raise to be passive subjects in constructions where *v* assigns case (i.e. transitive constructions), as this would require the applied object to check case twice. *-(VC)i* applied objects can raise to become passive subjects, despite being in a position similar to *-ngkene* below *v*, because the base object is sufficiently close to check *v*'s case, leaving the applied object free to raise to the subject position.

- Applied objects can head object relative clauses and be the focus of content questions.
  - Base objects in *-(VC)i* applicative structures can also head object relative clauses and be the focus of content questions.
  - Base objects in *-ako* and *-ngkene* applicative structures cannot.

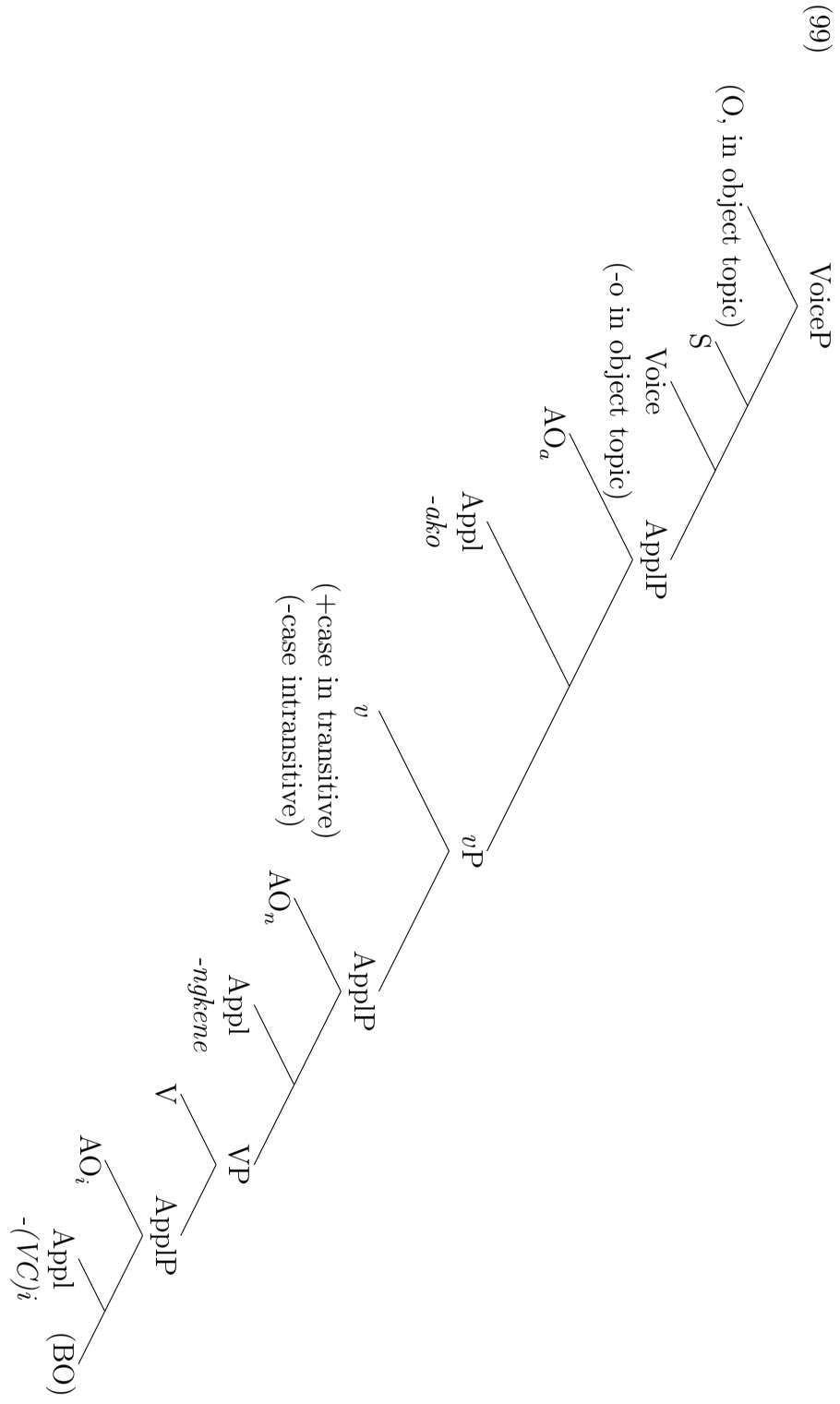
Base objects of *-ako* and *-ngkene* constructions are unable to raise over applied objects regardless of any features on those DPs requiring them to do so. This causes *-ako* and *-ngkene* ORC and WH constructions which focus base objects to fail. *-(VC)i* ORC and WH constructions which focus base objects are grammatical, because *-(VC)i* base objects—which are complements of the same phrases in which *-(VC)i* applied objects are specifiers—can raise over their specifiers.

The tree in (99) shows all of these applicatives in their various positions and includes some notes about relevant aspects of other parts of the tree.

https://v2.overleaf.com/project/555102933645b9494036833d While the asymmetries and oddities concerning determiners in applicative stacking constructions have not been covered by the analysis presented in this thesis, the structure in (99) corresponds to the structures suggested by the ordering of applicatives in stacking constructions. Hopefully, the behaviors of objects in multiple applicative constructions will corroborate the results of investigating each applicative individually.

Pylkkänen's (2008) theory of applicatives and her introduction on the concept of a functional applicative head allowed for the possibility of stacking applicatives in different positions, but did not investigate it. This thesis has begun an investigation into applicatives in a language which shows stacking, in the hopes that future research may continue and resolve it.

(99)


VoiceP
(O, in object topic)
S
Voice
(-o in object topic)
ApplP
AO$_a$
Appl
-*ako*
vP
(v
(+case in transitive)
(-case intransitive)
ApplP
AO$_n$
Appl
-*ngkene*
VP
V
ApplP
AO$_i$
Appl
-*(VC)i*
(BO)

Appendix A

Other Data

A.1 Other tests

A.1.1 Reciprocals (Recip)

The reciprocal prefix in Tukang Besi, *po-*, applies to multivalent forms, and reduces valence by one via the incorporation of an object into a reciprocal action with the subject. It usually though not necessarily precedes a reduplicated verb form (which shows "the extension of an action over time or the lack of reality about the action" (Donohue 1999:298)). The participants in the reciprocal construction can be indexed together via a subject prefix as in (101), or the subject prefix can agree only with the subject of the base form, in which case the object of the base form will appear in a conjunct phrase (102).

(100) U-ʔita-aku te ikoʔo
2sR-see-1sOBJ DET 2s
'You saw me' (273)

(101) To-po-ʔita-ʔita (na ikita) / ((na iaku) ke ikoʔo)
1pR-REC-RED-see TOP 1p / TOP 1s and 2s
'We saw each other' (273)

(102) ʔu-po-ʔita-ʔita ((na ikita) / (na iko?o)) *(ke iaku)
2sR-REC-RED-see TOP 1s / TOP 2s and 1s
'You and I saw each other' (273)

A.1.2 Unspecified Object Deletion (UOD)

In most instances, verbs that appear transitive with respect to morphosyntactic tests (like causitivization, which treats transitives and intransitives very differently) may occur without any overt marking of an object. In these cases, so called *default objects* are assumed to fill these positions, though they are not indicated anywhere in the clause.

(103) No-hoti ∅
3R-donate.charitably
'S/he gives (food and clothing)(to poor people).' (466)

(104) No-manga ∅
3R-eat
'S/he eats (cassava).' (466)

In applicative constructions, however, at least one object must be overt. When applicatives are added to intransitives, UOD may not occur. Which object, base or applied, is eligible for deletion when applicatives are added to transitive bases, varies by applicative type.

A.2 Other applicatives

The other applicative constructions introduced by *-ako* are much less consistent concerning Donohue's tests. Their properties are summarized in table A.1. Note, theme constructions only occur on transitive bases, and cause only on intransitive ones. Table A.2 shows the properties of all the applicative constructions.

***-ako* other**	Applied to Intrans		Applied to Trans		Base Object	
	Cause	Purpose	Theme	Purpose	Theme	Purpose
-OTop	✓	*	*	*	*	*
ORC	*	*	✓	*	*	*
PassS	*	*	✓	*	*	*
Recip	*	*	*	*	✓	✓
WH	✓	✓	✓	#	*	*
UOD	*	*	*	*	✓	✓

Table A.1: Properties of objects in theme, cause, and purpose applicative constructions

One would really like a good reason to think of (105) as having an applied theme. An unapplied version of it perhaps... thus far I have none.

Theme

(105) No-huʔu-ako te boku te ana
3R-give-APPL DET book DET child
'He gave the child a book' (237)

-ako also is used in some constructions which Donohue labels cause and purpose applicatives (Donohue 1999:226).

Cause

(106) No-mate-ako te buti
3R-die-APPL DET fall
'He died in a fall.'(239)

Purpose

(107) Ku-wila-ako te kawi-ʔa u kene-su
1s-go-APPL DET marry-NL GEN friend-1sPOSS
'I went for the wedding of my friend' (239)

(108) No-lea-ako te langke-ʔa-no te kaitela
3R-load-APPL DET sail-NL-3POSS DET corn
'They loaded the corn for the voyage' (240)

Appl	Role	OTop			ORC			PassS		
		Intrans	Appl	Base	*Intrans*	Appl	Base	*Intrans*	Appl	Base
-ako	Dative	✓	✓	*	✓	✓	*	✓	✓	*
-ako	Instrument	✓	✓	*	✓	✓	*	✓	✓	*
-ngkene	Agent	✓	✓	*	✓	✓	*	✓	*	*
-(VC)i	Locative	✓	✓	*	✓	✓	✓	✓	✓	*
-ako	Purpose	*	*	*	*	*	*	*	*	*
-ako	Cause	✓			*			*		
-ako	Theme		*	*		✓	*		✓	*
Appl	Role	Recip			UOD			Wh		
		Intrans	Appl	Base	*Intrans*	Appl	Base	*Intrans*	Appl	Base
-ako	Dative	✓	✓	*	*	*	✓	✓	✓	*
-ako	Instrument	*	*	✓	*	*	✓	✓	✓	*
-ngkene	Agent	✓	✓	*	*	*	✓	✓	✓	*
-(VC)i	Locative	*	✓[a]	*	*	✓	*	✓	✓	✓
-ako	Purpose	*	*	✓	*	*	✓	✓	#	*
-ako	Cause	*			*			✓		
-ako	Theme		*	✓		*	✓		✓	*

Table A.2: All applicatives and properties as presented by Donohue (1999)

[a] Allative only

A.3 Underived Ditransitives

Tukang Besi has at least two classes of underived ditransitive verb. These include verbs like *huʔu* 'give' as discussed in 2.2 as well as a second class of verbs which selects an instrument in addition to a theme/patient. This class can be further divided into verbs that allow the instrument to be indexed as an object (like *simbi* 'slash') and those that do not (like *tompa* 'throw').

- {top}	+/- {top}
tompa	*simbi* "slash"
hambere	*bongko* "tie"
eda	*hugu* "slice"
	gonti "chop"
	koho "chop"
	tuʔo "fell"

Table A.3: Types of instrument ditransitive

(109) No-simbi te pada te kabali
3R-slash DET kunai.grass DET machete
'He slashed the kunai grass with the machete' (99)

(110) No-simbi-ʔe te pada na kabali
3R-slash-3OBJ DET kunai.grass TOP machete
'He slashed the kunai grass with the machete' (98)

(111) No-tompa te ʔobu te watu
3R-throw DET dog DET stone
'She threw a stone at the dog' (55)

(112) * No-tompa-ʔe te ʔobu na tomba
3R-throw-3OBJ DET dog TOP mud
'He threw the mud at the dogs' (98)

Both classes of instrumental ditransitive allow the theme object to be indexed.

(113) No-simbi-ʔe na pada te kabali
3R-slash-3OBJ TOP kunai.grass DET machete
'He slashed the kunai grass with the machete' (486[1])

[1]Donohue does not actually give this example, but his chart suggests that it would be acceptable.

(114) No-tompa-ʔe na ʔobu te watu
3R-throw-3OBJ TOP dog DET stone
'She threw a stone at the dog' (55)

Recipient and instrument ditransitives differ with respect to which objects are available to become passive subjects. In recipient ditransitives, either the recipient or the theme may be a passive subject while the other remains in the sentence with *te* marking. In instrument ditransitives, only the theme may become a passive subject. The instrument cannot.

(115) a. No-huʔu te moʔane mandawulu te kamba
3R-give DET man beautiful DET flower
'He gave the beautiful man a flower'

b. No-to-huʔu-mo na moʔane mandawulu te kamba
3R-PASS-give-PF TOP man beautiful DET flower
'The beautiful man was given a flower'

c. No-to-huʔu-mo na kamba te moʔane mandawulu
3R-PASS-give-PF TOP flower DET man beautiful
'The flower was given (to) the beautiful man' (277)

(116) a. No-tuʔo te baliu te kau
3R-chop DET axe DET tree
'They chopped down the tree with axes'

b. No-to-tuʔo-mo na kau te baliu
3R-PASS-chop-PF TOP tree DET axe
'The tree was chopped down with axes'

c. * No-to-tuʔo-mo na baliu te kau
3R-PASS-chop-PF TOP axe DET tree
'The axe was chopped down with at trees' (277)

Good as 'The axe was chopped down by means of a tree'

The applicative morphemes also occur with ditransitive verb roots, adding a third object, as in (117b).

(117) a. No-simbi-ʔe te pada na kabali
3R-slash-3OBJ DET kunai.grass TOP machete
'He slashed the kunai grass with the machete' (98)

b. Ku-simbi-ako te tuha-su te sede (te kabali)
1s-slash-APPL DET family-1sPOSS DET taro (DET machete)
'I slashed at the taro (with a machete) for my family' (258)

When an applied object of the same role as one of the base objects is added to a ditransitive form, the base object is expressed as an oblique as *di iaisu* is in (118). This is not possible for the base monotransitive forms, which cannot support two objects in the same role.

(118) Ku-huʔu-ako-ʔe na ina-su te sede di
1s-give-APPL-3OBJ TOP mother-1sPOSS DET taro OBL
iai-su
younger.sibling-1sPOSS
'I gave my sister some taro for my mother' (259)

A.4 Affix charts

Subject agreement		<SI>	Passives	ROOT
ku-	'1sSUBJ'	<um>	*to-* 'PASS'	
ʔu- / ko-	'2sSUBJ R/I'		*te-* 'VOL PASS'	
no- / na-	'3SUBJ R/I'		*mo-* 'STATE CHANGE PASS'	
ko / ka	'1PA R/I'			
to / ta	'1pl R/I'			
i / ki	'2pl R/I'			

Table A.4: Tukang Besi Prefixes

	Applicatives	Object Agreement		Aspect markers
ROOT	*-VCi* 'DIR' *-ngkene* 'COM' *-ako* 'APPL'	*-aku*	1sOBJ	*-mo*
		-ko	2sOBJ	*-ho*
		-ʔe	3OBJ	*-do*
		-kami	1PA OBJ	
		-kita	1plOBJ	
		-komiu	2plOBJ	

Table A.5: Tukang Besi suffixes

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