Anaphoric Expressions in A'ingae

Yuqi Holly Zheng

Linguistics Honors Thesis

Advisor: Scott AnderBois

Brown University
Providence, Rhode Island

April, 2022

Submitted in partial fulfillment of requirements
for the degree of Bachelors of Arts with Honors
in the Department of Cognitive, Linguistic, and Psychological Sciences
at Brown University

Acknowledgements

To the A'i who have generously shared their language and culture with us.

To my main A'ingae consultant for this thesis, Shen Aguinda, without whom this thesis would not exist, and to Hugo Lucitante and Raúl Quieta, two other consultants that I have worked with: ustedes han dedicado mucho tiempo y pensamiento en las preguntas que trato de examinar en esta tésis, y ninguna parte de este proyecto existiría sin ustedes. Debo mil gracias a su generosidad y paciencia. *Chigatsû afepuenjan!*

To Dr. Scott AnderBois, my thesis advisor. I first met Scott when I was touring colleges during my junior year of high school, with little knowledge about the field of linguistics and what it would bring me. My interest in working with A'ingae finds root in his Linguistic Field Methods class in 2019. Since then, Scott has guided me in asking better questions and thinking deeply about them. I owe much of this thesis, and my growth as a linguist, to his dedicated involvement throughout the process.

My sincere gratitude also to all the other linguistics professors that have nurtured my intellectual curiosity and ability through my undergraduate years: Dr. Polly Jacobson, Dr. Uriel Cohen Priva, Dr. Roman Feiman, and Dr. Jim Morgan. Their classes have enlightened me to study languages in various ways. Thank-you also to Dr. Ellie Pavlick, who introduced me to research and the computational perspectives to languages.

I have also received much valuable feedback from researchers outside the Brown faculty: my discussions with Dr. Amalia Skilton and Dr. Carol Rose Little on the investigations of demonstratives, as well as the feedback from the WSCLA 25 audience, have benefited my thesis writing process.

At Brown, I am very fortunate to have friends who have supported me in and out of linguistics. Among them, I would like to say special thank-you to: Becky, for constant inspiration and companionship on many different journeys; Josiah, for keeping me grounded and critical of my thinking; members of the ALDP lab, for always providing helpful insights, and especially Wyatt for helping me proofread this thesis!

Last but certainly not the least, to my parents, who gave me my world, and *all possible worlds*.

Contents

List of Figures

List of Tables

Abstract

Anaphoric Expressions in A'ingae

Anaphora represents an important grammatical feature with much theoretical and empirical value. Its forms and functions vary greatly cross-linguistically, and many frameworks have been proposed to analyze and predict what anaphoric forms are available given a language's other features.

In this thesis, I focus on anaphoric expressions in A'ingae, an underdocumented and endangered language isolate in the Amazonian Ecuador and Columbia, and I approach this study of anaphora through both descriptive and analytical perspectives. I primarily investigate the nominal anaphor 'tsa', the locative anaphor 'tse', and the verbal anaphor 'tsun'. 'Tsa' is used both pronominally and adnominally in anaphoric definite noun phrases where there is a clear antecedent in previous discourse, and 'tsa' is not felicitous in indefinite, unique definite, or deictic noun phrases. 'Tse' occurs in many seemingly morphologically complex phrases – 'tseni', 'tse'thi', 'tse'i', 'tseite', 'tse'sû', and 'tsendekhû' – but only some of these are actually morphologically decomposable. In particular, only the 'tse' adverbs can be decomposed into the locative anaphor 'tse' plus some additional clitics, where 'tse' in these adverbs refers to a time or location from previous discourse. The non-adverbs are fossilized forms and not decomposable synchronically: 'tse'sû' refers to property of individuals, and 'tsendekhû' is a third-person plural pronoun that refers to individuals. For the verbal anaphor 'tsun', it is primarily used in verbal ellipses anaphorically referring to some verbal phrase, although it does have uses that more resemble a lexical 'do'.

The theoretical contribution from the description of all of 'tsa', 'tse', and 'tsun' is based on their shared dedicated anaphoricity. These 'ts' expressions in A'ingae show a strict split between these anaphoric demonstratives and the exophoric demonstratives in the language ('va' and 'juva'). Much of current literature on analysis of demonstratives has proposed somewhat unifying analyses of all of exophoric and non-exophoric demonstratives, and I argue that this unification should be amended in light of the empirical pattern in A'ingae 'ts' expressions. Specific to the nominal anaphor 'tsa', I also analyze the structure of (in)definiteness in A'ingae in the context of previous proposals on predicting the definite forms in a language based on pragmatic competition. I argue that pragmatically based proposals fail to predict the pattern in A'ingae and several other languages described in recent literature, and I propose an alternative semantically based analysis for A'ingae definiteness structure.

Chapter 1

Introduction

1.1 Overview

The overall puzzle that this thesis aims to investigate originates from the following observation: in A'ingae, an indigenous language of the Amazonian Ecuador and Columbia, there is a particular group of morphologically similar but monomorphemic words: *tsa* from definite noun phrases, *tse* from phrases that describe location or time, *tsun* that acts like a verbal anaphor, the third-person subject marker *tsû*, and the third-person singular pronoun *tise*. This group of words all start with 'ts' (or a variation of it, in the case of *tise*), and from the surface-level descriptions here of their functions, they all seem to relate to constructions of anaphora, where they refer to some element that has been mentioned from previous discourse, whether that element being a person, an object, a location, or an action.

Starting from the observation above, this thesis is an extensive investigation on the similarities and differences between these 'ts' anaphoric expressions in A'ingae. I will mainly focus on two of these expressions in this thesis, *tsa* and *tse*, with a brief summary of current findings on another *ts-* expression, *tsun*, towards the end. (1) gives a trio of basic examples for these three *ts-* expressions, and from here we can see that each of them refers to something from previous discourse: *tsa* refers to 'book', *tse* refers to the location adjunct 'my village', and *tsun* refers to the verb phrase 'fished for three hours'. In the thesis, I will first individually give detailed descriptions and discussions of *tsa*, *tse*, and *tsun*, along with discussing how various semantic/pragmatic theory and other cross-linguistic work on related topics has supported the description. Then, towards the end of the thesis, I will zoom out of the individual descriptions and discuss the implications of the similarities and differences among these three *ts-* anaphoric expressions, especially in the domain of analyzing demonstratives in general.

(1) a. Chavangi fue tevaenjenma. {Tsa tevaenjen/Tsa} panshaen karu.
Chava=ngi fue tevaenjen=ma. **{tsa tevaenjen/tsa}** panshaen karu.
buy=1 one book=ACC {ANA book/ANA} very expensive
'I bought a book. The book was very expensive.'

b. Ña kankhe'sûmbitsû Juan. Jintsû phuru'tshe faesû kankhe. **Tse**'thi'sûtsû juanja.
ña kankhe='sû=mbi=tsû Juan. jin=tsû phuru='tshe faesû kankhe.
my village=ATTR=NEG=3 Juan exist=3 run.into=QUAL.ADV one village
tse='thi='sû=tsû juan=ja.
ANA.LOC=CL.LOC=ATTR=3 Juan=CNTR
'Juan is not from my village. There is another village nearby. Juan is from there.'

c. Kaningi simba tres horave. **Tsun**'jenitsû tûiye ashaen.
kani=ngi simba tres hora=ve. **tsun**-'je=ni=tsû tûi=ye ashaen.
yesterday=1.SG fish three hour=ACC2 do-IMPV=LOC=3 rain=INF start
'I fished for three hours yesterday. When I was doing that, it started raining.'

In the rest of this introduction chapter, I will first establish some theoretical motivation for this thesis by pointing out a few reasons that a study on anaphora is valuable and also its cross-linguistic implications (§1.2). In laying out the road map for the later chapters, I outline the various contributions of this thesis and important arguments and findings (§1.3). Finally, I will give an overview of the relevant background for this thesis: A'ingae and the Cofán community, some relevant linguistic features of A'ingae, and data sources for the thesis (§1.4).

1.2 Motivation – why study anaphora?

Broadly speaking, anaphora represents constructions and structures that are referring to something the speaker or other interlocutors have mentioned previously. In various fields of linguistics, specifically in syntax and its interface with semantics, 'anaphora' can refer to a variety of grammatical phenomena. In this thesis, I only investigate anaphora as a grammatical unit that refers to an entity from previous discourse. From (1) above, all of *tsa*, *tse*, *tsun* are anaphoric expressions. In English, as a comparison, common anaphors include 'the', 'that', 'there', 'then', and pronouns, where the semantics of all of these grammatical entities depends on some referring relation with an antecedent.

Anaphora, therefore, plays an important role in facilitating reference to different kinds of entities in human communication. In addition, different languages have varying repositories of anaphors and anaphoric structures, both morphosyntactically and semantically. A case study of anaphors in an under-studied language, therefore, is an investigation at the intersection of linguistic universality and diversity.

Another motivation for a case study of anaphoric expressions in a particular language originates from the fact that much literature on anaphora focuses its investigation within a larger context of an investigation of demonstratives in general. An important way to

categorize demonstratives is through the deictic/non-deictic distinction: there are deictic demonstratives whose reference is made salient due to some "pointing" gesture in the extra-linguistic environment, and there are non-deictic demonstratives which are termed "anaphors" and refer to entities not in the physical environment but from previous discourse. A detailed investigation on anaphoric expressions in a language can shed light on the general distribution of its demonstratives. In some languages, both deictic and non-deictic demonstratives are encoded as the same lexical items, For example, if an English speaker sees a bird flying in front of them and wants to talk about the bird, this speaker might say: "Look, the bird is blue" or "Look, that bird is blue". In this case, the speaker is not referring to anything that has been mentioned in discourse, and both 'the' and 'that' are still felicitous. The same pattern does not hold for the A'ingae anaphoric expressions: there is a clear lexical split between the anaphoric and deictic demonstratives. Such empirical pattern of a exophoric/non-exophoric split in the inventory of demonstratives leads to important implications regarding any theoretical frameworks that have been proposed to analyze demonstratives.

In addition to the domain of demonstratives, anaphora also plays an important role in constructing noun phrases in a language, especially the definite noun phrases. Anaphoric morphemes in a language often interact with the expression of (in)definiteness in the language, and many different theoretical frameworks have been proposed to aim to unify and predict the distribution of (in)definite morphemes in all languages. Studying the structure of anaphora in a particular language, therefore, contributes important empirical evidence to these previously proposed arguments.

1.3 Road map of this thesis and main contributions

There are many important findings from this thesis. Empirically, I provide the first detailed description of two quite common monomorphemic morphemes in A'ingae, the nominal anaphor *tsa* and the locative anaphor *tse*. Theoretically, I present the implications of the distribution of each of these two 'ts' expressions: *tsa* in the context of expression of definiteness, and *tse* in the context of differentiating between 'tse' phrases that are morphologically decomposable and those that are non-decomposable fossilized forms. Together, the distribution of *tsa*, *tse*, and *tsun* also indicates a strict division between these anaphoric demonstratives and the deictic exophoric demonstratives in the language.

In Chapter 2, I describe *tsa* by providing the first extensive description of the indefinite and definite noun phrases in A'ingae. The overall pattern that I will present is that A'ingae bare nouns are felicitous in all of indefinite, unique definite, and anaphoric definite noun phrases, while the nominal anaphor *tsa* is only felicitous in anaphoric definite noun phrases. *Tsa* also does not have the exophoric force as a deictic demonstrative, so it cannot be used in deictic constructions, either. The strict anaphoricity of *tsa* is also reflected by one of its common morphologically complex form, the comparative *tsa'kan*

'like that'. This empirical pattern of the definiteness structure in A'ingae leads to an important observation that there is not a strict complementarity between the form for unique definite NPs and the form for anaphoric definite NPs, ie. bare nouns are available in both unique and anaphoric NPs in A'ingae. I also summarize different scholarships on a few other unrelated languages that also show this empirical pattern.

The lack of complementarity in the forms of unique/anaphoric definites in A'ingae and the other languages cited in §2.4.3 serves as the foundation of Chapter 3, where I examine theoretical frameworks that have been proposed to generalize over the expression of definiteness in all languages. The main type of framework I investigate includes ones derived from *Maximize Presupposition!* (Heim, 1991) and related pragmatic competition. These frameworks, including *Index!* (Jenks, 2018) and *Bare Noun Blocking* (Ahn, 2019), converge in arguing that there exist a "weaker" and a "stronger" determiner form in each language, where the weaker form has fewer (therefore weaker) presuppositions than the stronger determiner. Pragmatic competition-based principles then state that the form with stronger presuppositions should be used whenever possible, which predicts that the stronger determiner pragmatically blocks the availability of the weaker form in anaphoric contexts, resulting in a strict complementarity between the weak and strong determiners in all languages. The empirical pattern in A'ingae from Chapter 2, however, clearly contradicts such a prediction.

In the second half of Chapter 3, I propose an alternative analysis that is *semantically*-based, not pragmatically-based. I first lay out the details of this proposal specifically for A'ingae, where I first propose that bare nouns in A'ingae do not have any presupposition while the nominal anaphor *tsa* presupposes all of existence, uniqueness, and anaphoricity of its referent. The presuppositions of each form result in the empirical pattern, where bare nouns are used in all of indefinite and definite noun phrases while *tsa* is restricted to only the anaphoric ones. Crucially, pragmatics does not come into play in this proposal: there is no complementarity between the distribution of bare nouns and *tsa*, and this empirical pattern is dictated by the presuppositions only. Then, I propose ways this semantically-based proposal can be used to predict definiteness patterns in other languages. Although I leave to future work the specific details of adopting such semantically-based analysis in other languages, I do present how this analysis can be applied in general: this proposal states that certain (anti-)presuppositions of each determiner form leads to the surface distribution of these determiners. If there is a strict complementarity in a language, it is the result of interactions between (anti-)presuppositions of each form instead of any pragmatic pressure.

In Chapter 4, I shift the focus from the nominal anaphor *tsa* to another 'ts' expression in A'ingae, *tse*. I provide an extensive description of the distributions and functions of several phrases that, on the surface, seem like morphologically complex forms with 'tse' as the root. These phrases are: *tseni* and *tse'thi* in anaphoric reference to location, *tse'i*, *tse'the*, and *tseite* in anaphoric reference to time, *tse'sû* as an adjectival that refers to an individual's property, and the third-person plural pronoun *tsendekhû*. I also describe the function of bare *tse* as indexing time from previous discourse.

From the functions of the different *tse* composite forms as well as bare *tse*, I propose that there are two separate groups of 'tse' phrases: one group with the 'tse' adverbs that refer to time and location, and the other group containing *tse'sû* and *tsendekhû*, where *tse'sû* refers to property of individuals and *tsendekhû* refers to individuals. Because bare *tse* also has the function of referring to time, I propose that only the *tse* adverbs are morphologically decomposable forms where *tse* is the root and maintains its spatial-temporal reference function. The non-adverbs, *tse'sû* and *tsendekhû*, are both not morphologically decomposable, despite having 'tse' in their surface forms. I elaborate on these details in Chapter 5 with additional comparisons between the functions of *tse* and *tsa*.

Finally, after focusing on specific details of each of the two 'ts' expressions, *tsa* and *tse*, and discussing important empirical and theoretical implications of each of their uses, I provide some generalizations of 'ts' expressions in A'ingae in Chapter 6. After an overview of current findings on a third monomorphemic 'ts' marker in A'ingae, the verbal anaphor *tsun*, I argue that the dedicated anaphoricity of these *ts-* expressions lead to a rejection of any unifying analysis of anaphoric and exophoric demonstratives cross-linguistically. I also point out potential arguments around how the division between the functions of the three 'ts' expressions can reflect the semantic ontology of the language, but I argue against such conclusion because there is not sufficient evidence that anaphoric forms in a language can clearly track its ontology.

1.4 Background on the Cofán community and A'ingae

The Cofán, or A'i, are an indigenous people of Amazonian Ecuador and Colombia. The language of the Cofán people is A'ingae (ISO: `con`), a language isolate spoken by around 1,500 native speakers (Repetti-Ludlow et al., 2020). The language's name, A'ingae, can be morphologically decomposed into *a'i* and the manner morpheme *=ngae*, and the composition literally means "the way/language of the A'i". In current literature, "A'ingae" and "Cofán" are used interchangeably as names for the language. A'ingae is an understudied and severely endangered language, especially on the Colombian side, but generally the communities have a positive attitude towards the language and view their language as an important part of their culture. Most Cofán also speak or at least understand Spanish. In both Ecuador and Columbia, the Cofán communities receive severe ecological and socioeconomic threats, such as threats from mining and other extractive industries, including and especially oil extraction. A more extensive overview on the history of the Cofán community and the A'ingae language can be found in Dąbkowski (2021).

1.4.1 Previous literature on A'ingae

As an understudied language, A'ingae does not have a huge repository of scholarly works. The first orthography for the language was developed by Marlytte Bub Borman

=ma	ACC1	accusative 1
=ve/=me	ACC2	accusative 2
=mbe	BEN	beneficiary
=nga	DAT	dative
=ye/ =ñe	ELAT	elative
=i'khû	INS	instrument
='pi	LIM	limitative
=ni	LOC	locative
=ngae	MANN	manner, path
=ne	SO	ablative

FIGURE 1.1: Case markers in A'ingae (Fischer & Hengeveld, to appear, p.28)

and Roberta Borman, missionary linguists active in the Cofán communities since 1950s. This orthography was recently revised by Cofán community members. In this thesis, the new orthography is used. The Bormans also provide the only substantial A'ingae dictionary to date (Borman, 1976). Other significant scholarships include a grammatical sketch of A'ingae (Fischer & Hengeveld, to appear), a collection of traditional stories (Blaser & Umenda, 2008), as well as outputs from the A'ingae Language Documentation Project (AnderBois & de Lima Silva, 2017) and the A'ingae LingView site.

1.4.2 A'ingae linguistic features

From previous scholar works, many linguistic features of A'ingae have been uncovered. For this thesis focusing on anaphoric expressions in A'ingae, the relevant linguistic background for A'ingae is primarily for the morphosyntax of the language. A'ingae is a SOV language with flexible word order in matrix clauses. A'ingae morphology is robust and complex — its set of suffixes and clitics encodes a large number of semantic categories, including aspect, subject person and number, switch-reference, various modalities, and others. The suffixes and clitics that are used in examples throughout this thesis can be found in the List of Abbreviations at the end. A more detailed overview of the A'ingae morphology can be found in Fischer & Hengeveld (to appear), and a study on verbal morphology can be found in Dąbkowski (2019b).

Case marking is extensive in A'ingae (Fig. 1.1), and case markers may be followed by additional morphemes related to information structure. A'ingae is a dependent-marking language, and the morphosyntactic alignment is nominative-accusative. Argument roles are expressed through clitics that attach to the relevant NP and are not expressed on the verb. For example in (2), the accusative marker *=ma* attaches to the object of the sentence *rande kuri-fi'ndi* 'big money', and the dative marker *=nga* is attached to the recipient argument *ke* '2.sg'.

(2) Rande kuri-fi'ndi**=ma**=ngi ke**=nga**=ja afe.
big gold-SH.BITS=ACC=1 2.SG=DAT=CNTR give.
'I gave you big money (a large bill).'
(Fischer & Hengeveld, to appear, (42))

A'ingae also has markings for information structure and topic: *=ta* is currently analyzed as marker for new topic, *=ja* is for contrastive focus. Word order in matrix clauses and second position clitics seem to have a connection with information structure, but details of this are currently unknown.

Specifically focusing on noun and determiner phrases, the Fischer & Hengeveld language sketch provides a preliminary template for noun phrases in the language, replicated in Figure 1.2. Determiner phrases in A'ingae have the order Det/Dem–Num–N. As shown in the table, adjectives and other modifiers immediately preceding or following the head noun. Some example noun phrases are shown in (3).

-4	-3	-2	-1	0	+1	+2	+3
Determiner	Unmarked possessor	Numeral	Other modifiers	Head	Other modifiers	Enclitics number and Size	Enclitic nominal tense
Demonstrative Quantifier Specificity-marker Sameness-marker			Adjective Noun phrase Relative clause Adverb	Pronoun Noun Derived noun Compound Ø	Adjective Noun phrase Relative clause	Associative (=*pa*/=*mba*) Augmentative (=*'u(n)*) Collective (=*nakhû*) Human plural (=*ndekhû*)	Nominal past (=*'ye*/=*'ñe*)

FIGURE 1.2: Template of A'ingae noun phrase (Fischer & Hengeveld, to appear, p.17)

There are no classifiers in A'ingae, though there is a robust group of nominalizers that are noun-producing suffixes, most of which relate to the shape of an object (Fischer & Hengeveld, to appear, p.22). A'ingae has a small repository of number words (that are not borrowed from other languages), and the language also has a relatively small number-marking system: there is a morpheme *=ndekhû* for human plurality that attaches to the head noun, an associative plural suffix *-pa*, and a morpheme *='fa* for subject plurality that attaches to the head verb. Outside of these plural morphemes, the number of an entity is not marked morphologically and is understood via context. There is an indefinite marker *fue* related to the numeral *fue'khu* 'one'. The description and analysis of A'ingae indefinite and definite noun phrases will be the focus of chapters 2 and 3.

(3) a. biani='sû ande
far=ATTR country
'a far-away country'
b. khashe'ye=ndekhû='ye
old.man=PLH=HONR
'the late elders'

c. khuangi rande shavu
two big canoe
'two big canoes'

d. ñu=tshi=a
good-ADJ=ADN
'a good one'

(Fischer & Hengeveld, to appear, (62, 96, 82, 69))

1.4.3 Data for this thesis

Data presented in this thesis without citation is gathered through elicitation, primarily with one native A'ingae speaker from the Ecuadorian community of Dureno, and a small portion of the elicited examples come from native speakers of Zábalo and Dovuno. All elicitation were conducted remotely over Zoom video conferences, and I primarily communicated with the consultants in Spanish, which is a language that is commonly used in the Cofán communities besides A'ingae. Other data comes from published sources as cited and otherwise comes from texts from the A'ingae Language Documentation Project, and these natural data primarily come from Zábalo. For naturalistic examples, most of their citations are hyperlinked and lead to video fragments of the example within a larger narrative as presented on the A'ingae Language Documentation Project website, powered by LingView (Pride et al., 2020). Despite regional differences in where the data and consultant comes from, none of the main observations in this thesis differs across dialects.

Chapter 2

Nominal anaphor *tsa* and expression of definiteness in A'ingae

2.1 Overview

This chapter examines the functions of the nominal anaphor *tsa* through the domain of definiteness. The contrast between definiteness and indefiniteness encodes the semantic feature of "uniqueness" and/or "familiarity" of noun phrases, although the exact definitions of these two types of noun phrases tend to have a blurry boundary. On the intuition level, for example, in (4a), the entity "person" is considered new in discourse, as it has not been mentioned and is not familiar to the interlocutors in the discourse. On the other hand, "person" in (4b) needs to be already salient and familiar to the interlocutors for the definite marker "the" to be felicitous.

(4) a. I met *a person* yesterday.
b. I met *the person* yesterday.

Focusing more on the definite noun phrases like (4b), Schwarz (2013) and a number of subsequent cross-linguistic works have proposed that there are two categories of definiteness:

- *Unique* definite: the content of a noun phrase can only be attributed to a single entity (in a given context).

  (5) *the professor* in our class

  (6) *the Queen* of England

- *Anaphoric* definite: a noun phrase refers to an entity previously mentioned in the discourse.

  (7) I saw a movie yesterday. *The movie* was bad.

As shown in the above examples, English *the* allows for both uniqueness and anaphoric interpretations. Schwarz (2013) and others have shown that many languages encode

uniqueness and anaphoricity in distinct ways. For example, in Fering, two distinct determiners correspond to unique and anaphoric noun phrases: a "weak" determiner is only available for uniqueness uses (8a), while a "strong" determiner is used for anaphoric contexts (8b).

(8) a. Ik skal deel tu {a/*di} kuupmaan.
Ik skal deel tu {a/*di} kuupmaan.
I must down to $\{the_{weak} / * the_{strong}\}$ grocer
'I have to go down to the grocer.'

b. Oki hee an hingst keeft. {*A/Di} hingst haaltet.
Oki hee an hingst keeft. {*A/Di} hingst haaltet.
Oki has a horse bought $\{*the_{weak} / the_{strong}\}$ horse limps
'Oki has bought a horse. The horse limps.' Schwarz (2013)

A seemingly more prevalent pattern cross-linguistically is the one Jenks (2018) presents for Mandarin Chinese in which bare nouns are used in situations supporting uniqueness (9), and demonstratives are used in situations that call for anaphoricity (10).

(9) **Yueliang** sheng shang lai le.
moon rise up come PERF
'The moon has risen.' (Jenks, 2018, (11a))

(10) a. Jiaoshi li zuo-zhe yi ge nansheng he yi ge nüsheng,
classroom inside sit-PROG one CLF boy and one CLF girl,
'There is a boy and a girl sitting in the classroom...'

b. Wo zuotian yudao **#(na ge) nansheng**
I yesterday meet that CLF boy
'I met the boy yesterday.' (Jenks, 2018, (16))

Authors of these proposals have argued that common to both patterns empirically is that they show complementarity between the uniqueness and anaphoric forms – the form that is available for unique DPs is not allowed in anaphoric DPs. At the level of analysis, a leading idea has been to derive this complementarity from 'hard' competition in which *Maximize Presupposition* (or a similarly general pragmatic principle such as Jenks (2018)'s *Index!* principle) obliges the use of the anaphoric form where possible.

In this chapter, I first analyze *tsa* in the context of expressions of definiteness in A'ingae (§2.2). I provide a detailed description of indefinite and definite noun phrases in the language. Specifically, I show that bare nouns can be used for indefinite, unique, and anaphoric noun phrases. *Tsa* is available in both pronominal and adnominal uses, but

its distribution is limited to anaphoric contexts. *Tsa* is also infelicitous in bridging constructions, which have often patterned with the anaphoric definite morpheme in other languages.

Then, I transition into the comparative adverbial *tsa'kan* ('like that') and show that *tsa'kan* is decomposable into the nominal anaphor *tsa* and the comparative clitic *='kan* (§2.3). I approach my investigation of *tsa'kan* as a case study of the function of *tsa*, as *tsa* in *tsa'kan* also reflects its strict requirement of anaphoricity to be felicitous.

Finally, I introduce how this previously unattested pattern of *tsa* and bare noun in A'ingae presents an empirical challenge to accounts based on 'hard' competition of this sort (§2.4). A much more detailed discussion of these frameworks that rely on hard pragmatic competition and the theoretical implications of the empirical pattern in A'ingae in such frameworks will be the focus of Chapter 3.

2.2 Two types of definites in A'ingae

As introduced in Chapter 1, A'ingae is a dependent-marking SOV language with flexible word order in matrix clauses, driven by information structure. DPs in A'ingae have the order Det/Dem–Num–N with adjectives and other modifiers immediately preceding or following the head noun.

The language has an indefinite determiner *fûe* related to the numeral *fûe'khu* 'one', although this indefinite determiner is not obligatory in indefinite noun phrases. As shown in this section, bare noun phrases in A'ingae can serve as indefinite noun phrases.

A'ingae also has two demonstratives—proximal *va* and the morphologically complex distal *ju-va*—that are used exclusively in deictic contexts. These two demonstratives seem to also be available in affective contexts, though this is less clear from current evidence. As shown in this section, there is a clear split between these deictic demonstratives and the exclusively anaphoric determiner *tsa* .

Overall, in the following sections, I will show that bare nouns can be used for indefinite, unique, and anaphoric DPs, and determiner *tsa* is used exclusively in anaphoric contexts. This pattern is summarized in Table 2.1.

TABLE 2.1: Summary of uses of bare noun and *tsa* in A'ingae

	indefinite	unique definite	anaphoric definite	bridging	exophoric
Bare noun	✓	✓	✓	✓	
tsa			✓		

2.2.1 Bare nouns

In this section, I will argue that A'ingae bare nouns are used in all of indefinite, unique, and and anaphoric definite noun phrases.

Indefinite uses

Indefinite bare noun phrases appear in various syntactic positions. In (11), the indefinite noun phrase *u'mama* ("palm tree") is in the object position of the clause. In (12), the indefinite *pandu* ("fox") is in the subject position.

(11) *Context: Palm trees are mentioned for the first time in the story.*

Tsunsite tsa'kaen jakamba an jakamba athefaya u'mama.

tsun=si=te tsa='kan=e jakan=pa an jakan=pa athe-'fa='ya
do=DS=PRPT ANA=CMP=ADV walk=SS eat walk=SS see=PLS=VER
u'ma=ma
palm.tree=ACC

'When they were looking for food like that, they saw some palm trees.'
(Vaju kundasepa MMEMQ 0:52)

(12) *Context: Introducing the fox character in the story.*

Pandu tsûifa'u jayiya.

pandu tsûi=fa'u jayi='ya
fox walk=ATTN go.PRSP=VER

'A fox walked by next to the hare.' (Kuke chiste FC 2:38)

A specific context in which indefinite noun phrases tend to appear is the existential situation. Such sentences convey the existence of an object, mostly through an act of change. In existential sentences, the noun phrase whose reference is the object that has come into existence is new to the discourse, hence the noun phrase would be an indefinite noun phrase. For example, in (13), the sentence includes the action of "building," which leads to the existence of a new item as the result of the "building" action. The phrase for the kitchen *kusina* is an indefinite noun phrase, encoded as a bare noun.

(13) Kusinavengi tsau'ña'je'fa.

kusina=ve=ngi tsau'ña-'je-'fa.
kitchen=ACC2=1 build-IMPV=SH.LAT

'We're building a kitchen.' (Construir una casa de conambo MM 1:54)

Definite uses

Unique definite noun phrases have references that are unique given a certain context. The "globally" unique noun phrases have a unique reference because of our knowledge of the world or common sense. For example, *kue'je* ("sun") in (14)) is a globally unique

noun phrase, and it is presented as a bare noun in the sentence. The "locally" unique noun phrases are unique given a narrower context, for example the interlocutor's surroundings, personal experiences, etc. The referent of "house" is usually not unique, but *tsa'u* ("home") in (15) refers to the only salient house in the story that the speaker is trying to tell, and here *tsa'u* is also in its bare form.

(14) Kue'jenga khûtsiansi tsaja aceite yaya'pave daya'ya.

kue'je=nga khûtsû-ña=si tsa=ja aceite yaya'pa=ve da=ya='ya.
sun=DAT stand-CAUS=DS ANA=CNTR oil oil=ACC2 become=IRR=VER

'Having been stood in the sun, it (mashed turtle egg) would turn into oil.'
(Charapa proyecto BRCA 1:07)

(15) Kuse vangakhe nepi tsa'unga.

kuse va=nga=khe napi **tsa'u=nga**.
night PRX=DAT=ADD arrive house=DAT

I arrived at the house at night. (Caza y pesca OCQ 4:14)

Anaphoric definite noun phrases have a reference that is known to the speakers because the reference has been previously mentioned. In (16), *tevaenjen* ("book") is neither globally nor locally unique, but the reference of this noun phrase connects to the same book that was mentioned in the previous sentence. Here, the anaphoric noun phrase *tevaenjen* is in its bare form.

(16) Chavangi fae tevaenjenma. Tevaenjen panshaen karu.

chava=ngi fae tevaenjen=ma. **tevaenjen** panshaen karu.
buy=1 one book=ACC book very expensive

'I bought a book. The book was very expensive.'

Anaphoric bare nouns and the topic marker

Jenks (2018) argues that, in Mandarin, anaphoric bare nouns in the subject position as continuing topics, therefore being an exception to the fact that bare nouns are not available in anaphoric definites in Mandarin. He argues that the pragmatic function of topic marking overrides and neutralizes the effect of an indexical constraint in such environments.

In A'ingae, we see a slight tendency for anaphoric definite NPs to occur with the contrastive topic marker *=ja*, such as the subject of the sentence *ainja* in (17). Despite of this, we also see anaphoric bare nouns in non-topic position (such as (18)), which indicates that while topic marking influences the choice of *tsa* in a noun phrase, the possible patterns of (in)definiteness in A'ingae are unaffected by any syntactic constraints, including a topic position.

(17) *Context: The story is talking about a man and his dog in the previous sentences.*
Jata ainja tayu kuankuan kan'jeni ja'ya.

ja=ta **ain=ja** tayu kuankuan kan'jen=ni ja='ya.
go=NEW dog=CNTR already Coancoan stay=LOC go=VER

'The dog went right where the Coancoan lived.'
(Kuankuan kundasepa OCQ 4:44)

(18) Fae tsandie tuyakaen fae pûshesû kanje'fa tsa'uni, tsa'ma ñangi afa pushesûkhû.

fae tsandie tuya='kan=e fae pûshesû kanje-'fa tsa'u=ni, tsa='ma
one man still=CMP=ADV one woman live-PLS house=LOC ANA=FRST
ña=ngi afa **pushesû=i'khû**
1=1.SG talk woman=INS

'There is a man and a woman in the house. I talked to the woman yesterday.'

Bridging

A special case of the anaphoric definite noun phrases, the "bridging" anaphors, is first discussed by Clark (1975) (also Hawkins (1978)'s "associative anaphora" and Prince (1981)'s "Inferrables"). In these constructions, an anaphoric definite noun phrase does not have an antecedent that has exactly the same reference. The anaphoricity of the noun phrase, however, is still felicitous because of prominent relationships between the anaphoric NP and its antecedent. Specifically, Schwarz (2013) proposes that there are two types of bridging:

- Uniqueness bridging: cases that can be quite naturally construed as situational uses, e.g., because there is a part-whole relationship between an aforementioned entity and the referent of the definite in question. For example:

  (19) He drove his car down the street. *The steering wheel* was cold.

- Anaphoric bridging: uses that involve a relation (typically expressed by the head noun), which doesn't suggest a situational connection, on the other hand, such as that between a producer and a product as it were. For example:

  (20) I read a book yesterday, and *the author* was on TV this morning.

In A'ingae, bare nouns can be used in bridging constructions, regardless of the specific bridging relations (part-whole in (21) and product-producer in (22)).

(21) *Context: A story about hunting a musk hog.*

Ma'the pu'taeñaña tsuveyeti pu'tañaya asi'thaemba ai'vuye pu'taeñaña.

ma='the pu'ta-ña=ya='ya **tsuve=ye=ti** pu'ta-ña=ya='ya
WH=PSTE shoot-CAUS=IRR=VER head=ELAT=INT shoot-CAUS=IRR=VER
asi'thaen=pa **ai'vu=ye** pu'ta-ña=ya='ya
think=SS body=ELAT shoot-CAUS=IRR=VER

' "Where should I shoot it? Should I shoot through the head?" I thought, "should I shoot through the body?"' (Caza y pesca OCQ 1:42)

(22) Sethapuen'chutsû mendetshi, tsa'ma sethapuen'sûma atesûmbi.

Sethapuen='chu=tsû mendetshi, tsa='ma **sethapuen='sû=ma** atesû=mbi.
sing=SUB=3 beautiful ANA=FRST sing=ATTR=ACC know=NEG

'The song is beautiful, but I don't know the singer.'

Summary

Bare nouns are available in indefinite, unique and anaphoric definite, and bridging NPs across different syntactic positions. As shown in the next section, even though A'ingae has a dedicated anaphoric marker *tsa*, bare noun phrases are still available in all of these (in)definite noun phrases.

2.2.2 *Tsa* as a dedicated anaphoric marker

Tsa is used in the argument position of a clause. It occurs in both pronominal and adnominal uses and is strictly limited to discourse with the anaphoric interpretation.

Anaphora to individuals

Tsa is available as anaphora referring to individual entities by both co-occurring with the noun (adnominally) and replacing the noun (pronominally).

(23) Chavangi fae tevaenjenma. **{Tsa tevaenjen/Tsa}** panshan karu.

Chava=ngi fae tevaenjen=ma. {tsa tevaenjen/tsa} panshaen karu.
buy=1 one book=ACC {ANA book/ANA} very expensive

'I bought a book. The book was very expensive.'

(24) a. Mañi kankhefavetsû ambian ke she'she?
mañi kankhefa=ve=tsû ambian ke she'she
how.many year=ACC2=3 have 2.SG older.sister
'How old is your older sister?'

b. Tsama atesûmbingi.
tsa=ma atesû=mbi=ngi
ANA=ACC know=NEG=1
'I don't know that (my sister's age).'

(25) *Context: The speaker is describing how to prepare banana drink. She describes how to put in bananas and crush them, then talks about the resulting mash:*

Tsa patshia kikhûkhûfu'chutsû pa'khu nambayakhen sûye.

Tsa **pa-tshi-a** **kikhûkhû-fu'chu**=tsû pa'khu namba='ya=khen sû-ye.
ANA all-ADJ-ATTR mash-SH.FRC=3 all mix=VER=QUOT say-INF

'That whole mash all gets mixed.' (Preparing foods DEMQ:37)

Anaphora to propositions

Tsa can also anaphorically refer to propositions conveyed by previous discourse. For example, *tsa* in (26) refers to the entire proposition from the previous clause, "Red apples are delicious".

(26) Kû'a manzanandekhûtatsû yayatshi'fa. Tsama atesûngi Juan ñanga kundasi.

kû'a manzana=ndekhû=ta=tsû yaya=tshi-'fa. **tsa**=ma atesû=ngi Juan
red apple=PLH=NEW=3 good=QUAL=PLS ANA=ACC know=1.SG Juan
ña=nga kunda=si.
1=DAT let.know=DS

'Red apples are delicious. I know that because Juan told me.'

When referring to a proposition, the exact proposition does not need to be linguistically explicit for *tsa* to be felicitous. The proposition can be part of the implicature of the preceding discourse (such as in (27)). This shows the flexibility of *tsa* as a propositional anaphor that can pick up pragmatic content salient from prior discourse, also observed in Morvillo & AnderBois (to appear). Here, I further their discussion by showing with more empirical evidence that *tsa* is indeed available as an anaphor to both literal and implicated content from previous discourse.

(27) *Context: My friend and my brother don't get along well.*

Ña faengasûtsû ja'ñu ña'khû aña. Ña antiankhe ña'khû aña. Tsatsû aiyepa.

ña faengasû=tsû ja'ñu ña=i'khû aña. ña antian=khe ña=i'khû aña.
my friend=3 now 1.SG=INST eat my brother=ADD 1.SG=INST eat
tsa=tsû aiyepa.
ANA=3 difficult

'My friend is going to have dinner with me. My brother will, too. That is difficult.'

Tsa in 'donkey' anaphora

A special case of an anaphoric reference is situations where an anaphoric noun phrase co-references with a previously mentioned indefinite phrase despite not being able to be bound to that indefinite phrase in standard ways that quantifiers usually would allow. An instance of such example comes from a covarying situation, or a "donkey" sentence. In these sentences, anaphoric definites receive quantificationally bound interpretations despite the absence of a c-commanding antecedent in the same clause.

The availability of *tsa* in a covarying definite NP in donkey anaphora further shows its function as an anaphoric marker. In (28), the reference of dûshû ("child") in the second clause is bound under the quantifier "every". *Tsa* is available here for the anaphoric reference.

(28) Pûi afafa'nga dûshûkhû kuraga, tsa dûshûtsû dyu'je.

pûi afa<fa>-'nga dûshû=i'khû kuraga, **tsa** dûshû=tsû dyu-'je.
each speak<ITER>-TRANS child=INST shaman ANA child=3 scare-IMPV

'Every time a shaman talks with a child, the child gets scared.

Tsa is not felicitous in non-anaphoric contexts

Tsa is not felicitous in contexts that lack the anaphoric interpretation, such as in a generic noun phrase ("snakes" in (29)) and uniqueness definites ("the sun" in (30), "the house" in (31)).

(29) {*Tsa} iyundekhûtatsû tsai'jefa.

{*tsa} iyu=ndekhû=ta=tsû tsai-'je-'fa.
{*ANA} snake=PLH=NEW=3 bite-IMPV=PLS

'Snakes bite.'

(30) {*Tsa} kue'jenga khûtsûñasi tsaja aceite yaya'pave daya'ya.

{*tsa} kue'je=nga khûtsû-ña=si tsa=ja aceite yaya'pa=ve
{*ANA} sun=DAT stand-CAUS=DS ANA=CNTR oil oil=ACC2
da=ya='ya.
become=IRR=VER

'Having been stood in the sun, it (mashed turtle egg) would turn into oil.'

(31) *(Context: the house has not been mentioned before but is known to the speakers.)*

Kuse vangakhe nepi {*tsa} tsa'unga.

kuse va=nga=khe napi **{*tsa}** tsa'u=nga.
night PRX=DAT=ADD arrive **{*tsa}** house=DAT

I arrived at the house at night.

Tsa is also not available for "recognitional" uses of demonstratives, where the referent of the DP is known to the interlocutors only because it is part of the conversation's common ground, not because the referent is nearby or has been previously mentioned (Skilton, 2019, Chapter 7). Crucially for the case of *tsa*, because the referent of a recognitional DP is not in previous discourse, the context lacks anaphoricity that is required for *tsa* to be felicitous. In (32), the existence of the moriche palms by the river of the village is part of the common ground of the speakers, since they know the geography of their village. Because the palm trees have not been mentioned at this point, adding *tsa* would be infelicitous.

(32) Ñame ma'kaentsû umbaningae va'kieja pa'khu kanungutsû jin.

ñame ma'kaen=tsû umba=ni=ngae va='ki=e=ja pa'khu
truly how=3 upriver=LOC=MANN PRX=SH.LIN=ADV=CNTR all
{*tsa} **kanungu**=tsû jin.
{*ANA} moriche.palm=3 exist

'Upriver, by the moriche palms, only there exist (tapirs). '
(Caza y pesca 5:44)

Tsa is not felicitous in bridging sentences

Tsa is not used in bridging constructions, even in producer-product cases (as shown in (33)). The reason for this is that, in a bridging sentence, the second noun phrase has not been explicitly mentioned in previous discourse, because the antecedent does not have the same referent as the second NP, the bridging phrase. In (33), a mentioning of "song" in the first clause does not provide the anaphoric context required for *tsa* to be felicitous in the second noun phrase, "singer".

This pattern is surprising given that the anaphoric definite marker in many other languages often are available in product-producter bridging cases (such as the obligatory demonstrative in Mandarin as shown in (34)).

(33) Sethapuenchutsû mendetshi, tsa'ma {*tsa} sethapuen'sûma atesûmbi.

Sethapuen='chu=tsû mendetshi, tsa'ma **{*tsa}** sethapuen='sû=ma atesû=mbi.
sing=SUB=3 beautiful but {*ANA} sing=ATTR=ACC know=NEG

'The song is beautiful, but I don't know the singer.'

(34) Paul renwei na shou shi hen youmei, jishi ta bu renshi **#(na wei)**
Paul think that CLF poem very beautiful although he NEG know that shiren
CLF poet
'Paul thinks that poem is very beautiful although he doesn't know of the poet.'
(Jenks, 2018, (15b))

Tsa is not a deictic demonstrative

Finally, whereas many 'strong' definites in other languages are also available as demonstratives, we see that *tsa* lacks the exophoric force that is available on a deictic demonstrative, so *tsa* is infelicitous in deictic uses. The exophoric demonstratives *va* PROX or *juva* DIST are used instead. This pattern is different from other languages where the anaphoric form is also available for deictic uses. For example, the English demonstratives "this" and "that" are available in anaphoric noun phrases, and these two also have the exophoric force where they are used in a context where the speaker is pointing at an object.

In A'ingae, *tsa* does not have the exophoric force, and this pattern is not surprising given the evidence above that *tsa* requires an explicit anaphoric context to be felicitous. In an exophoric noun phrase, such as in (35), the speaker can use the noun phrase 'that bird' without any previous mentioning of the bird, because some extra-linguistic cue (eg. the speaker's pointing gesture) is sufficient in signaling the referent of the noun phrase. In this example, we see that the proximal demonstrative *juva* is used and *tsa* is not allowed.

(35) Kanja, {juva/*tsa} chhiririatsû vasia've chhaje

kan=ja, {ju+va/***tsa**} chhiriria=tsû vasia've chhaje.
look=IMP {DIST+PRX/*ANA} bird=3 slowly fly

'Look, that bird is flying slowly.'

In these explicitly exophoric situations where the speaker is intentionally pointing at their intended reference, a bare noun phrase is also not allowed.

Interim summary

Overall, the patterns where A'ingae bare nouns and the anaphoric marker *tsa* can and cannot occur are summarized in ths table, repeated from (2.1).

	indefinite	unique definite	anaphoric definite	bridging	exophoric
Bare noun	✓	✓	✓	✓	
tsa			✓		

As presented here, *tsa* is exclusively used at an argument position in anaphoric contexts, and it does not have some other uses commonly associated with the anaphoric morpheme in other languages, such as availability as deictic demonstratives or in bridging constructions. In Chapter 3, I will elaborate on an analysis of these patterns in a deeper way and consider them in cross-linguistic perspectives.

2.3 Comparative adverb *tsa'kan*

One common adverbial containing *tsa* is the comparative adverb *tsa'kan*. In this section, I use *tsa'kan* as a more specific case study of the function of *tsa* as a nominal anaphoric. Through presenting different uses of *tsa'kan* in comparisons, I show that *tsa'kan* is decomposable into *tsa* and the comparative clitic *='kan*, where *tsa* still maintains its characteristics as mentioned in the previous section where *tsa* is only felicitous in anaphoric contexts.

2.3.1 Comparative clitic *='kan*

The comparative clitic, *'kan*, when attached a noun phrase, conveys the meaning of "like"/"similar to" or "as". In (36a), the adverbializer *=e* combines with *='kan* and becomes *'kaen*.

(36) a. Tsûichungi ña mama'kaen.
tsûi='chu=ngi ña mama=**'kan**=e
walk=SUB=1.SG my mother=CMP=ADV
'I walk in the same manner as my mom.'

b. Ñandangi bia'ambi ña kindya'kan.
ña=nda=ngi bia'a=mbi ña kindya=**'kan**.
1=DAT=1.SG tall=NEG my older.brother=CMP
'I am not as tall as my older brother.'

c. i. *(Person 1, while showing a picture of his dog:)*
Vatsû ña ain.
va=tsû ña ain
PRX=3 my dog
'This is my dog.'

ii. *(Person 2:)*
Ñakhengi ambian ain'kanma.

ña=khe=ngi ambian **ain='kan**=ma
my=ADD=1.SG have dog=CMP=ACC

'I have an animal that is like a dog (but it's not a dog).'

As shown in (36a) and (36b) that both lack any anaphoric context, the comparative clitic *='kan* is still available, therefore *='kan* is not limited to anaphoric or broadly demonstrative contexts. The clitic can occur flexibly in any clause with any context, as long as there is a basis for comparison to license the clitic.

2.3.2 Decomposing *tsa'kan*

Many languages have a similar lexical item for comparison, such as "as" in English and "así" in Spanish. For these two languages, the comparative morpheme is monomorphemic and not decomposable. In the case of A'ingae *tsa'kan*, although *tsa'kan* occurs quite frequently as one word, *tsa'kan* is not monomorphemic and is fully decomposable into *tsa* and *='kan*. When the comparative clitic *='kan* combines with the anaphoric marker *tsa* , the anaphoricity of *tsa* still holds. That is, for *tsa* to be felicitous, there needs to be a salient antecedent in previous discourse that *tsa* can co-reference with. In addition, *tsa* still maintains its function of a nominal anaphor where it only refers to individuals and propositions. The clitic *='kan* simply adds the meaning "like the aforementioned entity." *Tsa'kan* creates a non-verbal predicate and often gets nominalized. For example, in (37), the reference of *tsa* from *tsa'kan* is the proposition *Na'en tsû tshû'jûtshi* ("The river smells very bad").

(37) Na'entsû tshû'jûtshi. Tsa'kansitsû tse'thi kanse'fambi ña familiaja.

na'en=tsû tshû'jû=tshi. **tsa='kan**=si=tsû tse='thi kanse-'fa=mbi ña
river=3 smell=ADJ ANA=CMP=DS=3 ANA.LOC=CL.LOC live=PLS=NEG my
familia=ja.
family=CNTR

'The river smells very bad. That's why my family doesn't live there.'

(38) Tisetsû khûcha fae khake'khû tise iñakha'chuma. Ñakhengi tsa'kaen tsun.

tise=tsû khûcha fae khake=i'khû tise iñakha='chu=ma. ña=khe=ngi
3.SG=3 clean.with.hand one leaf=INST 3.SG get.hurt=SUB=ACC 1.SG=ADD=1
tsa='kan=e tsun.
ANA=CMP=ADV do

'He cleaned his wound with a leaf. I did like that, too.'

Examples (39) and (40) show that *tsa* does not require an antecedent that actually exists in the world described by the preceding discourse. The linguistic description of

the antecedent's characteristic is sufficient license for *tsa* to be felicitous. In (40), the first clause makes it explicit that "blue bird" does not exist in the speaker's world knowledge, but the act of bringing up the noun phrase *indzia chhiriria* ("blue bird") puts its reference into the common ground for the interlocutors, therefore using *tsa* to point back to this reference is allowed.

(39) Kaningi athe fae inzia chhiririama. Mingûitekhengi tsa'kan chhiririama athe'jembichua.

kani=ngi athe fae inzia chhiriria=ma. mingûite=khe=ngi **tsa='kan**
yesterday=1.SG see one blue bird=ACC never=ADD=1.SG ANA=CMP
chhiriria=ma athe-'je=mbi='chu=a.
bird=ACC see-IMPF=NEG=SUB=ADJR

'Yesterday I saw a blue bird. I have never seen a bird like that before.'

(40) Mingûitekhengi athe'jembichua inzia chhiririama. Kaningi {tsa'kanma/tsa'kan chhririama} athe.

mingûite=khe=ngi athe-'je=mbi='chu=a inzia chhiriria=ma.
never=ADD=1.SG see-IMPF=NEG=SUB=ADJR blue bird=ACC
kani=ngi {**tsa='kan=ma/tsa='kan** **chhiriria=ma**} athe.
yesterday=1.SG {ANA=CMP=ACC/ANA=CMP bird=ACC} see

'I have never seen a blue bird before. Yesterday I saw one like that.'

This phenomenon resembles the situation where *tsa* is available in a covarying "donkey anaphora". In both cases, the antecedent noun phrase does not have one concrete reference, because its reference could be bound by a quantifier (as in the donkey anaphora case) or simply does not exist in the world (as in the case of (40)). Nevertheless, *tsa* maintains its ability to anaphorically refer to the individual that the antecedent is meant to pick out.

Because *tsa* requires the antecedent to be explicitly mentioned in previous discourse, *tsa'kan* is not used in bridging anaphors where *tsa* is pronominally or adnominally referring to an associative part of the antecedent (41a), similar to the evidence shown from §2.2.2 regarding *tsa* not being used in bridging definites. When *tsa'kan* is used in such bridging anaphora construction (such as in 41b), the referent of *tsa* is not the singer (ie. the producer) but the proposition 'The song is beautiful'. (41b) also gives an example of a common construction where *tsa'kan* combines with the adverbializer *=e* and becomes *tsa'kaen* "in that way".

(41) a. Sethapuenchutsû ñukhatshi, in'jangi sethapueñe **{*tsa}** sethapuen'sû'kaen.
Sethapuen='chu=tsû ñukhatshi, in'jan=ngi sethapue=ye **{*tsa}**
sing=SUB=3 beautiful want=1.SG sing=INF {*ANA}
sethapuen='sû='kan=e.
sing=ATTR=CMP=ADV

'The song is beautiful. I want to sing like the singer.'

b. Sethapuen'chutsû ñukhatshi, in'jangi sethapueñe tsa'kaen.
Sethapuen='chu=tsû ñukhatshi, in'jan=ngi sethapue=ye **tsa='kan=e**.
sing=SUB=3 beautiful want=1.SG sing=INF ANA=CMP=ADV
'The song is beautiful. I want to sing like that.'

Overall, as *tsa'kan* is decomposed into *tsa* and the comparative clitic, the function of *tsa* remains the same as argued in 2.2.2 where it is limited to strictly anaphoric contexts.

2.3.3 Kind, degree, manner

There has been a lot of literature examining the semantics of kind, degree, and manner, and how they can be referred to anaphorically. Anderson & Morzycki (2013), for example, propose that English "as" is available as anaphors to kind, degree, and manner. They further propose a deep connection between these three categories from a perspective that considers degrees are kinds of Davidsonian states. They also provide evidence from other languages (Anderson & Morzycki, 2013, p.9) where the same expression serves as anaphors to degree, kind, and manner.

For the A'ingae comparative clitic *='kan*, we see that *='kan* at least functionally exhibits meanings of comparing kind (36c), degree (36b), and manner (36a). Similarly, we also see *tsa'kan* being available for these references (kind (42), degree (43), and manner reference (44)). In addition, this function of comparative *='kan* of adding the semantics of kind, degree, and manner further illustrates that *tsa'kan* is decomposable, where the nominal anaphor *tsa* replaces the NP that *='kan* attaches to in an otherwise non-anaphoric sentence. In (42b), *tsa* acts like an entity anaphora where its the reference is *tsampi*, a particular forest mentioned in the previous sentence. The speaker of (42b) is using *tsa* to refer to the forest from (42a), and the comparative *='kan* adds the additional layer of kind comparison. The place that Speaker B is talking about needs not to be a forest but only a place with some shared commonalities as the forest mentioned by Speaker A.

(42) a. Kuengi tsampinga.
kue=ngi tsampi=nga.
grow=1.SG forest=DAT
(Speaker A:) 'I grew up in a forest.'

b. Kuengi tsa'kanga.
kue=ngi **tsa='kan=nga**.
grow=1.SG ANA=CMP=DAT
(Speaker B:) 'I grew up in a place like that.'

In (43), the comparative clitic presents a comparision between the degree of frequency of hunting. The content of *tsa* in *tsa'kan* here seems to maintain its function as a nominal anaphor — *tsa* refers to the proposition 'I hunted frequently when I was young', and *='kan* adds the comparison layer to *tsa* and conveys the meaning 'with a similar degree of frequency as my hunting frequently event'.

(43) Ña dûsûngûitengi in'jan'tshe panzaye atesû, tsa'ma jañu tsa'kaen panza'jembingi.

ña dûsûnga=ite=ngi in'jan='tshe panza=ye atesû tsa='ma jañu
my youth=CL.PRD=1.SG much=ADJ.ADV hunt=INF know ANA=FRST now
tsa='kan=e panza-'je=mbi=ngi
ANA=CMP=ADV hunt-IMPV=NEG=1.SG

'I used to hunt a lot when I was young, but now I don't hunt as much.'

In (44), the reference of *tsa* is an event described in previous discourse, and *='kan* indicates that it's the manner of that event that is being compared to. In (45), *tsa'kaen* in the second sentence refers to the way in which the shamans transform, and the reference of *tsa* here is the description of the transformation from the previous sentence.

(44) *Context: Someone is talking about how to cut a tree. I ask:*

Tsa'kane injingechutikhen chathûye?

tsa='kan=e injinge='chu=ti=khen chathû=ye
ANA=CMP=ADV necessary=SUB=INT=THUS cut=INF

'Is it necessary to cut like that?'

(45) a. Kuragandekhûtate yajema injan'tshe kû'ipa usha'chu tsampini kansekhesûve di'shafa.
kuraga=ndekhû=ta=te yaje=ma injan='tshe kû'i-pa
shaman=PLH=NEW=RPRT ayahuasca=ACC much=ADJ.ADV drink-SS
usha'chu tsampi=ni kanse-khesû=ve di'sha-'fa.
everything forest=LOC live-HAB=ACC2 transform-PLS
'When the shamans drink a lot of yaje, they turn them into anything in the forest.'

b. Tsa'kaen di'shapate pa'ta tsesûveyi di'shapa tsangae tsampini kanseye ja'fa.
tsa='kan=e di'sha-pa=te pa=ta tse'sû=ve=yi
ANA=CMP=ADV transform=SS=RPT die=NEW ANA.ATTR=ACC2=EXCL
di'sha=pa tsa=ngae tsampi=ni kanse=ye ja-'fa.
transform-SS ANA=MANN forest=LOC live-INF go-PLS

'Having transformed like that, if they die, then since they transformed into just that kind of thing, they go to live in the forest in that way.'
(Thesi Chan)

The *tsa'kaen+ tsun* construction in (46) presents the meaning "do like that". The reference of *tsa* here is also an event from previous discourse, in this case the action of preparing a plantain drink, and *tsun* here repeats the verbal part.

(46) Jendati tayupi tsa'kaen tsumba kûipa kansefa o vaeyiyitsheti tsa'kaen injanfa chhuchhukhuikhû?

jenda=ti tayupi **tsa='kan=e** tsun=pa kûi=pa kanse-'fa o
then=INT long.ago ANA=CMP=ADV do=SS drink=SS live=PLS or
vaeyi=yi=tshe=ti tsa='kan=e injan-'fa chhuchhukhu=i'khû
recently=EXCL=ADJ.ADV=INT ANA=CMP=ADV want=PLS beater=INST

'Then did they do it like that with a whisk long ago, or is it just recently?'
(Kûikhû, chicha 2:55)

The data presented in this section shows that the comparative clitic, *='kan*, is at least functionally available for kind, degree, and manner comparisons, and the availability of *tsa'kan* in anaphoric comparisons shows that *tsa* is also available for anaphoric reference to kind, degree, and manner. The exact semantics of the comparative clitic *='kan* or how the semantics of kind, degree, and manner overlap, however, is out of the scope of this thesis, so I leave these topics as important work for future research on the semantics of comparison both in A'ingae and cross-linguistically.

2.4 Non-complementarity between bare noun and *tsa*

Although A'ingae has a dedicated nominal anaphoric morpheme *tsa* (with both pronominal or adnominal uses), both bare nouns and *tsa* are available in anaphoric definite noun phrases, which presents a challenge to previously proposed frameworks that argue for a complementarity between the unique and anaphoric forms in a language and claim for the universality of such pattern. In this section, I will present further empirical evidence that A'ingae lacks this complementarity between the uniqueness form, bare noun, and the anaphoric form, *tsa* . In Chapter 3, I will go into the details of a pragmatically based analysis that has been commonly proposed to explain complementarity between unique and anapohric forms in other languages. Because A'ingae and some other languages do not follow this prediction, I will then present potential alternative analyses of the anaphoric form.

2.4.1 A'ingae doesn't show complementarity

A'ingae allows for both bare noun and *tsa* + N in anaphoric contexts. While speakers may have a preference for one or the other form in certain cases, most anaphoric contexts allow for both options (as seen in the two sentences of (47)). The availability of bare nouns in co-varying definites (such as (48) and (49)), and in product-producer bridging cases (such as (33)) further emphasize this pattern.

(47) *Context: A story about a man hunting peccaries. These particular peccaries have been mentioned previously.*

a. Napisi sûya tayuti ja vaeyitsû munda ja khen de sûya.
napi=si sû='ya tayu=ti ja vae=yi=tsû **mûnda**
arrive=DS say=VER already=INT go already=EXCL=3 peccary
ja=khen=te sû='ya.
go=THUS=RPRT say=VER

'When he came, he asked if the peccaries had already gone. "Just a moment ago," they said.'

b. Tsete tsa kuenza ûfambe pasaya tsumbate tse umbaemba jaya **tsa mundai'khû**
tse=te tsa kuenza ûfa=mbe pasa='ya tsun=pa=te
ANA.LOC=RPRT ANA old blow=NEG.ADV pass=VER do=SS=RPRT
tse umbuen=pa ja='ya tsa mûnda=i'khû.
ANA.LOC follow=SS go=VER ANA peccary=INST

'Since he hadn't hunted anything, he decided to follow the peccaries.'
(Kuankuan kundasepa OCQ 1:32)

(48) Majan a'ima ke thû'senindangi **(tsa)** a'ima atheya.

majan a'i=ma ke thû'se=ni=ta=ngi (tsa) a'i=ma athe=ya.
who person=ACC 2.SG call=LOC=NEW=1.SG (ANA) person=ACC see=IRR

'Whoever you invite, I will see that person.'

(49) Pûi afafanga dûshûkhû kuraga, **(tsa)** dûshûtsû dyu'je.

pûi afa<fa>-'nga dûshû=i'khû kuraga, (tsa) dûshû=tsû dyu-'je.
each speak<ITER>-TRANS child=INST shaman (ANA) child=3 scare-IMPV

'Every time a shaman talks to a child, the child gets scared.'

2.4.2 Availability of pronominal *tsa*

In addition to the lack of complementarity between bare noun and *tsa* , the existence of the pronominal *tsa* in A'ingae further underlines the non-competition between the two forms. *Tsa* itself is morphologically simplex and has pronominal uses, as seen in (51) and (52). There exist contexts where the pronominal *tsa* and bare noun options are both felicitous (50).

(50) Chavangi fae tevaenjenma. {Tsa tevaenjen/Tsa/Tevaenjen} panshaen karu.

Chava=ngi fae tevaenjen=ma. **{tsa tevaenjen/tsa/tevaenjen}** panshaen
buy=1 one book=ACC {ANA book/ANA/book} very
karu.
expensive

'I bought a book. The book was very expensive.'

(51) Tsa u'mama ambiya ambipate tsaja.

tsa u'ma=ma an=mbi='ya an=mbi=pa=te **tsa=ja**
ANA palm.tree=ACC eat=NEG=VER eat=NEG=SS=RPRT ANA=CNTR

'The person didn't eat the fallen palm fruits.' (Vaju kundasepa MMEMQ 1:23)

(52) A'ima indi. Kukuya tsama an.

A'i=ma indi. Kukuya **tsa=ma** an.
person=ACC1 seize demon ANA=ACC eat

'The demon seized the man. The demon ate the man.'
(Fischer & Hengeveld, to appear)

2.4.3 Other languages with a similar pattern

Further accompanying the empirical evidence in A'ingae, recent cross-linguistic works covering more languages have revealed that several other languages present similar empirical pictures: a lack of complementarity between bare nouns which also have uniqueness uses and dedicated anaphoric determiners (see also (Moroney, 2021)).

Shan (Tai-Kadai) Moroney (2021)
Bare nouns are obligatory in unique definites (53) but also available in anaphoric definites. A Demonstrative-Classifier-Noun phrase is available for anaphoric definites. (54)

(53) Náaŋ Lˇɤn ʔàm tsaaŋ kwàa hăa khúsɔ̌n **(#kˆɔ nân)**
Ms. Lun NEG able go find teacher CLF.HUM that
'Ms. Lun cannot find the teacher.' (Moroney, 2021, (23))

(54) măa nâj hăn mɛ́w tŏ lăj kɔ tĕ lɯp mɛ́w **(tŏ nân)**
dog this see cat CLF.ANML which PRT will follow cat CLF.ANML that
tàasè
always
'Dogs, whichever cat they see they will always chase the/that cat.'
(Moroney, 2021, (29))

Tumbalá Ch'ol (Mayan) Vázquez Martínez & Little (2020), Little (2020)

In Tumbaá Ch'ol, bare nouns are possible in both uniqueness (56) and anaphoric contexts (57). However, speakers primarily use determiners for an anaphoric referent (58). Vázquez Martínez & Little (2020)'s corpus study finds that anaphoric contexts have bare nouns 36% of the time and determiners/demonstratives 64%, which is further evidence that both forms are felicitous in anaphoric contexts.

A contrasting feature of Ch'ol bare nouns from A'ingae bare nouns manifests in syntactic constraints: in Ch'ol, bare nouns can be definite and indefinite in absolutive positions, but can only be definite in ergative positions.

(55) a. *Context: Responding to a question "When did the man arrive?"*
Ta' juli ak'bi wiñik.
Ta' jul-i ak'bi **wiñik**
PFV arrive-IV yesterday man
'The man arrived yesterday.' (Little, 2020, p.57)

b. *Context: The narrator has just told how the (living) corn interacted with the men and yielded a machete.*
Ta' abi ikotyayob a jiñ wiñikob.
Ta' a=bi i-koty-a-yob a **jiñ wiñik-ob**.
PFV PRT=REP A3-help-DTV-PL PRT DET man-PL
'It (the corn) helped the men.' (Little, 2020, p. 199)

(56) tyikäk=ix=ta **k'iñ** che'
hot=already=REA sun PART
'The sun was very hot that day.'
(Vázquez Martínez & Little, 2020, (13))

(57) a. Che' abi joch otyoty.
che' a=bi joch otyoty
PRT PRT=REP unoccupied house
There was an empty house.

b. Ya' an tabla tyi ijol otyotyi.

Ya' an tabla tyi i-jol **otyoty=i**
there EXT board PREP A3-head house=ENCL

There was a board on top of the house. (Little, 2020, (189))

(58) *Context: After the first mention of 'men' in the story*

päkpäk che'=tyak-ob **aj** **wiñik-ob**
lying_down PART=PL.INDEF-PL DET man-PL

'The men were lying down.'
(Vázquez Martínez & Little, 2020, (14))

San Pedro Mixtepec Zapotec (Vásquez Martínez (2020))

In San Pedro Mixtepec Zapotec, bare nouns are used for both unique and anaphoric definites (59).

(59) Pkă nà tí líbr. Nkwàndò' niáx líbr(-ká).

P-kă nà tí líbr. Nkwàn-dò' niáx líbr(-ká)
COMPL-buy 1SG INDEF book. thing-AUG expensive book(-DEM:DIST)

'I bought a book. The book is expensive.'
(Norma Leticia Vásquez Martínez p.c.)

San Pedro Güilá Zapotec (Arrieta Zamudio (2020))

San Pedro Güilá Zapotec has anaphoric bare nouns (60) and as well as a demonstrative morpheme, *=gi̍*, that are available in anaphoric contexts (61).

(60) a. Bsàgwà drăbă tı̀ gây nàrà' kùn tı̀ gĭdy.
b-sàgwa̰d =răbă tı̀ gâj nà̰rà? kùn tı̀ gĭdy.
c-regalar =3PL.R uno gallo 1SG CONJ uno gallina

Me regalaron un gallo y una gallina.

b. Txì' bdò'â gĭdy txĭ' bènsăkâ môl kùn gây.
tʃĭ? b-tò? =â̰ **gĭdj** tʃĭ? b-ḛ̀n=săk =â̰ môl
NEX.DISC c-vender =1SG gallina NEX.DISC c-hacer=también =1SG mole
kùn **gâj**
PREP gallo

Vendí la gallina y cociné mole con el gallo.
(Arrieta Zamudio, 2020, (63))

(61) a. nì zŏb rù' tômgĭ nŏ' tı̀ bětx gûl rò'yàz

Sentado sobre aquella laguna, había un zopilote macho muy viejo.

b. là jwâñy mêr gízèny gi̱ky gyàg ri̱ty zŏb bětx gûl rò' gǐ̱.
lâ̰ jwâñj mêr gí-zènj gi̱kj gjàg ri̱̰tj zŏb **bětʃ**
TOP Juan mero POT-llegar cabeza árbol donde sentarse zopilote
gûl **rò**ʔ**=gǐ̱**
macho grande =DEM.NO.VIS

Juan ya casi llegaba a la punta del árbol donde estaba sentado aquél viejo zopilote.
(Arrieta Zamudio, 2020, (52))

Tsotsil Sureño Mendoza (2021)

In Tsotsil Sureño, a bare NP can occur in both unique and anaphoric contexts. Additionally, the article "e" is used in anaphoric contexts (62) as well as locally unique contexts but not globally unique ones (such as (63)). Another definite article "te" is not used in unique NPs (as shown by its infelicity in (64)) and can only be used in simple anaphora cases, ie. not in bridging anaphora.

(62) a. x-k-il-Ø jun jemel ch'en ta x-i-bat li' ta
NT-A1-VER-B3 uno fragmentado cueva ICP NT-B1-ir DEM.LOC:PROX P
jun lado=e
un lado=DEF
'Veía como una cueva, cuando me iba aquí por un lado.'

b. x-Ø-vinaj=e, y-u'un-Ø i-Ø-jev el s-tuk **(e)**
NT-B3-VER=DEF A3-SR-B3 CP-B3-fragmentar DIR A3-solo ART
ch'en=e
cueva=DEF
'Según se ve, la cueva se fragmentó sola.' (Mendoza, 2021, (6,7))

(63) la v-il-Ø ombi Ø-atin **(#e)** ch'ul k'ak'al=e?
CP A2-VER-B3 entonces B3-bañarse ART sagrado sol=DEF
'Pudiste ver que se estaba bañando el sol?' (Mendoza, 2021, (15))

(64) *Contexto: En el patio de una casa está una familia comiendo, de pronto el perro de la familia se acerca y el papá le dice a su hijo.*

'a-be-Ø-o s-ve'el **{e/#te}** ts'i' taj=e
dar-APL-B3-IMP A3-comida ART perro DEM.LOC:DIST=DEF

'Dale (su) comida al perro (por) allá.' (Mendoza, 2021, (17,18))

Common to A'ingae and all of these languages as cited here is the lack of complementarity between the unique and anaphoric forms of each language. This wide cross-linguistic empirical evidence on the lack of complementarity leads to a challenge to a commonly used strategy based on pragmatic blocking to analyze and predict the structure of definiteness cross-linguistically, which will be elaborated in the Chapter 3.

2.5 Summary

In this chapter, I have presented descriptions of the uses of both bare nouns and the anaphoric marker *tsa* in A'ingae. I have shown that bare nouns can be used in all of indefinite, unique definite, and anaphoric definite NPs, while the marker *tsa* is strictly limited to anaphoric contexts in either pronominal or adnominal form. A decomposition of the comparative adverb *tsa'kan* further shows that *tsa* is used only as a nominal anaphor to individuals and propositions. This empirical pattern of the expression of definiteness in the language shows that, despite the existence of a dedicated anaphoric marker *tsa*, A'ingae bare nouns still are available in anaphoric uses. While speakers express 'soft' preferences in certain contexts, in many cases all three options — bare noun, *tsa* , *tsa* + N — are all felicitous. I have also introduced a few languages investigated in recent literature that exhibit a similar lack of complementarity between its unique and anaphoric forms.

In the next chapter, I will elaborate on some theoretical frameworks that rely on pragmatic blocking in an analysis for the distribution of the unique and anaphoric forms in a language. I will argue that such frameworks based on pragmatic competition does not account for the empirical pattern presented in A'ingae and the languages I have cited in §2.4.3, and then I will provide a preliminary alternative analysis for bare nouns and *tsa* in A'ingae that does not rely on pragmatic blocking but is instead rooted in the semantic (anti-)presuppositions of both forms.

Chapter 3

Analysis of definiteness structure without pragmatic competition

3.1 Overview

Chapter 2 presents a range of empirical evidence that shows a lack of complementarity between the distribution of bare nouns and the anaphoric marker *tsa* in anaphoric noun phrases in A'ingae, which is a pattern that challenges a complementarity between the unique and anaphoric forms in many other languages from previous literature. From previous literature, this has been argued in previous literature to be the norm, or even a universal feature, as it is argued to be derived from pragmatic competition frameworks that are considered to generalize cross-linguistically. In this chapter, I focus on some of such pragmatic strategies and show that these strategies based on pragmatic competition do not account for the pattern of definiteness marking in A'ingae.

The general shape of these pragmatic competition frameworks is based on an analysis of the difference in presuppositions of different determiner forms in a language. The reasoning is that there are "weaker" and "stronger" determiner forms, where the weak form is argued to be available only for non-anaphoric noun phrases. The stronger form, which is used only in anaphoric contexts, has additional presuppositions besides the presuppositions that also exist for the weaker form. This stronger anaphoric form, therefore, is argued to pragmatically block the availability of the weaker form in anaphoric contexts because of a principle that states that the form with stronger presuppositions should be used whenever possible.

In this chapter, I start by proposing the presupposition content of A'ingae bare nouns and *tsa*, which will serve as the foundation of my later arguments (§3.2). Then, I present a few pragmatic competition principles from previous scholarships that have aimed to generalize over the structure of definiteness cross-linguistically, and I argue that none of them predicts the correct empirical pattern of A'ingae definite NPs (§3.3). Then, I propose an alternative analysis for the A'ingae pattern that utilizes not pragmatic principles but the semantics of bare nouns and *tsa* (§3.4). By providing this alternative analysis that is semantically based, I also suggest that pragmatic blocking competition does not exist synchronically in the domain of definiteness. Finally, although I leave to future works

the specific details of how my alternative analysis can be applied to other languages, I introduce directions for future work that could help to in generalize such alternative semantic analysis to other languages with other definiteness patterns (§3.5).

3.2 Presuppositions of A'ingae noun phrases

The pragmatic principles that I will be focusing on later in this chapter all depend on the presuppositions of the uniqueness and anaphoric forms in a language. So, I first lay out my assumptions about the presuppositions of the bare nouns and *tsa* in A'ingae, as these assumptions will support evidence that argues that pragmatic principles based on presupposition competition do not predict the A'ingae pattern.

3.2.1 Presuppositions of bare nouns

As shown in §2.2.1, bare nouns in A'ingae are available in indefinite, unique definite, and anaphoric definite noun phrases. There are two potential ways to analyze the presuppositions of A'ingae bare nouns: 1) by analyzing bare nouns as ambiguous between the indefinite, unique, and anaphoric definite forms, and 2) by analyzing bare nouns as an unambiguous form without any presuppositions, so that bare nouns are compatible with all of indefinite, unique, and anaphoric definite contexts.

Under the first approach, A'ingae bare nouns are considered to be ambiguous between the indefinite and the definite forms. The presuppositions of each form are:

- Indefinite bare nouns: presuppose nothing, asserts existence.
- Unique definite bare nouns: presuppose existence and uniqueness.
- Anaphoric definite bare nouns: presuppose existence and familiarity.

Here, only the definite bare nouns contain presuppositions while the indefinite bare nouns do not presuppose anything. This proposal would treat A'ingae bare nouns as being three-way ambiguous between the indefinite, unique, and anaphoric uses. In other languages, there are similar proposals of an ambiguous bare noun structure: for example, treating English 'the' as ambiguous between the unique and anaphoric uses, or treating Mandarin bare nouns as ambiguous between the indefinite and unique uses. Specifically for the A'ingae bare nouns, I will discuss later in this section that, regardless of how the ambiguity of bare nouns is spread across indefinite, unique, and anaphoric forms, I will reject a pragmatic competition account based on amounts of presuppositions to account for the pattern of definiteness in A'ingae, so the exact way of representing the ambiguity of A'ingae bare nouns will not be very important then.

The second approach of analyzing the presuppositions of A'ingae bare nouns is, instead of considering bare nouns to be ambiguous between two forms, treating bare nouns

as unambiguous and lacking any presupposition across the indefinite or definite uses. Under this approach, whether a bare noun phrase is indefinite or definite solely depends on the discourse context. The truth condition of an A'ingae bare NP, therefore, can be met by the existence of its referent, whether this existence is familiar or unfamiliar to the interlocutors. This analysis would resemble the analysis from Matthewson (1996) where she argues that determiners in Salish lack any presuppositions. Data from §2.2.1 also supports this analysis for A'ingae, because there is no constraint on when an indefinite bare noun occurs and when the definite one occurs – the deciding factor is purely contextual.

For the argument that will be made in this chapter, the exact interpretation of A'ingae bare nouns is not crucial. As will be discussed in how the A'ingae NP pattern is situated within a pragmatic competition framework in §3.3.1, regardless of whether we consider A'ingae bare nouns as containing some presuppositions in the definite case or containing no presupposition at all, the presuppositions of *tsa* will always be stronger, making *tsa* the stronger form in a pragmatic competition scenario.

By assuming that bare nouns in A'ingae do not have any presuppositions, it might seem that I am presenting an account that is very similar to the account from Matthewson (1996) regarding Salish determiners lacking any presuppositions. One important difference between the A'ingae and Salish determiners data, however, is that A'ingae does have a dedicated anaphoric determiner *tsa* that does contain presuppositions (as analyzed in the next section), while for Salish determiners, all of them are analyzed to lack presuppositions, which is why the derivation of which form being available in which context for Salish NPs can still be compatible with a pragmatic competition account. The A'ingae definiteness data, however, cannot be compatible with pragmatic competition, because the non-presuppositional bare nouns and the dedicated anaphoric marker *tsa* are both felicitous in anaphoric contexts.

3.2.2 Presuppositions of *tsa*

Moving on from the presuppositions of A'ingae bare nouns, for the nominal anaphor *tsa*, I propose that *tsa* presupposes the existence, uniqueness, and familiarity of its antecedent. Firstly, the following family of sentences test shows that both existence and familiarity are part of *tsa*'s presupposition:

(65) Kaningi athe fae tsandie tuyakaen fae pûshesûma...

kani=ngi athe fae tsandie tuya='kan=e fae pûshesû=ma.
yesterday=1.SG see one man still=CMP=ADV one woman=ACC

'Yesterday I saw a man and a woman...'

a. *Assertion*
Sethapuen'jenchutsû tsa pûshesû ña atheni.

sethapuen-'je='chu=tsû **tsa** **pûshesû** ña athe=ni.
sing-IMPV=SUB=3 ANA woman 1.SG see=LOC

'The woman was singing when I saw her.'
(Speaker judgement: 'this has to be the same woman I just mentioned.')

b. *Negation*
Tsa pûshesûja sethapuen'jembi.

tsa **pûshesû**=ja sethapuen-'je=mbi.
ANA women=CNTR sing-IMPV=NEG

'The woman was not singing.'
(Speaker judgement: 'this has to be the same woman I just mentioned.')

c. *Polar question*
Tsa pûshesûti sethapuen'jenchu?

tsa **pûshesû**=ti sethapuen-'je='chu
ANA woman=INT sing-IMPV=SUB

'Was the woman who was singing?'
(Speaker judgement: 'this has to be the same woman I just mentioned.')

The speaker's judgement in all of these three scenarios shows that the existence of the referent 'woman' is always entailed. Additionally, If the first sentence, *Kaningi athe fae tsandie tuyakaen fae pûshesûma* 'I saw a man and woman yesterday' is not in the context, none of (65a)-(65c) would be felicitous, which shows that *tsa* also presupposes familiarity of the referent, and this familiarity needs to come from prior mention.

In addition to existence and familiarity, the uniqueness of the referent is also part of *tsa*'s presuppositions. A situation for testing the uniqueness of the referent of a noun phrase is in a maximal situation, where the context of the utterance makes it clear that there are multiple of the entities denoted by the noun phrase. When the antecedent of a *tsa* noun phrase is a group of individuals, if the *tsa* NP can refer to only a portion of this group, then uniqueness is not a presupposition of *tsa*, because the context makes it clear that the referent (ie. the subgroup) is not unique. This is not the case for A'ingae *tsa* NP. As shown in (66a), when the antecedent is multiple individuals, using *tsa* is only felicitous when referring to all the individuals maximally. Using *tsa* to pronominally or adnominally refer to only one or a subset of all the individuals is not felicitous — (66a) cannot mean "Some of the children are sleeping.". The way to refer to only a subgroup of all the individuals is using words like *majandekhû* "some" and *kha'indekhû* "others", as in (66b).

(66) a. Cuatro dûshûndekhûtsû kan'jen'fa va'thi. Tsa dûshûndekhûtsû ana'jen'fa.

cuatro dûshû=ndekhû=tsû kan'jen-'fa va='thi. **tsa**
four child=PLH=3 stay=PLS PRX=CL.LOC ANA
dûshû=ndekhû=tsû ana-'je-'fa.
child=PLH=3 sleep-IMPV=PLS

'There are four children here. **They are (all)** sleeping.'

b. Cuatro dûshûndekhûtsû kan'jen'fa va'thi. Ana'jen'fatsû majandekhûja, tuyakaen kha'indekhû me'i'fa.
cuatro dûshû=ndekhû=tsû kan'jen-'fa va='thi. ana-'je-'fa=tsû
four child=PLH=3 stay=PLS PRX=CL.LOC. sleep-IMPV=PLS=3
majan=ndekhû=ja tuya='kan=e kha'i=ndekhû me'i-'fa.
which=PLH=CNTR still=CMP=ADV other=PLH no=PLS

'There are four children here. Some of them are sleeping, others are not.'

Tsa and bridging NPs

An additional empirical pattern presented in §2.2.2 is that *tsa* is not felicitous in either the 'part-whole' or the 'producer-product' bridging definite noun phrases, which emphasizes the fact that *tsa* requires prior mention of the antecedent to be felicitous. This observation in turn requires the familiarity presupposition of *tsa* to be fairly strong: this familiarity requires prior mention in discourse.

This empirical pattern should not be considered trivial, given a quite different pattern exhibited in some other languages. In Schwarz (2008), he points out that German weak article occurs with 'uniqueness' bridging (ie. part-whole bridging) while the strong article occurs with 'anaphoric' bridging (ie. product-producer bridging), which shows that the unique and anaphoric forms in German exhibit a split in their respective distribution for a certain type of bridging. After Schwarz (2009)'s formalization of these bridging definite noun phrases that have been mentioned from prior works, many subsequent work in other languages have also included the two types of bridging constructions into their data collection. Jenks (2018)'s work on Mandarin similar argues for a split in the unique and anaphoric forms occurring in separate types of bridging constructions: Mandarin bare nouns occur in uniqueness/part-whole bridging while demonstrative- determiner phrases occur with anaphoric/product-producer bridging, similar to the split in German.

Therefore, it is important to note that in A'ingae, *tsa*, the marker that occurs with anaphoric definite noun phrases, cannot be used in the 'anaphoric' bridging between a product and its producer. Schwarz analyzes the split between the German determiners' availability in different bridging cases as: the weak determiner is felicitous in part-whole bridging because of the situational uniqueness of the antecedent, and the strong determiner is felicitous in product-producer bridging because this determiner is used in a situational anaphora. This proposal of situational anaphora claims that the anaphoricity

of the strong determiner is satisfied because part of the lexical content of the antecedent, the 'product', is a relation with its producer, and the existence of the product contributes to the part of the producer's content that is the reference of the strong determiner. This analysis of bridging using situational anaphora does not align with the behavior of *tsa*, which is not felicitous even in the product-producer bridging cases. If such proposal were to generalize over all the definiteness structure across languages, then we need to update the conditions under which this relational anaphora can be established.

In summary, the presuppositions of a *tsa* noun phrase include the existence, uniqueness, and familiarity of its referent. Regardless of which approach of analysis we take for the A'ingae bare nouns, it is clear that these presuppositions of *tsa* make *tsa* have stronger presuppositions than bare noun phrases in A'ingae.

3.3 Survey of pragmatic blocking strategies and how they do not predict the A'ingae pattern

After establishing an understanding of the presuppositions of bare nouns and *tsa* noun phrases in A'ingae, in this section I will begin focusing on some previous work on definiteness structure in other languages. The commonality of the different frameworks proposed in these works is that they utilize some type of pragmatic competition in analyzing what form is available for what type of (in)definite noun phrases in a language. Throughout the discussion of a few pragmatic competition based frameworks, I will also present empirical evidence that these frameworks do not predict the definiteness pattern in A'ingae.

3.3.1 *Maximize Presupposition!*

Many languages, unlike A'ingae, have been proposed to do show a complementarity between the unique and anaphoric forms, such as German having a 'weak' determiner for unique definite NPs and a 'strong' determiner for the anaphoric definite NPs (Schwarz, 2009). A leading analysis for this complementarity has been argued to be rooted in pragmatics. Specifically, *Maximize Presupposition!* (Heim (1991); henceforth MP) has been proposed as a general economy principle that chooses the form with more presuppositions among otherwise equivalent competing forms. MP directly concerns pairs of forms that differ minimally in each form's presupposition, where the "stronger" form triggers a semantic presupposition that the "weaker" form lacks. MP predicts that the weaker form is infelicitous in a context where the presupposition in question is already part of the common ground. On the other hand, in contexts where the presupposition is *not* part of the common ground, using the weaker form implicates that the presupposition is false or unknown.

MP was originally proposed to account for data like (67), where these sentences are not necessarily *false* but *infelicitous*. This infelicity is analyzed to *not* arise from a presupposition failure of the indefinite determiner "a" because of observations such as (68). The empirical generalization from data such as (67) is that these utterances already satisfy the presuppositions of "the" (the uniqueness of the sun in (67a) and the weight of the tent in (67b)), so using "a" is infelicitous because it is the weaker form without the uniqueness presupposition.

(67) a. # A sun is shining *cf.* The sun is shining.
b. # A weight of the tent is 5 kg. *cf.* The weight of the tent is 5 kg.

(68) a. Robert caught a 20-feet catfish.
does not presuppose: There is more than one 20-feet-long catfish.

Maximize Presupposition!, although relating to a tendency in choosing one form over the other because of pragmatic considerations, is argued to not be derived from any of the Gricean maxims (Heim, 1991, p.515). Heim claims, however, that this principle could be a new principle in the same style as the Gricean principles, because MP is also motivated by cooperative communication. Some debates on the status of MP are reviewed later in this section.

MP in the analysis of definiteness

Adopting MP to the domain of definiteness, Schwarz (2009, 2013) proposes that both unique and anaphoric definites presuppose the existence of a unique individual to which they refer, but the anaphoric form contains an additional index argument that is not present in the unique definite form. This analysis crucially assumes that the anaphoric form entails the unique form, because familiarity entails uniqueness. In addition, the index argument is part of the presuppositions of the anaphoric form, so the anaphoric form has stronger presuppositions. *Maximize Presupposition!*, then, would dictate that whenever there is an anaphoric form available in the language, the anaphoric form should be chosen over the uniqueness form in an anaphoric context, because the anaphoric form contains stronger presuppositions.

(69) In der New Yorker Bibliothek gibt es ein Buch über Topinambur. Neulich
In the New York library exists EXPL a book about topinambur recently
war ich dort und habe ***im** / **in dem** **Buch** nach einer Antwort auf die
was I there and have $*in.the_{weak}$ / **in** the_{strong} **book** for an answer to the
Frage gesucht, ob man Topinambur grillen kann
question searched whether one topinambur grill can
'In the New York public library, there is a book about topinambur. Recently, I was there and searched in the book for an answer to the question of whether one can grill topinambur.' (Schwarz, 2009, (25))

In (69), for example, the strong determiner phrase *in dem* is used instead of the weak one *im*. In this sentence's context, there are many books in the library, but the previous mention of a particular book in the first sentence suffices to ensure for the correct interpretation of the book in the second sentence. The strong determiner in German, then, is obligatory in this sentence to fulfill the anaphoric context and indicate that the referent of *buch* "book" in the second sentence is dependent on a previously occurring noun phrase, which is what the index presupposition contains. Using the weak determiner is not felicitous in this sentence, as the weak determiner would only indicate that the book in the second sentence is unique without stating that is is the same book as the one from the first sentence.

MP does not predict the patterns of definiteness in A'ingae

Based on my analysis of the presuppositions of A'ingae bare nouns and *tsa* from §3.2, between the unique and anaphoric forms in A'ingae, *tsa* contains stronger presuppositions than the bare noun form, because *tsa* presupposes the existence and previous mentioning of the antecedent. The data from Chapter 2 shows that both the bare noun form and the anaphoric marker *tsa* are available in anaphoric contexts in A'ingae, which indicates that the pattern of definiteness in A'ingae cannot be predicted by *Maximize Presupposition!*. MP should predict that anaphoric bare noun phrases, being the weaker form, is not infelicitous in a context where the anaphoricity presupposition is in the common ground. On the other hand, MP would also predict that not using the stronger form *tsa* should then presuppose the lack of anaphoricity. As shown by the A'ingae data from §2.4, neither of these predictions hold. Even though *tsa* has stronger presuppositions, both bare noun phrases and *tsa* seem equally acceptable in anaphoric contexts.

Status of MP as a pragmatic principle

Outside the domain of definiteness, *Maximize Presupposition!* as a pragmatic principle in general has received much debate regarding the exact kind of principle it is. Heim herself emphasizes that *Maximize Presupposition!* is not derived from any of the existing Gricean maxims. Much literature has since followed up with this argument and proposed different statuses of MP as a principle. Some, such as Schlenker (2012) and Leahy (2016), propose to reduce MP to (a species of) scalar implicature in the Gricean style. Lauer (2016), however, proposes that MP is a neither a normative rule nor a Gricean principle, but rather a "selfish" linguistic preference from the speaker – it is a preference for *linguistic form* rather than the consequences of the utterance (Lauer, 2016, p.13). From this view, there are "obligatory implicatures", resulting in the infelicity of using the weaker form when the stronger form is available. It is also possible to consider MP as a derivative of the maxim of manner in the sense the MP dictates that the form with more contribution to the presuppositions of the utterance should be chosen.

The details of this discussion around the status of MP are outside the scope of this thesis, but it is important to note here that the overall debate around the status of MP as a pragmatic principle is not yet conclusive, which suggests the possibility that MP as being applied to different phenomenon (eg. determiners, quantifiers, etc.) might be stricter than what the empirical evidence presents.

3.3.2 *Index!*

Many frameworks specific to the domain of definiteness have been proposed as a derivative of *Maximize Presupposition!*. Jenks (2018), for example, focusing on Mandarin Chinese and Thai, proposes a more specialized competition strategy based on pragmatic blocking, which he calls *Index!*. Jenks' analysis for the unique and anaphoric forms in a language adopts the part of the analysis from Schwarz (2009) that treats the anaphoric form as having an additional index variable, and *Index!* states that an index should be represented explicitly whenever possible.

(70) *Index!*
Represent and bind all possible indices. (Jenks, 2018, (53))

Index! builds off of MP by connecting the "index" semantics of the anaphoric form with an asymmetrical entailment between the unique and anaphoric forms. Both forms presuppose the existence of a unique individual, but because the anaphoric form contains the additional index variable that makes the presuppositions of the anaphoric form stronger than that of the unique form, the anaphoric form should be used whenever possible (Jenks, 2018, p.14). The anaphoric form entails the uniqueness form, but not the other way around.

In Mandarin, for example, Jenks argues bare nouns are allowed only in uniqueness contexts while demonstrative phrases such as "zhe ge" and "na ge", are obligatory in anaphoric definite phrases. *Index!* blocks the use of a uniqueness definite in anaphoric contexts due to the stronger presupposition of the competing anaphoric demonstrative. Jenks then argues that these demonstrative phrases are the dedicated anaphoric morphemes in Mandarin. In (71), for example, Jenks argues that the demonstrative phrase "na ge" is obligatory, because the noun phrase in (71b) is an anaphoric definite in non-subject position.

(71) a. Jiaoshi li zuo-zhe yi ge nansheng he yi ge nüsheng,
classroom inside sit-PROG one CLF boy and one CLF girl,

'There is a boy and a girl sitting in the classroom...'

b. Wo zuotian yudao **#(na ge) nansheng**
I yesterday meet that CLF boy

'I met the boy yesterday.' (Jenks, 2018, (16))

Jenks does point out one exception to the generalization of *Index!*, part-whole bridging cases, because the prior mention of an argument of the noun licenses the anaphoric form.

A'ingae does not follow *Index!*

Index! is a pragmatic principle that builds off of MP and utilizes the different amounts of presuppositions of the unique and the anaphoric forms to predict the availability of each form in different definiteness contexts a language. As shown by empirical evidence from §2.4, *Index!* fails to predict the correct pattern of definiteness in A'ingae: A'ingae has an exclusively anaphoric marker, *tsa*, but its existence does not block the availability of the bare form in anaphoric contexts, such as in (47), repeated below:

(72) *Context: A story about a man hunting peccaries*

a. Napisi sûya tayuti ja vaeyitsû munda ja khen de sûya.
napi=si sû='ya tayu=ti ja vae=yi=tsû **mûnda**
arrive=DS say=VER already=INT go already=EXCL=3 peccary
ja=khen=te sû='ya.
go=THUS=RPRT say=VER

'When he came, he asked if the pack had already gone. "Just a moment ago," they said.'

b. Tsete tsa kuenza ûfambe pasaya tsumbate tse umbaemba jaya **tsa mundai'khû**.
tse=te tsa kuenza ûfa=mbe pasa='ya tsun=pa=te
ANA.LOC=RPRT ANA old blow=NEG.ADV pass=VER do=SS=RPRT
tse umbuen=pa ja='ya tsa mûnda=i'khû.
ANA.LOC follow=SS go=VER ANA peccary=INST

'Since he hadn't hunted anything, he decided to follow the peccaries.'
(Kuankuan kundasepa OCQ 1:32)

Additionally, languages cited in §2.4.3 also challenge the pattern predicted by *Index!*. In these languages and in A'ingae, the existence of a dedicated anaphoric form does not block the availability of the uniqueness form in anaphoric contexts.

Complications to *Index!* for Mandarin

Besides the A'ingae empirical pattern presenting some challenge to the *Index!* principle, a few recent literature also has pointed out the inconclusiveness of *Index!* as applied

specifically in Mandarin. These works provide evidence that the complementarity between bare nouns and demonstratives in Mandarin may be less strict that *Index!* would dictate.

Dayal & Jiang (2021) provides examples of different contexts where judgements from native speakers in these sentences show that the bare noun form is in fact acceptable. These contexts include product-producer type bridging sentences as well as anaphoric references with an indefinite antecedent, as shown in (73). These examples show that Mandarin bare nouns can be used anaphorically in some situations where demonstratives are also available, which is a pattern that challenges the complementarity predicted by *Index!*.

(73) a. Mali gen yi ge nanhai he yi ge nühai zai jiaoshi li,
Mary with one CL boy and one CL girl at classroom inside
'Mary is in the classroom with a boy and a girl.'

b. ta zhengzai gen **nanhai** shuohua.
she PROG with boy talk
'She is talking to the boy.' (Dayal & Jiang, 2021, (26))

Dayal and Jiang provide an alternative analysis that is a semantic account rather than one dependent on pragmatic blocking. They propose demonstratives in Mandarin should not be analyzed as strong or anaphoric determiners but instead as 'regular demonstratives'. In (74), *Index!* should predict that the anaphoric form be used in the second sentence, but comparing the Mandarin and English data shows some intuition that Mandarin *na ge* really should pattern with the demonstratives, not definite determiner *the*, in English.

(74) a. The sun and the moon are part of our solar system. The earth revolves around **the/#that** sun.

b. Taiyang he yueliang shi women taiyangxi de yi bufen. Diqiu
sun and moon be our solar.system MOD one part earth
weirao **(#na ge)** taiyang zhuan.
revolve that CL sun turn
'The sun and the moon are part of our solar system. The earth revolves around the/#that sun.' (Dayal & Jiang, 2021, (10,11))

Dayal and Jiang further point out that demonstratives in general tolerate and require lack of uniqueness, while definite articles do not. Demonstratives in Mandarin, according to this proposal, require anti-uniqueness in large situations (ie. the "globally unique" situations) while maintaining uniqueness in the immediate situation.

There does, still, exist a certain degree of preference for the demonstrative phrase to occur in an anaphoric context over the bare noun phrase. The semantic account proposed

here does not suffice to explain why this preference still exists. Dayal and Jiang propose a preliminary solution to the puzzle of this preference by taking into account the number of entities and situations that exist for an utterance includes and how these entities and situations change. If the situations need to expand to include more individuals between the antecedent clause and the clause with the anaphoric reference, demonstratives are preferred. In their paper, this proposal is only sketchily examined and supported by a few examples, so more elaborate empirical data would be necessary to further this proposal.

Despite areas needing further investigation, Dayal and Jiang's semantic account for definiteness structure in Mandarin opens up possibilities that the pragmatic account from *Index!* does not depict the whole picture. Their point on Mandarin demonstratives require anti-uniqueness in certain situations is also a valuable perspective for explaining the felicity of a certain definite form through its semantics, not pragmatics.

Besides Dayal and Jiang's work, Bremmers et al. (2021)'s corpus work on translated texts between Mandarin and German also shows that the distributions of German weak/strong articles and Mandarin bare nouns/demonstratives do not overlap, which provides evidence from a different perspective that the split between Mandarin bare nouns and demonstrative phrases is perhaps not the same as the split in the German determiners. If the German weak/strong determiner system is predictable by a pragmatic principle that follows MP, the Mandarin data might not.

As a native speaker of Mandarin, I personally also find the result from *Index!* stricter than it should be and agree with the examples provided in Dayal & Jiang (2021). For example, I agree that the bare noun "nanhai" in (73) is felicitous and adding a demonstrative phrase here is also equally acceptable. In (71), my judgement is that the demonstrative-classifier phrase *na ge* in the second sentence *can* in fact be omitted for the sentence to still be felicitous, contrary to the judgement provided in the Jenks (2018).

Even in his original paper, Jenks himself argues that anaphoric bare nouns in the subject position are considered as continuing topics, therefore being an exception to the fact that bare nouns are not available in anaphoric definites in Mandarin.

These works and ideas provide some preliminary evidence that the complementarity between the bare nouns and the anaphoric marker, as proposed for Mandarin at least, might need further fine-tuning. Moreover, as *Index!* can be seen as a derivative of the more general *Maximize Presupposition!* principle, the competition accounted for by Index! also depends on two forms with different amounts of presuppositions. As discussed in §3.3.1, the nature of such pragmatic principle that bases on presuppositional differences is unclear.

3.3.3 *Bare Noun Blocking*

As shown so far, *Index!* seems to not be a suitable strategy to analyze the patterns of A'ingae bare NP and *tsa* and potentially other languages. Another pragmatic proposal that aims to generalize over the availability of the unique and anaphoric forms in all

languages comes from Ahn (2019). This proposal essentially modifies the situation under which *Index!* occurs to be a condition that depends on the existence of a morphologically simplex pronoun in a language. Ahn claims that *Index!*-like blocking is found in all and only languages with morphologically simplex pronouns, a principle she calls "Bare Noun Blocking":

(75) *Bare Noun Blocking*
If a bare argument language has morphologically simplex pronouns ('simplex pronouns') for 3rd person reference, bare nouns are blocked from intersentential anaphora involving one salient entity. (Ahn, 2019, (25))

Ahn further proposes that the basis for this blocking principle originates from a Scale of Anaphoricity for all languages, which states that languages have different lexicalizations of definite features that result in different anaphoricity scales. Then, a *Don't Overdeterminate!* principle chooses the form lowest on the scale whenever possible and blocks any redundant expressions when a simpler form is available.

(76) English Scale of Anaphoricity: pronoun < definite description < demonstrative description (Ahn, 2019, (82))

(77) *Don't Overdeterminate!*: a principle that chooses the lowest element in the scale of anaphoric expressions that can successfully resolve the referent. (Ahn, 2019, (90))

A'ingae does not follow *Bare Noun Blocking*

If we take *Maximize Presupposition!* and the subsequent *Index!* as derivatives of the maxim of manner in informational status, the *Don't Overdeterminate!* principle could represent a different type of maxim of manner in the morpho-phonological forms of referring expressions: whenever there is a simpler form, *Don't Overdeterminate!* chooses the simpler form instead of the more complex one that holds the same level of determinancy. Although different from *Index!*, the *Don't Overdeterminate!* principle and the *Bare Noun Blocking* prediction still do not result in a correct depiction of the pattern in A'ingae.

As shown in §2.4, *tsa* can exist pronominally, which means it has the function of a morphologically simplex pronoun in A'ingae. The existence of a simplex pronoun *tsa* (such as in (50) and (52), repeated here) does not block the existence of anaphoric bare nouns.

(78) Chavangi fae tevaenjenma. {Tsa tevaenjen/Tsa/Tevaenjen} panshaen karu.

chava=ngi fae tevaenjen=ma. **{tsa tevaenjen/tsa/tevaenjen}** panshaen
buy=1 one book=ACC {ANA book/ANA/book} very
karu.
expensive

'I bought a book. The book was very expensive.'

(79) A'ima indi. Kukuya tsama an.

a'i=ma indi. kukuya **tsa=ma** an.
person=ACC1 seize demon ANA=ACC1 eat

'The demon seized the man. The demon ate the man.'
(Fischer & Hengeveld, to appear, (56))

In addition to the pronominal *tsa*, there are other overt monomorphemic pronouns in A'ingae, such as *tise* for animate subjects, such as in (80).

(80) **Tise** japa panzapa jiñanindate a'ikaen **tise** jiñane funduya.

tise ja=pa panza=pa jiña=ni=nda=te a'i='kan=e tise
3.SG go=SS hunt=SS come.PRSP=LOC=NEW=RPRT person=CMP=ADV 3.SG
ji=ña=ne fundu=ya.
come=IRR=ABL shout=IRR

'He went hunting, and just as he was returning, he shouted like a person.'
(Tshararukuku kundasepa 0:33)

These examples indicate that Ahn's pragmatic principle that depends on the existence of simplex pronouns still does not lead to the correct prediction of the coexistence of anaphoric bare nouns and *tsa* in A'ingae. On a broader picture, the incompatibility of Ahn's proposal with A'ingae data suggests that, even with additional fine-tuning, pragmatic competition principles are challenged with predicting the right pattern in A'ingae and other languages (§2.4.3). If there is a strict complementarity in all languages and only the exact line or content of each form's presuppositions needs fine-tuning, that seems promising, but fine-tuning the contexts and conditions allowing for both forms seems less effective.

3.4 An alternative analysis based on semantics

As shown by the structure of bare nouns and *tsa* in A'ingae from Chapter 2 and more detailed investigation into pragmatic blocking constraints as applied to A'ingae above in §3.3, pragmatic blocking as a strategy for predicting patterns of definite NPs does not work for A'ingae and other languages mentioned in §2.4.3. If competition-based principles are not sufficient to capture the different definiteness structures cross-linguistically, what options do we have?

One idea might be that the mechanism of blocking via pragmatic competition is itself subject to cross-linguistic variation, but this proposal quickly appears theoretically not ideal. All the competition-based principles discussed in §3.3 have their roots in the Gricean cooperative principles, which are principles that are thought to be applicable across all of human language and communication. The fact that the proposed pragmatic

blocking principles cannot account for cross-linguistic variation on definiteness structure suggests that either 1) these principles need to be refined, or 2) that the availability of certain forms in certain definite constructions cannot be accounted by pragmatics.

Regarding the first possibility here, an analysis that aims to refine pragmatic blocking seems theoretically unproblematic. For example, the Bare Noun Blocking constraint from Ahn (2019) is such an attempt where the condition under which a pragmatic competition happens is argued to depend on some other related facts of the language. This approach is certainly open for future investigations on what the independent factor could be that can be found across languages that do not exhibit strict blocking between its uniqueness and anaphoric forms. Currently, it seems challenging to find this independent factor – data from A'ingae and languages discussed in §2.4.3 goes against Ahn (2019)'s specific proposal, and the languages lacking such competition as studied by Ahn also appear heterogeneous: for example, the blocking determiners are sometimes demonstratives, sometimes, as in A'ingae, not, and these languages also differ in other orthogonal dimensions like their word order, whether they are classifier languages, etc.

In this thesis, I adopt and elaborate on the second possibility: strict pragmatic competition in the domain of definiteness does not exist synchronically. Under this proposal, essentially only a soft competition between uniqueness and anaphoric forms is to be found in all languages, while the main deciding factor for the felicity of certain (in)definite forms is the *semantics* of each form, not pragmatics. For languages that do show a strict complementarity between the unique and anaphoric forms, such as German and Fering, each form's function is semantically encoded such that a form is only felicitous in contexts that satisfy its semantic requirements. For languages, like A'ingae, that exhibit a soft preference of one form over the other in certain contexts, each form still has own semantic structure that reflects certain (anti-)presuppositions within each form, and only the soft preferences for one form over the other are results of pragmatic pressure.

It is not unseen from previous scholarships to connect the distribution of referring expressions with non-pragmatically-related phenomena. The Givenness Hierarchy, for example, proposed by Gundel et al. (1993), aims to link the usage of referring expressions in natural discourse with the cognitive state of the referent. They present a framework with different levels of "givenness", which then correspond to specific forms of determiner at that cognitive level. This hierarchy, however, uses saliency of the referent as the measure to determine which referential expression to use. It is possible that how the soft pressure that diachronically drives speaker preference in choosing between the unique and anaphoric forms relates to the saliency of the referent, as argued by the Givenness Hierarchy.

Theoretically, the only real downside of this semantically-based analysis is a potential lack of parsimony, though this depends on how far one extends this approach, specifically if there are true cases of synchronic *Maximize Presupposition!* producing hard competition/blocking.

In the following sections, I will first provide an analysis of the semantics of bare nouns and *tsa* in A'ingae. Then, I briefly introduce how similar semantic analyses can be drawn

on Mandarin and English but will leave the specific analyses to future investigation, as they are outside the scope of the broader discussion of anaphoric forms in A'ingae in this thesis.

3.4.1 Semantics of A'ingae bare nouns and *tsa*

For A'ingae, I provide the semantic analysis for bare nouns and the nominal anaphor *tsa*. I continue with my analysis from §3.2 that treats A'ingae bare noun as without any presuppositions, so a bare noun phrase only asserts the existence of the referent. A'ingae bare nouns don't presuppose the existence of the referent or its uniqueness, allowing bare nouns to occur in indefinite and definite noun phrases. Besides lacking any anti-familiarity or anti-uniqueness semantics, bare nouns also do not receive syntactic constraint for where it can be indefinite or definite.

This analysis of A'ingae bare nouns, where bare nouns have no presuppositions, is similar to the analysis given by Matthewson (1996) for Salish, where she argues that Salish determiners do not encode definiteness or specificity. The same determiner can be used in the reference to a novel or a familiar object, but this determiner cannot be considered as homophonous between the indefinite and the definite forms. Salish languages also lack quantificational determiners that presuppose existence.

On the other hand, the semantics of an anaphoric noun phrase with *tsa* is such that it returns the unique entity that satisfies the noun predicate. This noun phrase presupposes the existence, uniqueness, and familiarity of the referent.

I have also not included any situation or world variable in the definitions above, because here I will rely on only the extensional meanings of bare nouns and *tsa*. In these definitions, the assumption is that the current/actual situation will always be put in as the situation variable.

I will apply this analysis of A'ingae bare nouns and *tsa* with (50) as an example, repeated below in (81). This example shows that all of pronominal *tsa*, adnominal *tsa tevaenjen*, and bare noun *tevaenjen* are available in the anaphoric noun phrase in the second sentence.

(81) Chavangi fae tevaenjenma. {Tsa tevaenjen/Tsa/Tevaenjen} panshaen karu.

chava=ngi fae tevaenjen=ma. **{tsa tevaenjen/tsa/tevaenjen}** panshaen
buy=1 one book=ACC {ANA book/ANA/book} very
karu.
expensive

'I bought a book. The book was very expensive.'

In the bare noun case, the use of a bare noun doesn't have any presuppositions about its referent "book", so the truth condition of the bare *tevaenjen* in the second sentence is met as long as the referred book exists. This condition is met due to the first sentence,

where the indefinite noun phrase *fae tevaenjen* asserts the book's existence, so using bare *tevaenjen* in the second sentence is felicitous.

In the case of the *tsa* noun phrases, *tsa* returns a unique entity that satisfies the noun predicate "book". In this case, the existence presupposition is satisfied by the indefinite *fae tevaenjen*'s assertion of existence. The uniqueness presupposition is also valid because the previous sentence is focusing on one particular book. Lastly, the familiarity presupposition is also fulfilled as the book from the first sentence is the same book as the one in the second sentence.

It is interesting to note that the analysis of A'ingae bare nouns has its core an existential quantifier, which resembles the analysis of indefinite noun phrases in English with the determiner "a". The crucial difference between English indefinite NPs and A'ingae bare nouns, however, is that English indefinite NPs have an additional anti-presuppositional feature that dictates that the use of an indefinite form presupposes the *non*-uniqueness of the referent. For A'ingae bare nouns, such anti-presupposition does not exist.

In this thesis, I have not talked much about the indefinite marker in A'ingae, *fae*, which derives from the numeral *faekhû* for 'one', but it suffices here to note that *fae* not only asserts existence but also anti-presupposes both uniqueness and familiarity. In (81), for example, the noun phrase *fae tevaenjen* is only felicitous if the book is not unique nor familiar, ie. the book in reference needs to be new to discourse. The anti-presuppositions of *fae* also indicates that A'ingae does not have any dedicated 'uniqueness' determiner, since neither *tsa* nor *fae* is felicitous in unique definite noun phrases.

3.4.2 Generalizing such semantic analyses for other languages

On the surface, the analysis provided above for A'ingae presents a direct contrast with the analyses presented for other languages based on different pragmatic competition principles — my proposed analysis for where A'ingae bare nouns and anaphoric marker *tsa* are and are not felicitous in noun phrases does not depend on any pragmatic competition anymore. Despite this difference, I argue that this semantic-based analysis for A'ingae can be generalized to other definiteness patterns in other languages in compatible ways. The exact semantics of the definiteness forms in other languages beyond A'ingae is out of the scope of this thesis, so in this section I only provide a brief sketch of how the semantic analyses for other definiteness patterns might look like.

Firstly, I review the previously proposed analysis for languages that do exhibit a strict complementarity between the unique and anaphoric forms as visualized in Fig. 3.1. In these pragmatically-based analyses, the presuppositions of the two forms have certain overlaps, namely that the anaphoric form is argued to entail uniqueness. The ultimate surface distribution of the two forms, however, shows no overlap, and this is argued to be the result of pragmatic competition principles, such as *Maximize Presupposition!*.

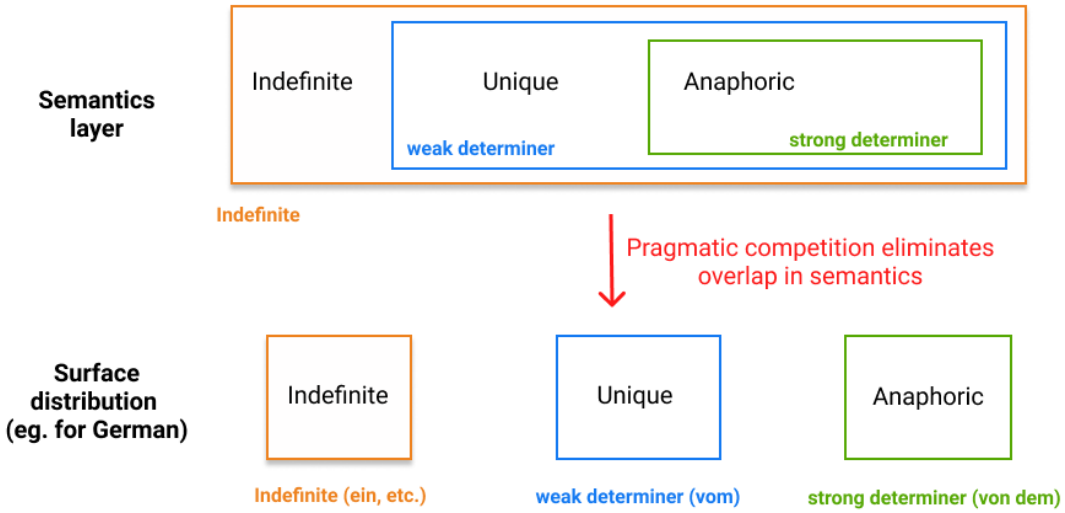

FIGURE 3.1: *Maximize Presupposition!*-based analysis for languages with complementarity, eg. German, Fering

Based on data from A'ingae, the presuppositions of the two forms overlap in a similar fashion: as analyzed in §3.2, bare nouns in A'ingae have no presuppositions while *tsa* presupposes existence, uniqueness, and familiarity, so the *tsa* form entails the bare noun form's assertion of existence. If a similar account based on pragmatic competition were to be used to predict the surface distribution of the bare nouns and *tsa* in DPs, an incorrect prediction is reached, because the surface distribution of A'ingae definiteness NPs, still shows overlap namely that both bare nouns and *tsa* are felicitous in anaphoric NPs. The overlap in this surface distribution, therefore, cannot be eliminated by pragmatic principles anymore.

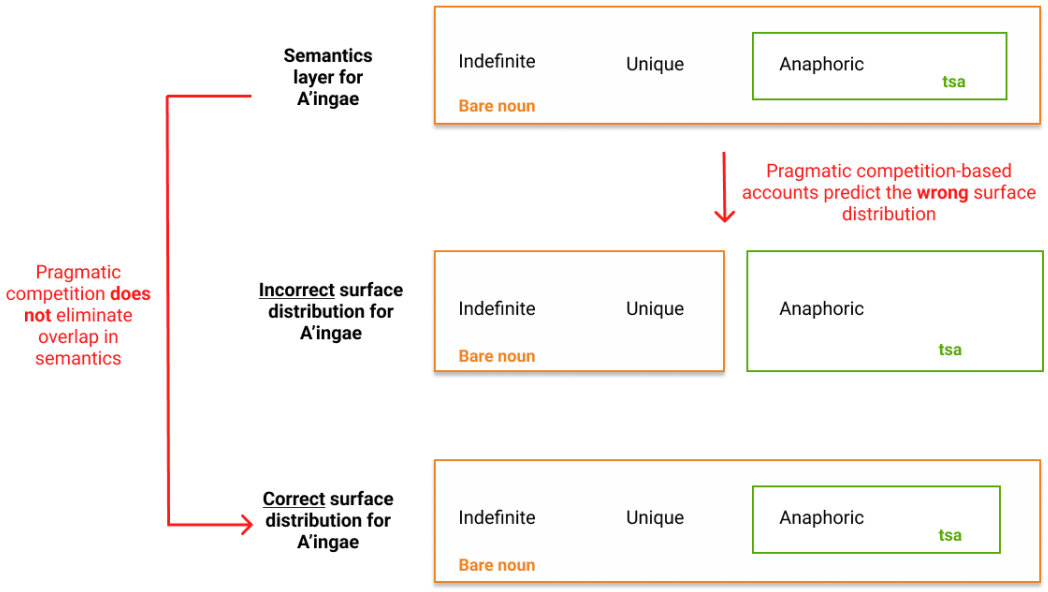

FIGURE 3.2: Pragmatic competition does not lead to correct forms in A'ingae definite NPs

My proposal essentially claims that the graphs in Fig. 3.1 are not compete: crucially, they miss more details regarding additional (anti-)presuppositional semantics of the indefinite, unique, and anaphoric forms, which makes the semantics of each form not overlap with that of the others. The distribution between these (anti-) presuppositions is ultimately what results in the strict complementarity in the surface distribution. This complementarity is no longer the result of pragmatics, but rather semantics. This updated analysis for languages such as German is shown in Fig. 3.3.

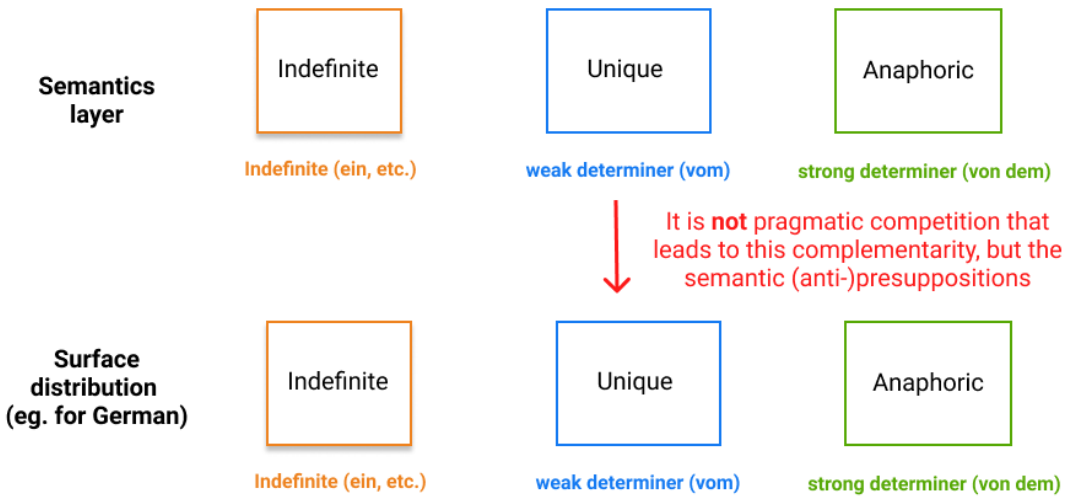

FIGURE 3.3: My proposed analysis for German, not dependent on pragmatic blocking

A similar analysis can also be extended to all other languages that do show a strong complementarity between the unique and anaphoric forms, such as German weak/strong articles. The argument for such languages would essentially be that the complementarity is not the result of pragmatics, because pragmatic principles would only lead to softer competitions where both competing forms, the unique and anaphoric ones, are felicitous even though one form might be preferred over the other. Any seemingly strict complementarity between the two forms in a language could be the result of anti-presuppositions of the uniqueness form: perhaps the weak determiner presupposes uniqueness but anti-presupposes familiarity, which makes the weak determiner infelicitous in anaphoric contexts.

For the other languages that also lack a strict complementarity between the unique and anaphoric forms, such as ones discussed in §2.4.3, different amounts of presuppositions and anti-presuppositions might exist for each form in each language. The felicity of a certain form is not due to this form having more or stronger presuppositions that are subject to pragmatic competition, but because this form contains (anti-)presuppositions that *semantically* block it from certain contexts.

I will add a bit more thoughts on Mandarin, in which the bare noun form is sometimes strongly dispreferred in anaphoric noun phrases but felicitous in others. Firstly, I follow Dayal & Jiang (2021) in disagreeing with any analysis that argues for a complementarity between the surface distribution of bare nouns and demonstratives in Mandarin, such as the one proposed by Jenks (2018), as illustrated in the top half of Fig. 3.4. Instead, the surface distribution between bare noun and demonstratives in Mandarin should look more like the bottom half of Fig. 3.4, and I will propose that the (anti-)presuppositions of the bare form and demonstratives in the language should be analyzed further to match

this pattern. The proposal from Dayal & Jiang (2021) for Mandarin is in a similar direction as my proposed one. They argue that Mandarin demonstratives are lexically anti-unique, so their anti-presupposition of uniqueness makes them the candidate for an anaphoric NP. This proposal does not depend on any pragmatic principles.

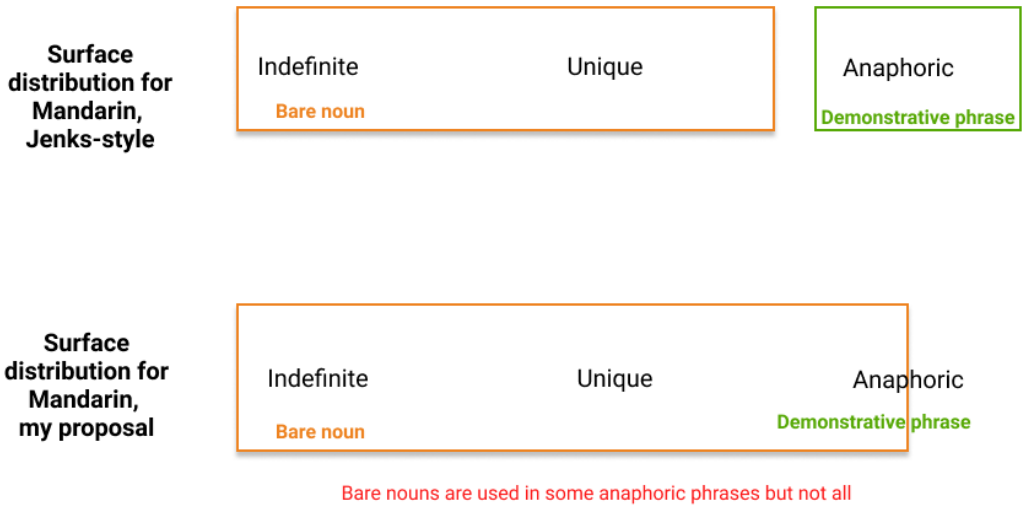

FIGURE 3.4: Jenks-style analysis for Mandarin DPs surface distribution and mine

Overall, if there is a strict rule that differentiates the unique and anaphoric form in the language, this would be the result of complementary (anti-)presupposition distribution between these forms: it might be the case that one form requires certain presuppositions to be felicitous, or that the other form requires specific anti-presuppositions to be felicitous. When a strict rule between the two competing forms is absent in a language, then there might be a softer competition that leads to the preference of one form over the other, and this soft competition is originated by pragmatic principles.

3.5 Summary and future directions

In this chapter, I have argued that previously proposed frameworks based on pragmatic blocking do not account for the pattern of definiteness in A'ingae and other languages that don't show a strict complementarity between its unique and anaphoric forms. After presenting an analysis of the presuppositions of A'ingae bare nouns and *tsa*, I emphasized again the empirical pattern in A'ingae that, even though *tsa* has stronger presuppositions than the bare nouns, *tsa* is not strictly obligatory in anaphoric contexts. A review of several pragmatic competition principles, such as *Maximize Presupposition!*

(Heim, 1991) and subsequent *Index!* (Jenks, 2018), as well as a different pragmatic principle *Bare Noun Blocking* (Ahn, 2019) that relies more on a 'maxim of manner' type principle, shows that none of these competition-based principles correctly predict the A'ingae pattern.

If pragmatic blocking is not able to account for different patterns of definiteness cross-linguistically, I then propose that *Maximize Presupposition!* does not exist synchronically for patterns of definiteness. Instead, the availability of the unique and anaphoric definite forms of a language is encoded semantically in these forms, and the semantics is specific to each language's pattern.

An analysis of the semantics of A'ingae bare nouns and nominal anaphor *tsa* is provided in this chapter. The more challenging task would be establishing a similar semantic analysis for other languages with patterns different from the A'ingae one.

3.5.1 Semantically-based analysis cross-linguistically

As briefly introduced in §3.4.2, an important future step involves applying the semantically-based analysis proposed in §3.4.1 for A'ingae to other languages with different definiteness patterns, such as languages that do show a strict complementarity between its unique and anaphoric forms. Being able to do so will provide support for the argument that *Maximize Presupposition!* and other related pragmatic blocking competition principles, as a result of diachronic language changes, do not apply synchronically in predicting the patterns of definiteness structure in a language.

3.5.2 Synchronic *Maximize Presupposition!* in other domains

Going beyond the patterns of definiteness cross-linguistically, another valuable point of investigation could focus on *Maximize Presupposition!* as it exists synchronically in general. A few works have investigated the nature of MP as a pragmatic principle (Schlenker (2012), Lauer (2016), Leahy (2016), etc.), but a broader question would be whether MP exists synchronically *at all*. One of the main examples used to support MP in the original Heim (1991) paper is the distinction between English determiners "a" and "the". Although MP seems to lead to the correct judgement for the English article system, as this chapter shows, MP seems to not be able to generalize across definiteness markers in other languages. In A'ingae, we have shown that the line between the weaker (bare NP) and the stronger form (*tsa*) is non-existent – there is no complementarity here. For languages like German with two different determiners, the line between the two forms is strict and absolute – one form is felicitous in the context where the other form is infelicitous. For Mandarin, it seems that the stronger form (demonstrative phrase) is preferred only in certain contexts.

The variation between how MP is applied to a language's definiteness structure seems to suggest that MP as a synchronic feature can not encompass all the grammatical details

that are lexicalized diachronically. This might even be evidence that the difference between the English articles "a" and "the" should not be analyzed as what MP currently states. Therefore, closer investigation on the other applications of MP, such as in the distinction between "both" and "every", "think" and "know", etc. can prove to be useful in further determining the status of MP as a principle and whether it exists synchronically at all beyond just the structure of definiteness.

3.5.3 Reasons behind the soft pressure in definiteness forms

As shown from previous sections, A'ingae and many other languages display a soft split between the uniqueness and the anaphoric forms; speakers seem to preference for the anaphoric form in anaphoric contexts but still accept the uniqueness form. An interesting future step along this path would be investigating the potential factors that contribute to this preference in the choice of determiner/demonstrative.

The Givenness Hierarchy from Gundel et al. (1993) is an important step in trying to use cognitive status of an entity to determine the lexical form chosen for its reference. A few recent works in cognitive psychology also aim to construct frameworks for the study of referring expressions. Peeters et al. (2021), for example, proposes a cognitive framework for studying demonstratives, listing three levels of factors that influence the speaker's choice between proximal and distal demonstratives, whether for exophoric and endophoric ones: lexical, cognitive, socio-cultural. Following this framework, lots of experimental work could be done on the different levels. For example, the socio-cultural level involves both the characteristics of the speakers' immediate and broad surroundings, as well as the conversational contexts, could contribute to a tendency of using certain demonstratives.

Corpus linguistic works could also prove to be beneficial. One straightforward way of measuring "discourse distance" could be measuring how far ahead the antecedent is mentioned before the anaphoric reference is used. This distance could be in the number of words/morphemes apart of number of clauses apart.

Besides concrete distance in discourse, another range of likely proposals could expand from Schwarz (2019)'s mentioning of the potential effect of "long narrative". Schwarz proposes that "A central character of a story may be introduced with an indefinite, and then initially picked back up by a strong article definite. But as the central role of the character becomes clear in the narrative, one may then switch to using weak article definites for it." (Schwarz, 2019, p.22) This idea has a similar flavor in hypothesizing that the cognitive distance of a noun phrases' referent to the speaker within the context of the overall narrative could affect the speaker's preference of choosing between the unique and anaphoric forms.

Chapter 4

Survey of (seemingly) morphologically complex *tse* phrases

4.1 Overview

From Chapters 2 and 3, I have provided evidence that *tsa* is a dedicated nominal anaphoric marker and is felicitous only if the anaphoricity of its antecedent is satisfied. In this chapter and the next one, I will shift the focus onto another monomorphemic anaphoric marker in the language, *tse*. Despite both occurring in anaphoric contexts, there are important differences between *tsa* and *tse*, as will be discussed here. These points of comparison between *tsa* and *tse* will serve as important evidence for the overarching generalization of A'ingae ts expressions in Chapter 6.

This chapter focuses on providing a description for *tse* and various phrases that contain *tse* that seem morphologically complex on the surface. *Tse* in its bare form is not as common as many of the complex forms, so this chapter starts with descriptions of several composite *tse* forms, categorized by their functions: §4.2 details locative adverbs *tse'thi* and *tseni* as anaphoric reference to locations; §4.3 focuses on a few temporal adverbs, *tse'i*, *tse'the*, *tseite*, all of which can refer to a previously mentioned time or time period, and none of which can function as a "conditional anaphor" that connects two events that have causal relations; §4.4 describes the property adjectival phrase *tse'sû*, which references property of individuals mentioned from previous discourse, and §4.5 introduces the third-person plural pronoun *tsendekhû*. After discussing these (seemingly) morphologically complex *tse* forms, I then go back to the bare *tse* form and discuss its functions in §4.6, where I will argue that bare *tse* most frequently refers to the time of a previously mentioned event.

Throughout these descriptions, I generically include all of the following complex forms into one group because of their apparent morphological similarity: with 'tse' in them. Upon further investigation, however, I propose at the end of this chapter that there possibly exists a division between two groups: one group contains the bare *tse* and its adverbs, and the other two *tse* phrases *tse'sû* and *tsendekhû* are in a separate category. The primary motivation for such division is that when *tse* is in its bare form or in the spatial and temporal adverbs, *tse* refers to space and time, but *tse* from *tse'sû* refers to a

property of an individual, and *tse* in *tsendekhû* refers to individuals. From this division, I will argue that only the first group, the *tse* adverbs, are morphologically decomposable with 'tse' as their root. The phrases in the other non-adverb group, *tse'sû* and *tsendekhû*, are not morphologically decomposable. Instead, they are fossilized forms that also have the *tse* component. This argument will be strengthened in Chapter 5, where I discuss the differences within these *tse* forms as well as with the nominal anaphor *tsa*.

4.2 Anaphoric locative adverbs

For locative references, two common adverbials are *tse'thi* and *tseni*, both available only in anaphoric reference and not in deictic reference. Towards the end of this section, I will briefly discuss one potential way to analyze the differences between these two adverbials, but largely the details of this comparison are left for future investigations.

4.2.1 *Tse'thi*

The morpheme *='thi* combines with nouns and demonstratives, and it adds a locative meaning. When *tse* combines with the locative *='thi*, *tse'thi* is available as an anaphoric reference to a location from previous discourse. For example, in (82), *tse'thi* is anaphoric to the Pakhuya village mentioned previously, and the additional dative *=nga* indicates that Pakhuya is a destination of their traveling. Similarly, in (83), *tse'thi* is anaphoric to the speaker's village as mentioned previously, and the attributive morpheme *='sû* attached to *tse'thi* forms the meaning "from there".

(82) Tsuninda Mirianja Pakhuyakinga jaya tsa'kaen pûiyi'khu jakanfa tse'thingakhe.

tsun=ni=ta Mirian=ja Pakhuya=ki=nga ja='ya tsa='kan=e
do=LOC=NEW Mirian=CNTR Pakhuya=SH.LIN=DAT go=VER ANA=CMP=ADV
pûiyi'khu jakan-'fa **tse='thi**=nga=khe.
everyone travel=PLS ANA.LOC=CL.LOC=DAT=ADD

'And when Mirian entered Pakhuya, we all went there too.'
(Contaminación del río 1:19)

(83) Ña kankhe'sûmbitsû Juan. Jintsû phuru'tshe faesû kankhe. Tse'thi'sûtsû juanja.

ña kankhe='sû=mbi=tsû Juan. jin=tsû phuru='tshe faesû kankhe.
my village=ATTR=NEG=3 Juan exist=3 run.into=QUAL.ADV one village
tse='thi='sû=tsû juan=ja.
ANA.LOC=CL.LOC=ATTR=3 Juan=CNTR

'Juan is not from my village. There is another village nearby. Juan is from there.'

In (84), although the first sentence does not explicitly mention a location, it can be understood for the speakers that there is some location for the hunting action in the first sentence. This location is then anaphorically referred to by *tse'thi* in the second sentence. The syntactic position of *tse'thi* within the sentence is also flexible – its anaphoric availability stays the same regardless of whether *tse'thi* is clause-initial or clause-final.

(84) Kaningi panza'je kuse. Tse'thitsû ña mamakhe shukaen'je'chu.

kani=ngi panza-'je kuse. **tse='thi**=tsû ña mama=khe
yesterday=1.SG hunt-IMPV night ANA.LOC=CL.LOC=3 my mother=ADD
shukaen-'je='chu.
cook-IMPV='SUB

'I hunted for the entire day yesterday. At that same location, my mom was cooking.'

Tse'thi is only available for anaphoric location references. Its function contrasts with *ju'thi* and *va'thi*, demonstrative adverbials that are used in deictic references to location. *Ju'thi* and *va'thi* correspond to the deictic 'there' and 'here' in English. In (85), *tse'thi* cannot be used because the referred location is not from previous discourse and solely depends on the speaker's pointing gesture at the time of utterance.

(85) Kanja, {*tse'thi/ju'thi}tsû kan'jen inzia chhiriria.

kan=ja {***tse='thi/ju='thi**}=tsû kan'jen inzia chhiriria.
look=IMP {ANA.LOC=LOC/DIST=CL.LOC}=3 stay blue bird

'Look, a blue bird over there.' *(Speaker is also pointing at the bird at the same time)*

4.2.2 *Tseni*

When *tse* combines with another locative clitic *=ni*, *tseni* is another adverbial used for anaphoric location reference.

(86) Kuengi tsampinga, tsenitsû ña familia panzaye japa kanse'fa.

kue=ngi tsampi=nga **tse=ni**=tsû ña familia panza=ye ja=pa
grow=1.SG forest=DAT ANA.LOC=LOC=3 my family hunt=INF go=SS
kanse-'fa.
live=PLS

'I grew up in a forest. That's where my family usually went hunting.'

(87) Juantsû kani ja chavaenjeni. Pedrokhetsû tseni ja in'ja.

Juan=tsû kani ja chavaen-'je=ni Pedro=khe tsû **tseni** ja in'ja.
Juan=3 yesterday go buy-IMPV=LOC Pedro=ADD 3 ANA.LOC go want

'Juan went to the store yesterday. Pedro wants to go there, too.'

(88) a. *Context: Speaker is answering the question 'Where were you born?'*

Ña ña San Migue na'en vaufangaya.
ña ña San.Migue na'en va=u=fa=nga=ya.
1.SG 1.SG San.Miguel river PRX=AUG=SH.LAT=DAT=VER
'I, I, on the other side of the San Miguel river.'

b. Tsenitsû.
tse=ni=tsû.
ANA.LOC=LOC=3
'It's there.' (Autobiografía de RA 1 0:26)

(89) a. Fundacion'ñe tsunsi jafa hasta Lagartoni japa.
fundacion=ye tsun=si ja=fa hasta Lagarto=ni ja=pa.
foundation=ELAT do=DS go=PLS up.to Lagarto=LOC go=SS
'With the foundation, we travelled all the way to Lagarto.'

b. Tseningi athe tsenindi ña yaya'khasheyende'khû jakanfa hasta ña yayakhasheye jachutatsû jachu Barañuni.
tse=ni=ngi athe **tse=ni**=ti ña yaya'+khasheye=nde'khû
ANA.LOC=LOC=1 see ANA.LOC=LOC=INT my dad+oldman=PLH
jakan=fa hasta ña yaya+khasheye ja='chu=ta=tsû ja='chu
travel=PLS upto 1.SG dad+oldman go=SUB=NEW=3 go=SUB
Barañu=ni.
Marañón=LOC
'That was where I saw where my grandfather travelled, my grandfather travelled all the way to Marañon.' (Autobiografía de JWC 2:41)

Similar to *tse'thi*, *tseni* is also only available in anaphoric reference. The deictic location counterparts are *va=ni* (PRX=LOC) and *ju=ni* (DIST=LOC), as shown in an instruction during a turn in a Mastermind game in (90) where the speaker is actively pointing at the referred location.

(90) Kanja vanima jañu vasûma khûtsianjan va'thinga juni.

kan=ja **va=ni**=ma jañu vasû=ma khûtsian=jan va'thi=nga
look=IMP PRX=LOC=ACC now PRX.ATTR=ACC raise=CNTR here=DAT
ju=ni.
DIST=LOC

'Look here, now put one of these here.' (Juego de Mastermind 4 4:34)

In addition, *tseni* seems to be only available for explicit location references and not for nouns that have an extended "semi-location" meaning (eg. *tseni* is not correct for "on the paper" in (91)). In these extended location cases, depending on the relationship between the object and the location, other clitics are more appropriate (eg. the dative *=nga* for "on the paper").

(91) Afeja fae tevaenjenve. Tevaeña'chungi {tsanga/?tseni}.

afe=ja fae tevaenjen=ve. tevae='ya='chu=ngi
give=IMP one=ACC paper=ACC2 write=IRR=SUB=1.SG
{**tsa=nga/?tse=ni**}.
{ANA=DAT/?ANA.LOC=LOC}

'Give me a piece of paper. I need to write on it.'
(With *tseni*, the second sentence means"I need to write over there.")

4.2.3 Comparison between *tse'thi* and *tseni* as locative adverbials

Although both can be used in anaphoric references to locations, *tse'thi* and *tseni* are not entirely interchangeable. In the examples in above sections, it is not always the case that *tse'thi* and *tseni* are both felicitous, but the details of these differences largely relate to the differences between the locative clitics *='thi* and *=ni* and are not very clear at the moment.

In this section, I present one potential hypothesis that can be valuable to examine further in the future. It's possible that *tse'thi* tends to refer to locations closer and more precise while *tseni* is more natural in referring to farther and more vaguely defined locations. This contrast could be similar to the difference between the adverbial demonstratives "allí" and "allá" in some varieties of Spanish, as discussed in De Cock (2018) and Arroyo & González-Martínez (2019). Their argument is that demonstratives from the "í" series (such as "allí") create more precise location references that act more like point references while the demonstratives from the "á" series (such as "allá") create references to less precise and less delimited locations.

Note, still, that the adverbial demonstratives in Spanish are available for both deictic and anaphoric locative references, but this is not the case for *tse'thi* and *tseni* in A'ingae — they are only available in anaphoric contexts.

In (92) and (93), for example, the above argument could potentially apply: *tse'thi* is less natural than *tseni* in both examples, and the reason could be that the locations in both sentences, a forest and a city, are considered large and vaguely define locations instead of precise points, which makes *tseni* more appropriate.

(92) Kuengi tsampinga, {?tse'thi/tseni}tsû ña familia panzaye japa kanse'fa.

kue=ngi tsampi=nga, {?**tse='thi/tse=ni**}=tsû ña familia
grow=1.SG forest=DAT {?ANA.LOC=CL.LOC/ANA.LOC=LOC}=3 my family
panza=ye ja=pa kanse-'fa.
hunt=INF go=SS live=PLS

'I grew up in a forest. That's where my family lived in order to hunt.'

(93) *(Context: the speaker is talking to a friend who lives in a different city. The speaker then asks about the weather in the friend's city:)*

{?Tse'thi/Tseni}ndati kueje'je?

{?**tse='thi/tse=ni**}=ta=ti kueje-'je
{?ANA.LOC=CL.LOC/ANA.LOC=LOC}=NEW=INT sun-IMPV

'Is it sunny over there?'

In (94), on the other hand, *tse'thi* is more natural than *tseni*, potentially because the location in reference in this context is more precise and localized.

(94) Kanja, na'entsû jin tsutefani. Ña faengasûtsû simba'je {?tseni/tse'thi}.

kan=ja, na'en=tsû jin tsuteni=fa. ña faengasû=tsû simba'je
look=IMP river=3 exist outside=?? my friend=3 fish-IMPV
{?**tse=ni/tse='thi**}.
{?ANA.LOC=LOC/ANA.LOC=CL.LOC}

'Look, a river is outside. My friend is fishing there.'

In addition, the general distribution of the two locative morphemes, *='thi* and *='ni*, could also provide some support for this *tse'thi/tseni* distinction. Firstly, words that describe location in relation to river tend to have *=ni*: *umbani* "upriver" and *setsani* "downriver". Rivers tend to be long and extended, so reference to location along a river can be considered less defined, which corresponds to *=ni* being used in reference to less delimited locations.

Still, it is possible that there are additional factors that determine the felicity of *tseni* and *tse'thi*. We see example such as (95) where the location, "the store", seems to be a

specific enough location, and here using *tseni* is felicitous while *tse'thi* is not. It could be the case that when referring to a location that is the destination of the *ja* "go to" phrase, *=ni* is always used.

(95) Kanitsû Pedroja ja tiendani. Jañu sintetsû Josekhe ja {tseni/*tse'thi}.

kani=tsû Pedro=ja ja tienda=ni. jañu sinte=tsû José=khe ja
yesterday=3 Pedro=CNTR go shop=LOC now morning=3 José=ADD go
{**tse=ni**/***tse='thi**}.
{ANA.LOC=LOC/*ANA.LOC=CL.LOC}

'Pedro went to the store yesterday. This morning José also went there.'

These ideas about the differences between *tse'thi* and *tseni*, which potentially originate from differences between the locative morphemes *='thi* and *=ni*, are only preliminary and not at all conclusive. Future work on these differences could potentially look more into the discussions on "allí" vs. "allá" in Spanish as well as other adverbial demonstratives in other languages.

4.3 Anaphoric temporal adverbs

Another main type of reference that *tse* adverbials can have is temporal reference. Here, I discuss the functions of a few common temporal adverbials: *tse'i* and *tse'the* "after that time", and *tseite* "during that time period". *Tse'thi* from the previous section on locative adverbs will reappear in this section, but it is mostly only available for locative references and seems to only have an extended or metaphorical function for temporal reference.

After providing descriptive details of these temporal adverbs, I also briefly discuss the concept of a "conditional anaphor", which has been shown to be an additional meaning of certain temporal adverbials in some languages. For example, in English, one such word that has been argued to have the function of a conditional anaphor is "then", such as in (96) where "then" indicates that the second clause happens as a result of the first clause instead of merely following the first clause chronologically. For A'ingae, all of the temporal adverbials discussed in this section are *not* available as a conditional anaphor, which puts A'ingae in the group of languages that do show a clear lexical split for the temporal/conditional anaphor distinction, instead of having the same lexical items for both functions.

(96) A: There will be no strike.
B: **Then** we won't have to cancel our flights. (Fretheim, 2006, (13))

4.3.1 *Tse'i*

Tse'i is one of the composite *tse* adverbials that is available for temporal reference, and its meaning is loosely 'after that time'. *Tse'i* acts like a temporal connective between two clauses that follow a chronological order, such as the grating and cooking actions in (97) and the sequence in going to different places in (98). Moreover, in (97), the two appearances of the switch reference marker *=pa* establishes a clause-chaining construction, which also shows that the cooking action happens after the making action.

(97) Tsekhue ñuñamba tse'i tshatshapa amba kansefaya.

tse=khu=e ñuña=pa **tse'i** tshatsha=pa an=pa kanse=fa=ya.
ANA.LOC=SH.ANG=ADV make=SS then grate=ASSC eat=SS live=PLS=VER

'We do that and then grate and cook the meals.' (Caza 2:35)

(98) U'tiengi ja tiendani, tse'ingi ja na'eni.

u'tie=ngi ja tienda=ni **tse'i=ngi** ja na'e=ni.
first=1.SG go store=LOC then=1.SG go river=LOC

'First I went to the store, then I went to the river.'

(99) Simbangi kaniteki, tse'itsû tûi.

simba=ngi kaniteki **tse'i=tsû** tûi.
fish=1.SG day.before.yesterday then=3 rain

'Two days ago, I fished, and then it rained (later that day).'

Tse'i is not available for locative references; its reference is strictly temporal. For example, when asking whether (99) could also mean 'Two days ago, I fished, and at that location it rained.' the consultant's judgement is no, because using *tse'i* in the sentence only talks about the time.

In addition, *tse'i* only has the meaning of "after that time". Other possible temporal connective meanings, such as "before", "since", "until", cannot be conveyed by *tse'i* . For example, "before" is often denoted by *tuyi* or *tayu'e*, but these phrases tend to have "long ago" as their stand-alone meaning, and they are also not strictly anaphoric.

4.3.2 *Tse'the*

Another temporal adverb for conveying the meaning of "after that time" is the combination of *tse* and the postessive case marker *='the*, *tse'the*. Like *tse'i*, *tse'the* can also connect two clauses in chronological order, such as the actions of going to the store and

going to the river in (100). (101) represents an example where *tse'the* can be translated into "since then", which is still an adverb for sequential times.

(100) U'tiengi ja tiendani, tse'thengi ja na'eni.

u'tie=ngi ja tienda=ni, **tse='the**=ngi ja na'e=ni.
first=1.SG go store=LOC ANA.LOC=PSTE=1.SG go river=LOC

'First I went to the store, then I went to the river.'

(101) Ña kindyatsû ji ña kanse'chu kankhenga. Tse'thengi kanse'fa faengae.

ña kindya=tsû ji ña kanse='chu kankhe=nga. **tse='the**=ngi
my older.brother=3 come my live=SUB village=DAT ANA.LOC=PSTE=1.SG
kanse-'fa faengae.
live=PLS together

'My older brother moved to my village. Since then, we've been living together.'

From these examples, there are potentially two different ways of analyzing the meaning of *tse'the*. The first one is that *tse'the* directly means "after that time". *Tse* in *tse'the* still picks up a time from previous discourse, and the postessive marker *='the* adds the afterwards meaning. The second proposal is that *tse'the* has the meaning "at that time", which is the same as the meaning of *tse'i*, and the time here refers to the end time of the event from the antecedent clause. Due to the progression of the narrative, *tse'the* can be understood as "after that event" by the interlocutors, but the core meaning of *tse'the* is still indexing a particular time.

A more specialized context where *tse'the* is often used is in enumerations. In (102), the speaker is making a list of the names of her children, and *tse'the* is used to connect each item in this list.

(102) *(Context: The speaker is listing her children in order of their age.)*

a. Tse'the Rufino, Rufinoma sû'ya.
tse='the Rufino, Rufino=ma sû='ya.
ANA.LOC=PSTE Rufino Rufino=ACC say=VER
'Then Rufino, I say Rufino.'

b. Tse'the Vendi.
tse='the Vendi.
ANA.LOC=PSTE Vendi
'Then Vendi.' (Autobiografía de CLC 7:50)

There is a constraint on what kind of enumerations *tse'the* can be used in. *Tse'the* is most natural when enumerating people's names, perhaps at least partially due to the fact that *tse'the* has some temporal sequencing in its meaning. In (102), the list of names still has a temporal sequence, because the names belong to the speaker's children, who were born in a particular order chronologically. In this kind of enumeration that describes people and depends on some temporal order, *tse'the* is felicitous and *tse'i* is not, as shown by (103). On the other hand, for enumerations that describe non-human objects and do not have any particular temporal sequence, *tse'the* is not felicitous, and *tse'i* is used instead, as shown in (104).

(103) *(Context: the speaker is answering the question 'Who are your brothers?')*

U'tietsû Rulfo, *tse'i Juan, *tse'i Pedro, *tse'i ña.

u'tie=tsû Rulfo, ***tse'i*** Juan, ***tse'i*** Pedro, ***tse'i*** ña.
first=3 Rulfo *then Juan *then Pedro *then I

'First Rulfo, then Juan, then Pedro, then me.'

(104) *(Context: the speaker is listing the kinds of fruits that are lying on a table)*

Utietasû jin manzanandekhû, {tse'i/*tse'the} chiviyandekhû, {tse'i/*tse'the} kuyendekhû.

utie=tsû jin manzana=ndekhû, {**tse'i**/***tse='the**} chiviya=ndekhû,
first==3 exist apple=PLH {then/*ANA.LOC=PSTE} pineapple=PLH
{**tse'i**/***tse='the**} kuye=ndekhû.
{then/*ANA.LOC=PSTE} plantain=PLH

'There are apples, and then pineapples, and then plantains.'

The availability of *tse'the* in enumerations suggests that the first of the previous two proposals might be correct, ie. that *tse'the* might directly mean "after that time" instead of relying on narrative progression to reflect the "afterwards" meaning. The morpheme *='the* turns out to not be very productive, occurring mostly only in *tse'the* and with the proximal demonstrative *va* in *va'the*. When in the demonstrative phrase *va'the*, the meaning of *='the* is also not consistent, potentially reflecting different paths of motion such as "from" and "across". So, the exact meaning of *tse'the* is not conclusive here and requires further investigation. For the purpose of this thesis, though, we do see that *tse'the* is another temporal adverb with *tse* as its root and a function of indexing a time mentioned in previous discourse.

4.3.3 *Tseite*

Tse can combine with another temporal clitic, the periodic classifier =*ite*: *tseite* is available in anaphoric reference to a time period. In (105), the referred time period is a time period in the past that the speaker was previously talking about.

(105) Jûn tseitetatsû turista kanjensi ti'tshe kurifindima ambianfa chavaenjemba

jûn **tse=ite=ta=tsû** turista kanjen=si ti'tshe kurifindi=ma
yeah ANA.LOC=CL.PRD=NEW=3 tourist stay=DS more money=ACC
ambian=fa chavaen-'je=pa.
have=PLS sell-IMPV=SS

'Yes, we used to have more money because there were tourists who bought from us.' (Autobiografía de ARLQ 10:50)

It is interesting to note that a natural English translation for (105) contains the phrase "used to", which implies that it is not the case anymore that the community still has many tourist visits. A similar implicature arises from (106), where the consultant's judgement is that the sentence implies that the family does not have a lot of fish anymore. This resembles a similar implicature that arise from the equivalent English phrases "during that time" and "at that time period", where a contrast is implied between the "before" and "after" clauses.

(106) Ña dûsûngûite, ña familiatsû ambian'chu injantshi sambirima. Tseite avûjatshia'fangi.

ña dûsûga=ite ña familia=tsû ambian='chu injan=tshi sambiri=ma.
my youth=CL.PRD 1.SG family=3 have=SUB much=ADJ fish=ACC
tse=ite avûja=tshia-'fa=ngi.
ANA.LOC=CL.PRD rejoice=ADJ=PLS=1.SG

'When I was a child, my family had a lot of fish. Those were good times.'

Tseite, because of the function of the periodic marker =*ite*, requires a somewhat extended time period to be felicitous. (107) shows that *tseite* cannot refer to a time point, which needs to be fulfilled by *tse'i*. On the other hand, as shown in (108), *tse'i* cannot refer to a time period.

(107) Tsûipa jayipangi athe ña faengasûma. {Tse'i/*Tseite}ngatsû ña ainkhen shen'dya.

tsûi=pa jayi=pa=ngi athe ña faengasû=ma.
walk=SS go.PRSP=SS=1.SG see my friend=ACC
{tse'i/*tse=ite}=nga=tsû ña ain=khen shen'dya.
{then/*ANA.LOC=CL.PRD}=DAT=3 my dog=THUS bark

'I was walking and saw my friend. At that moment, my dog barked.'

(108) Ña dûsûngûite, ña familiatsû ambian'chu injantshi sambirima. *Tse'i'fangi avûjatshia.

ña dûsûga=ite ña familia=tsû ambian='chu injan=tshi sambiri=ma.
my youth=CL.PRD 1.SG family=3 have=SUB much=ADJ fish=ACC
***tse'i**-'fa=ngi avûja=tshia.
then=PLS=1.SG rejoice=ADJ

Intended: 'When I was a child, my family had a lot of fish. Those were good times.'

4.3.4 *Tse'thi*

Literally, *tse'thi* only contains a reference to location and does not require both the location and time to be the same as the antecedent event, as shown in (109) where the context makes it explicit that only the location is the same across the two clauses but the times are different. Though, *tse'thi* can also lead to an extended meaning "at the same time". In (110) and (111), consultant's judgements are all that *tse'thi* in these sentences only explicitly indicate that the second clause happens at the same location as the first one. When asked whether the whole sentence can also mean that both clauses happen at the same time, the judgement is that this interpretation is possible but not always necessary.

(109) a. Jintsû fae tsa'u na'en utafani. Kanitsû isûye jarichu.
jin=tsû fae tsa'u na'en utafani. kani=tsû isû=ye jarichu.
exist=3 one house river near yesterday=3 give.birth=INF grandson
'There is a house by the river. My grandson was born there yesterday.'

b. Khuangi kankhe'fa pasa'chu tse'thingayi isûye ña shenukhe.
khuangi kankhe-'fa pasa='chu **tse='thi**=nga=yi
two year=PLS pass=SUB ANA.LOC=CL.LOC=DAT=EXCL
isû=ye ña shenu='khe.
give.birth=INF my granddaughter=ADD
'Two years ago, my granddaughter was born at that same place.'

(110) Na'enmangi simba'je. Tse'thingatsû ûnjin tûiye ashaen.

na'en=ma=ngi simba-'je. **tse='thi=nga**=tsû ûnjin tûi=ye ashaen.
river=ACC=1.SG fish-IMPV ANA.LOC=CL.LOC=DAT=3 rain rain=INF begin

'I was fishing at the river. At that place (and at that time), it began to rain.'

(111) Panza'kan'chungi tsampini. Tse'thingayitsû ña mamakhe shukhaen'je'chu tsa'uni.

panza='kan='chu=ngi tsampi=ni. **tse='thi**=nga=yi=tsû ña
hunt=CMP=SUB=1.SG forest=LOC ANA.LOC=CL.LOC=DAT=EXCL=3 my
mama=khe shukhaen='je='chu tsa'u=ni.
mother=ADD cook-IMPV=SUB house=LOC

'I was hunting in the forest. At that place (and at that time), my mother was cooking in the house.'

Tse'thi is also available to be combined with more clitics and produce other temporal meanings, such as combining with the dative marker *=nga* to create the meaning 'until then' in (112).

(112) Ña sheshetsû kha kankhenga kanseyeja kûeje faete pasa'chu. Ña'khûyitsû kanse'chu tse'thingayi.

ña sheshe=tsû kha kankhe=nga kanse=ye=ja kûeje fae=te pasa'chu.
my brother=3 other village=DAT live=INF=CONTR sun one=RPRT pass=SUB
ña-'khû=yi=tsû kanse='chu **tse='thi**=nga=yi.
1.SG-COMIT=EXCL=3 live=SUB ANA.LOC=CL.LOC=DAT=EXCL

'My older brother moved to another village last summer. Until then, he had always lived with me.'

In contrast, the other locative adverbial, *tseni*, completely lacks any extended meaning for a temporal reference. Using *tseni* is only felicitous when referring to an aforementioned location, as shown in (113).

(113) Na'enmangi simba'je, tseni athengi ña faengasûma.

na'en=ma=ngi simba-'je, tse=ni athe=ngi ña faengasû=ma.
river=ACC=1 fish-IMPV ANA.LOC=LOC see=1.SG my friend=ACC

This sentence *cannot* mean: 'I was fishing at the river. At that time I saw my friend.'
Instead, it strictly means 'I was fishing at the river. There I saw my friend.'

4.3.5 Beyond simple times: conditional anaphor

A possible function of a temporal connective in other languages is connecting *conditional*, rather than simply temporal, clauses. In English, for example, the temporal

connective "then" is argued to also be used as a "conditional anaphor", as observed in Schiffrin (1990), who also argues for additional syntactic properties of each of the two types of *then*. Fretheim (2006) elaborates on this idea and proposes a potential lexical ambiguity between the strictly temporal *then* and the truth-conditional *then* by comparing their differences with the contrast between Norwegian temporal adverbs *da* and *så*. He argues that the split between Norwegian *da*/*så* resembles to some degree the lexical split between the two uses of English *then*, as shown by the contrast between (114a), a purely 'procedural' use of *then*, and (114b), a 'truth-conditional' use. A similar example in Norwegian in (115) shows that, since the context requires a conditional interpretation rather than a temporal one, *da* is not felicitous and *så* is.

(114) a. First they announced that the strike was called off and **then**$_{temp}$ they cancelled all press conferences.

b. A: There will be no strike.
B: **Then**$_{cond}$ we won't have to cancel our flights.
(Fretheim, 2006, (12,13), subscripts are mine)

(115) a. Jeg tror jeg far det stipendiet selv om jeg sender inn en søknad etter fristen
'I believe I'm going to get that scholarship even if I submit an application after the deadline.'

b. Nei. Sjansene **{da/*så}** vil være lik null.
'No. The chances **then** will be like zero.' (Fretheim, 2006, (49))

Fretheim also provides evidence from a variety of other languages for a similar lexical contrast between a temporal adverb and a conditional adverb, such as Hungarian *akkor* vs. *aztán*. The Spanish adverb *entonces*, according to Fretheim's analysis, is similar to English 'then' in exhibiting a certain degree of ambiguity between the temporal and conditional uses.

These cross-linguistic evidence lead to a question of whether or which of the temporal adverbs in A'ingae can serve as a conditional anaphor. Evidence shows that none of the A'ingae temporal adverbs discussed in this section have the function of a conditional anaphor. In (116), for example, although *tse'i* is felicitous, the correct interpretation of the sentence might be that the action of getting sick simply chronologically precedes the action of not being happy, which means that *tse'i* still maintains a strictly temporal anaphoric reference that is referring to the moment when it starts raining. Similarly, (117) shows a clearer example where *tse'the* does not seem to have the conditional anaphor function, either. Some of the languages analyzed in Fretheim (2006) maintain separate lexical items for the temporal and conditional connective uses, and A'ingae seems to fall into this group.

(116) Makitangi pajiye atesû avûite. Tse'itangi avûjatshiye atesûmbi.

maki=ta=ngi paji=ye atesû avûite. **tse'i**=ta=ngi avûja=tshi=ye
when=NEW=1.SG be.sick=INF know ?? then=NEW=1.SG rejoice=QUAL=INF
atesû=mbi.
know=NEG

'Sometimes I get sick, then I am not happy.' → 'After getting sick, I am not happy.'

(117) Ûnjintsû tûiye ashaen. *Tse'thengi ja'fayambingi panzaye.

ûnjin=tsû tûi=ye ashaen. ***tse='the=ngi** ja-'fa=ya=mbi=ngi
rain3 rain.fall=INF being *ANA.LOC=PSTE=1.SG go=PLS=IRR=NEG=1.SG
panza=ye.
hunt=INF

Intended: 'It starts to rain. We won't go hunting then.'

A clearer situation where two clauses are connected via a conditional anaphor is in if-conditional sentences, such as in (118) where the conditional clause is followed by the result clause. The most natural version of this sentence is the one without any connective between the two clauses. Adding *tse'i* or *tse'the* in between the two clauses will both result in infelicity. This further shows that *tse'i* and *tse'the* are strictly limited to reference for times and not reference to possible worlds or propositions, which could be a function for English "then".

(118) a. Khuvima panza'tangi, avûjatshiya.
khuvi=ma panza-'ta=ngi, avûja=tshi=ya
tapir=ACC hunt-IF.SS=1.SG happy=QUAL=IRR
'If I hunt a tapir, I will be happy.' (Maksymilian Dąbkowski, p.c.)

b. Khuvima panza'ta, ***tse'ingi** avûjatshiya.

c. Khuvima panza, ***tse'itangi** avûjashiya.

d. Khuvima panza'ta, ***tse'thengi** avûjatshiya.

One alternative explanation to the evidence that *tse'i* and *tse'the* are not available as conditional anaphors might be that they only index time from the past but not the future or in the irrealis mood. This proposal can be disproved by evidence such as (119) where both *tse'i* and *tse'the* can be used to index a time in the future, ie. a irrealis time that has not happened yet, as long as the "after that time" meaning is satisfied. Considering this piece of evidence, it is clearer that *tse'i* and *tse'the* act as strictly temporal connectives but not in conditional contexts.

(119) Proyectotatsû faesû kankhefane nanitshiya. {**Tse'i**/**Tse'the**}ngi usha'fa faesû proyecto kûname tsuñe.

proyecto=ta=tsû faesû kankhefa=ne nani=tshi=ya.
project=NEW=3 other year=ABL end=QUAL=IRR
{**tse'i**/**tse='the**}=ngi usha-'fa faesû proyecto kûna=ve tsun=ye.
{then/ANA.LOC=PSTE}=1.SG able=PLS other project new=ACC2 do=INF

'The project will be completed next year. After that time, we can start a new project.'

The best and most straightforward option for such conditional anaphor function seems to be *jenda*, such as in (120). This could be because *jenda* is felicitous turn-initially, connecting another speaker's utterance with the current speaker's. Besides in these truth-conditonal connections, *jenda* is not available as a simple chronological connective, as shown in (121), potentially because using *jenda* in this sentence would require the additional layer of meaning that the first clause somehow causes the second clause to happen.

(120) a. *(Mother:)*

Ûshambiki panzaye ja'ñu.
ûsha=mbi=ki panza=ye ja'ñu.
can=NEG=2 hunt=INF now
'You can't go hunting today.'

b. *(Son:)*

Jendatingi ûshaya panzaye tû'i?
jenda=ti=ngi ûsha=ya panzaye tû'i.
then=INT=1.SG can=IRR hunt=INF tomorrow
'Then, can I hunt tomorrow?'

(121) U'tiengi ja tiendani, *jendangi ja na'eni.

u'tie=ngi ja tienda=ni, ***jenda=ngi** ja na'e=ni
first=1.SG go store=LOC then=1.SG go river=LOC

Intended: 'First I went to the store, and after that I went to the river.'

Despite *jenda* appearing to be a more acceptable as a conditional connective, *jenda* doesn't work well in if-conditional sentences as shown in (122). This could also be the result of *jenda* being felicitous only turn-initially.

(122) Khuvima panza'tangi, *jenda avûjatshiya.

khuvi=ma panza-'ta=ngi, ***jenda** avûja=tshi=ya
tapir=ACC hunt-IF.SS=1.SG then happy=QUAL=IRR

Intended: 'If I hunt a tapir, I will be happy.'

Overall, the evidence on the *tse* temporal adverbs *tse'i* and *tse'the* suggests that neither of them has the function of a conditional anaphor. The adverb *jenda* is used turn-initially in sentences that have temporal as well as implied conditional meanings, but, at least at the surface, neither *jenda* nor the *tse* temporal adverbs is used in overtly conditional sentences.

4.4 Anaphoric attributive *tse'sû*

Another common phrase containing the 'tse' segment is *tse'sû*, which can be glossed as 'having the aforementioned property' with the anaphoric content being a particular property from previous discourse. *Tse'sû* is an adjective on its own, so it can also serve as a noun phrase in an argument position, available both as the noun phrase itself (eg. (123), (124)) and co-occurring with a head noun (eg. (125)). *Tse'sû* seems to be consisted of *tse* and the attributive marker *='sû*, but I will argue later in this chapter that *tse'sû* should be considered as not decomposable. So, I gloss *tse'sû* as ANA.ATTR.

(123) Mingûitekhengi athe'jembichua inzia chhiririama. Kaningi tse'sûma athe.

mingûite=khe=ngi athe-'je=mbi='chu=a inzia chhiriria=ma.
never=ADD=1.SG see-IMPF=NEG=SUB=ADJR blue bird=ACC
kani=ngi **tse'sû**=ma athe.
yesterday=1.SG ANA.ATTR=ACC see

'I had never seen a blue bird before. Yesterday I saw one like that.'

(124) a. Ingi sansan tsate phû'ya,

ingi sansan tsa=te phû='ya,
1.PL liver ANA=RPRT swell=VER

'Our pancreas, that swelled,'

b. Tse'sûkhûte khûshamatshia pa'khute tsesûkhûja pajefaya kundasesi sûya.

tse'sû=i'khû=te khûsha=ma=tshi=a pa'khu=te
ANA.ATTR=INST=RPRT heal=??=ADJ=ADN all=RPRT
tse'sû=i'khû=ja pa-'je=fa=ya kundase=si sû=ya.
ANA.ATTR=INST=CNTR die-IMPV=PLS=IRR tell=DS say=VER

'They say that nobody has been saved so far, that everyone dies with that.'
(Autobiografía de MM 1 1:47-50)

(125) *Context: someone asked the speaker whether they have heard scary ghosts when walking through the forest.*

Tse'sû aya'kama pañamba kansembi akhia thesi fûndu'chuma pañañe atesû.

tse'sû aya='kan=ma paña=pa kanse=mbi akhia thesi fûndu='chu=ma
ANA.ATTR ghost=CMP=ACC hear=SS live=NEG only jaguar shout=SUB=ACC
paña=ye atesû.
hear=INF know

'I have never heard any ghosts of that kind, only jaguar roars.'
(Caza y pesca 6:33)

In these examples, the reference of *tse'sû* is a property instead of an entity/individual. In (123), *tse'sû* is pronominally referring to the property of being blue; in (124) *tse'sû* refers to "a liver with the aforementioned the property", ie. swollen; in (125), *tse'sû* similarly refers to the scary nature of ghost sounds that is part of the previous sentence.

There are also contexts where there is no explicit adjective that describes a certain property from previous discourse. In these cases, if *tse'sû* is used, then the property it is referring to is reflected by the nature of the entity that is introduced previously. For example, in (126), there is no specific descriptor for the "two bars of soap" in the first clause, so the property referred to by *tse'sû* in the second clause is the property of being the same kind or brand of soap. In addition, in this situation of buying soap in a store, it is clear that the soap referred to by the phrase *tse'sûveyi* are not the same entities as the soap mentioned in the first clause, which further supports that the anaphoric content of *tse'sû* is not a soap entity but the property "being a soap". Similarly, in (127), the leaf from the second sentence is not the same leaf as the leaf from previous discourse but rather a leaf that is of the same species and looks the same.

(126) *(Context: a person walks into a store and says to the store owner:)*

Kaningi chava khuangikhû'ya jabombe. In'jangi khuangi tse'sûveyi.

kani=ngi chava khuangi=i'khû='ya jabon=ve in'ja=ngi khuangi
yesterday=1.SG buy two=INST=VER soap=ACC2 want=1.SG two
tse'sû=ve=yi.
ANA.ATTR=ACC2=EXCL

'Yesterday I bought two bars of soap. I want two more of those.'

(127) Tisetsû fûchha fae khake'khû tise iñakha'chuma. Tse'sûi'khû ña'khengi tsun.

tise=tsû fûchha fae khake=i'khû tise iñakha='chu=ma. **tse'sû=i'khû**
3.SG=3 scratch one leaf=INST 3.SG get.hurt=SUB=ACC ANA.ATTR=INSTR
ña='khe=ngi tsun.
1.SG=ADD=1 do

'He cleaned his wound with a leaf. I did the same with one, too.'

Overall, *tse'sû* is an adjective that refers to a particular property of an individual that is introduced in previous discourse. This function seems to put *tse'sû* in a different bin than the *tse* adverbs discussed in the previous two sections: unlike the *tse* adverbs that refer to some spatial-temporal property of an aforementioned event, *tse'sû* refers to a property of an *argument* of that event, namely an individual from the event. This discrepancy at the surface will be discussed further in the next chapter.

The function of *tse'sû* as described here also seems to resemble the meaning of *tsa'kan* from §2.3, where both could be used in comparisons and referring to some property of an individual. In Chapter 5, I will elaborate on the differences between *tsa'kan* and *tse'sû* through the perspective of analyzing the differences between the anaphoric contents of *tsa* and *tse*. Overall, the reference of *tsa* in *tsa'kan* is an individual, while the reference of *tse'sû* is a property, so the felicity of *tse'sû* requires a salient property from previous discourse.

4.4.1 Stress patterns on *tse'sû*

In investigating the function of *tse'sû*, I also found some evidence that the stress pattern on *tse'sû* alters its meaning to a certain degree, although currently there is just a little evidence, as mentioned below, and much further investigation in both the phonetics of deaccenting in A'ingae as well as the connection between deaccenting and information structure is necessary.

So far, Dąbkowski (2019a) has shown that in A'ingae the glottal stop is involved in stress shifting, where a glottal stop is deleted when outside of the head foot. Specific to the case of *tse'sû*, the deaccented counterpart for *tse'sû* is the word without the glottal stop, *tsesû*. We find the deaccented *tsesû* in both natural texts and elicited sentences. In naturally occurring examples (128) and (129), it seems that deaccented *tsesû* acts as the pronominal form for a proposition, perhaps with the meaning of "a proposition like that" with "that" referring to the content of the proposition from previous discourse. Similarly, in the elicited example (130), the consultant specifically mentions that *tse'sû* with a glottal stop is not correct in (130b) and only the deaccented one is felicitous.

(128) Jûnjûn ña tsesûma injamba kansembingi jungaesûma kaentsû semañe.

jûnjûn ña **tsesû**=ma in'jan=pa kanse=mbi=ngi jungaesû=ma kaentsû
uh-huh my ANA.ATTR=ACC think=SS live=NEG=1 what=ACC SRCN
sema=ñe.
work=INF

'I don't know, I've never thought about what he should do for work.'
(Escuela 8:25)

(129) *Context: The question for the speaker is how much a ticket was.*

Tsesûmanda atesûmbi ña'khe injanjembingi mingaetshe iñajanjenchuve.

tsesû=ma=nda atesû=mbi ña='khe injanjen=mbi=ngi
ANA.ATTR=ACC=NEW know=NEG 1.SG=ADD remember=NEG=1
mingae=tshe iñajan-'je='chu=ve
how=ADJ.ADV ask-IMPV=SUB=ACC2.

'I don't know that, I don't remember how much they charged'
(Autobiografía de ARLQ 18:26)

(130) a. Mañi kankhefavetsû ambian ke she'she.
mañi kankhefa=ve=tsû ambian ke she'she
how.many year=ACC2=3 have 2.SG older.sister
'How old is your older sister?'

b. {*Tse'sû/Tsesû}ma atesûmbingi.
{***tse'sû**/**tsesû**}=ma atesû=mbi=ngi.
ANA.ATTR=ACC know=NEG=1
'That I don't know.'

In the elicited example (130), the *tse'sû* vs. *tsesû* data was first acquired when native speaker consultant pointed out that *tse'sû* is not the correct written form, because the consultant does not think there is a glottal stop in the word when he pronounces it. According to this judgement, using the glottal stop version *tse'sû* does not sound natural nor correct in (130). From the other examples from natural texts, the observation that *tse'sû* is not accented is mainly from my own listening.

All of this is to say that the issue of deaccenting on *tse'sû*, or the puzzle of deaccenting in A'ingae in general, requires much further phonetic scrutiny to confirm exactly whether deaccenting is happening in a particular sentence. Currently, we don't yet have extensive study of deaccenting in A'ingae, and the transcriptions in current texts are not always clear nor accurate.

Beyond further phonetic investigation on the degree and nature of deaccenting, the distribution of the stressed *tse'sû* and deaccented *tsesû* is worthy of another related investigation. In this thesis, I do not yet have any well-supported arguments for what the differences between the two forms are, so I will only list a few plausible hypotheses for the cause of this distribution and suggest the type of evidence that is needed to defend each of them.

The first potential reason for the difference between *tse'sû* and *tsesû* comes from the observation of (128) - (130) that these examples all represent a question-answer paradigm in which *tsesû* is used as part of the answer to a wh-question. The sentences with *tsesû*

also all have attitude complementizers (*in'jan* and *atesû*, "know") that express the speaker's belief. It could be the case that deaccented *tsesû* is used only in combination with attitude complementizer constructions, though it might be challenging to construct reasons for such case.

The second hypothesis relates to the first one in noticing that deaccented *tsesû* acts like a pronominal form of a propositional reference. *Tse'sû*, as shown in its comparison with *tsa'kan*, seems to specifically anaphorically refer to a property of an entity. It could be the case that, in contexts where both the property and the entity are discourse old (ie. previously mentioned), *tse'sû* becomes deaccented, and in contexts where only the property is discourse old but the entity is new, the stressed version *tse'sû* is used. For example, in (126), repeated below, accented *tse'sû* is used. In this context, the property "being blue" is discourse-old from the first clause, but the entity "soap" is discourse-new in the second clause — the speaker is trying to buy *additional* soap that is not the same soap as the one just mentioned. In (128)-(130), where *tsesû* seems to refer to a proposition and mean 'a proposition like that', both the property and the entity itself are discourse-old.

(131) *(Context: a person walks into a store and says to the store owner:)*

Kaningi chava khuangikhû'ya jabombe. In'jangi khuangi tse'sûveyi.

kani=ngi yesterday=1.SG chava buy khuangi=i'khû='ya two=INST=VER jabon=ve. soap=ACC2 in'ja=ngi want=1.SG khuangi two
tse'sû=ve=yi.
ANA.ATTR=ACC2=EXCL

'Yesterday I bought two bars of soap. I want two more of those.'

A related hypothesis is that the syntactic role of *tse'sû* in a particular sentence determines its stress pattern. Specifically, since *tse'sû* itself acts like an adjective but could then turn into a noun phrase, *tse'sû* receives the stress when it is an adjective but does not receive the stress when it changes into a pronominal form.

Finally, there is another theoretically possible but empirically undersupported hypothesis, which is that there are, in fact, two different lexical entries, one corresponding to the accented *tse'sû*, the other one being the deaccented *tsesû*. This then leads to the possibility that there are two separate morphemes, *='sû* and *=sû*, that attach to *tse*. The distribution of the attributive morpheme *='sû* has not been extensively studied, so this proposal is not entirely impossible. Currently, however, this hypothesis seems quite unlikely, as this proposal would require somewhat separate meanings for the two *sû* morphemes, and the current distribution of *='sû* suggests that there is one core meaning of this morpheme, the "having ... property" meaning.

As stated before, the transcription of the glottal stop in *tse'sû* is inconsistent at times from the natural text corpus. In light of my elicited data presented here, future research should further scrutinize naturalistic data to confirm the glottal stop's presence/absence.

4.5 Third-person plural pronoun *tsendekhû*

The final common 'tse' phrase I will discuss is the third-person plural pronoun *tsendekhû*, which can take either the subject position (132) or object position (133) and refers to a previously mentioned group of people. Similar to *tse'sû*, *tsendekhû* seems to consist of *tse* and *=ndekhû*, where *=ndekhû* is also a very productive morpheme that attaches to noun phrases (like the attributive *='sû*), but I argue that *tsendekhû* is not morphologically decomposable, either. So, I gloss *tsendekhû* as ANA.PLH.

(132) Sûpangi ingi sûsitsû tsendekhû in'janfa fûiteye fae tsa'uve.

sû=pa=ngi ingi sû=si=tsû **tsendekhû** in'jan-'fa fûite=ye fae tsa'u=ve
say=SS=1 1.PL say=DS=3 ANA.PLH want=PLS help=INF one house=ACC2.

'After hearing this, they wanted to help us to build a house'
(Yaje tsa'u proyecto 1:02)

(133) a. Napiya tse kukuyaja vaju.
napi='ya tse kukuya=ja Vaju
arrive=VER ANA.LOC devil=CNTR Vajo
'The devil Vajo arrived'

b. Tsendekhûma añe.
tsendekhû=ma an=ye.
ANA.PLH=ACC eat=INF
'to eat them.' (Vaju kundasepa 2:03-2:06)

The third-person singular pronoun in the language is *tise*. If using *tise* as the root, it seems that the compositional form for the plural pronoun should be *tise* plus the human plural *=ndekhû*, but *tisendekhû* does not exist in the language — *tise'pa* is a possible form in the language for plural subject reference, where *tise* is the root and *-'pa* is the associative plural morpheme.

The difference between these two third-person plural pronouns, *tsendekhû* and *tise'pa*, currently seems minimal, although there is some evidence suggesting that *tsendekhû* is more natural in situations where the referents of the pronoun have been mentioned in the immediate previous discourse. In (134), for example, *tsendekhû* is more natural than *tise'pa*.

(134) Tsa'unitsû kan'jen'fa Juan, Pedro, José. {Tsendekhû/Tise'pa}tatsû kundase'je'fa.

tsa'u=ni=tsû kan'jen-'fa Juan Pedro José. {**tsendekhû/tise'pa**}=ta=tsû
house=LOC=3 stay=PLS Juan Pedro José {ANA.PLH/3.PL}=NEW=3
kundase-'je-'fa.
say-IMPV=PLS

'Juan, Pedro, and José are in the house. They are talking.'

More crucial to the purpose of this chapter is how *tsendekhû* seems similar to *tse'sû* in differing from the functions of the *tse* adverbs. Syntactically, *tsendekhû* is not an adverbial but occupies an argument position. Semantically, *tsendekhû* refers to a group of individuals, while the *tse* adverbial phrases tend to refer to spatial-temporal properties of an event. Because of such difference from the *tse* adverbs, I propose that both *tse'sû* and *tsendekhû* are not morphologically decomposable. In Chapter 5, this division between the meanings of different *tse* phrases will be discussed further.

Despite the difference in function between *tsendekhû* and the *tse* adverbs, one similarity in their semantics still holds: *tsendekhû*, as a pronoun, is anaphoric and requires an antecedent to have been mentioned in previous discourse. The anaphoricity of this *tse* composite form, *tsendekhû*, aligns with the anaphoricity of the *tse* adverbs that refer to space and time of an *aforementioned* event, as well as the anaphoricity of *tse'sû* that refers to a property of an individual from an *aforementioned* event/ proposition.

4.6 Bare *tse* indexes time

In addition to all the composite *tse* forms introduced above, *tse* can also occur in its bare form, although seemingly less frequently. When *tse* combines with certain temporal clitics, *='i* and *='the*, the combined form is only available for an "after that" meaning without the "at that time" meaning. When *tse'i* combines two events, the second one is understood to have progressed from the end of the first event. Bare *tse* does not progress the event time — *tse* indexes the same time as the first event. (135) shows an example where bare *tse* is used to index the time from the preceding clause to mean "at that time". Similarly, in (136), *tse* occurs next to verb phrases *jiñamba* "he returned" and *indiyepa* "he captured", and *tse* is indexing the same time as the verb phrase it co-occurs with: *jiñamba tse* can be understood as "at the time he returned", and *tse indiyepa* can be understood as "at the time he captured the other demon".

(135) Kaningi athe Josema. Tsetatsû tuya pajimbi'chua.

kani=ngi athe Jose=ma **tse**=ta=tsû tuya paji=mbi='chu=a.
yesterday=1.SG see José=ACC ANA.LOC=NEW=3 still be.sick=NEG=SUB=ADJR

'Yesterday I saw José. At that time he wasn't sick yet.'

(136) Jiñamba tse tsa kukuyau tsharara kukunga jiñamba indiyeya tsandie tse indiyepa.

ji=ya=pa **tse** tsa kuku=ya=u tsharara kuku=nga ji=ya=pa
come=IRR=SS ANA.LOC ANA devil=IRR=AUG otter devil=DAT come=IRR=SS
indi-ye=ya tsandie **tse** indi-ye=pa.
take-PASS=IRR man ANA.LOC take-PASS=SS

'When he was returning, the otter demon was captured, he captured the otter demon.' (Tshararukuku kundasepa 0:41)

(137) *(Context: a story about a savage who kills to stay sane.)*

a. Tsumba kanjen tsa tetete ñukimbitshete daya pajisûve.
tsun=pa kanjen tsa tetete ñu+khi=mbi=tshe=te
do=SS stay ANA savage good+strength=NEG=ADJ.ADV=RPRT
da=ya paji=sû=ve.
become=VER be.sick=ATTR=ACC2
'Living at home, the savage became sick.'

b. Tsetatsû a'ima fithimbipa paye tsunjenña.
tse=ta=tsû a'i=ma fithi=mbi=pa pa=ye tsun-'je=ya.
ANA.LOC=NEW=3 person=ACC kill=NEG=SS be.sick=INF do-IMPV=IRR
'*(At that time,)* He was getting sick because he did not kill people.'
(Erision kundasepa 12:53-13:00)

When *tse* combine with the exclusive morpheme *=yi*, *tseyi* also functions as a temporal index with the meaning of "at just that time/moment". The meaning of the exclusive *=yi* seems to emphasize that the time of its clause is the same time as the time from previous discourse.

(138) Tseyi jitangi ña chankhashe tsa'uni kanjen fa'eniyi kanjen.
tse=yi ji=ta=ngi ña chankhashe tsa'u=ni kan'jen
ANA.LOC=EXCL come=NEW=1 my mother-in-law house=LOC stay
fae=ni=yi kan'jen
one=LOC=EXCL stay.
'When I came, I stayed in my mother-in-law's house.'
(Autobiografía de EQ 1:07)

In both (139) and (140), there are two *tse* that chain two clauses together, and the switch reference marker *=pa* in (139) also emphasizes this chaining. This clausal chaining makes it seem that both of these sentences convey a progression in narrative, where one action happens after the other one. It could be the case that *tse* makes its indexed time salient, which turns the events that happen at that time into one state rather than a series of events occurring after the other. Without more detailed temporal semantic work in A'ingae, this hypothesis should not be treated as conclusive but only as contributing to ideas on how bare *tse* indexes time.

(139) a. Tsatati dû'shû dû'shûve da'jechutati tsa'kaenjan katiyembi.
tsa=ta=ti dû'shû dû'shû=ve da-'je='chu=ta=ti
ANA=NEW=INT child child=ACC2 become-IMPV=SUB=NEW=INT
tsa='ka=en=jan kati-ye=mbi.
ANA=CMP=ADV=CNTR throw.out-PASS=NEG
'I believe it was what the child had become; it was not thrown out.'

b. Tsunsite tse inamba tse jipa.
tsun=si=te **tse** ina=pa **tse** ji=pa.
do=DS=RPRT ANA.LOC cry=SS ANA.LOC come=SS
'And so he cried and returned.'

c. Tisû mamambanijan jiya men tisûyi jiya.
tisû mama=pa=ni=ja ji='ya me tisû=yi ji='ya.
RFLX mom=ASSC=LOC=CNTR come=VER PRV RFLX=EXCL come=VER
'He returned to where his parents were, but alone.'
(Apicha pûshesû kundasepa 4:50-5:00)

(140) Tse dyuya tsa pûshesûja tse indiyeya.
tse dyu=ya tsa pûshesû=ja **tse** indi-ye=ya.
ANA.LOC get.scared=IRR ANA woman=CNTR ANA.LOC take-PASS=IRR
'She got scared and the woman was caught.' (Erision kundasepa 1:16)

Overall, it seems that bare *tse* primarily indexes time and anaphorically refers to the same time as introduced in previous discourse. Combining the distribution of bare *tse* with the *tse* adverbs discussed above — *tseni*, *tse'thi*, *tse'i*, *tse'the*, and *tseite* — the generalization seems to be that the reference of *tse* is some spatial-temporal aspect of an event mentioned in previous discourse. This function of the stand-alone *tse* morpheme suggests that *tse* in these adverbs is its individual morpheme, which also means that these *tse* adverbs are indeed morphologically decomposable.

In contrary, *tse'sû* and *tsendekhû* are not adverbs but nouns, and they also do not refer to some spatial-temporal element of an event: *tse'sû* refers to a property of an individual, and *tsendekhû*, as plural pronouns do, refers to individuals. These evidence further supports my argument that *tse'sû* and *tsendekhû* are not decomposable into *tse* plus an additional clitic, because the *tse* morpheme in these two words does not have the same function as the *tse* morpheme from the adverbs. This contrast will be the focus of Chapter 5.

4.7 Summary

Moving on from the discussions of the nominal anaphor *tsa* in previous chapters, in this chapter, I have presented a detailed description of another anaphor, *tse*, both in its bare form and in various seemingly morphologically complex forms containing *tse*. I have argued that, when occurring in adverbs, *tse* is a stand-alone morpheme and anaphorically refers to the time or location of an event from previous discourse. When *tse* occurs in phrases that are syntactically not adverbs, such as *tse'sû* and *tsendekhû*, the function of these phrases are different from that of the adverbs: *tse'sû* refers to property of individuals, and *tsendekhû* refers to individuals, and neither refers to time or location. This distinction, as well as the observation that bare *tse* indexes the same time as a previously mentioned event, suggests the possibility that the *tse* from *tse'sû* and *tsendekhû* is not a morpheme after decomposition; rather, *tse'sû* and *tsendekhû* are both their own lexical items.

The following chapter will continue investigating the distinction between the adverbs and non-adverbs containing *tse* as well as elaborating on how these *tse* forms differ from the anaphor discussed in Chapters 2 and 3, the nominal anaphor *tsa*.

Chapter 5

Different groups of *tse* phrases and their anaphoric content

5.1 Overview

Chapter 4 details the functions of various morphologically complex *tse* forms as well as bare *tse*. From the description of these different *tse* forms, I have shown that there potentially are different groups of *tse* phrases categorized by their different functions. One group contains adverbs that have *tse* as the root plus additional spatial-temporal morphemes, and the function of these *tse* adverbs is that *tse* anaphorically refers to the location and time from previous discourse. The other group is for 'tse' phrases that do not refer to spatial-temporal elements of an event: *tse'sû* is an adjective that anaphorically refers to a property of an entity, and *tsendekhû* is a pronoun that refers to a group of people.

In this chapter, I investigate more closely this division among the *tse* composite forms, with the additional goal of discussing how each of these *tse* forms also differ from the other anaphor that was introduced in earlier chapters, *tsa*. Overall, I will argue against a unifying analysis that consider all phrases that have 'tse' in their surface forms as morphologically decomposable with the same 'tse' as their root.

First, I look at the syntactic distribution of *tse* in all of its composite forms by comparing the syntactic position of the root *tse* from other morphologically complex forms that also receive the same suffixes and clitics (§5.2.1). These suffixes and clitics are: *=ni* and *='thi*, postessive *='the*, period *=ite*, attributive *='sû*, and the human plural *=ndekhû*. From the syntactic perspective only, the roots that receive these clitics are either a noun or a clause, and there is a hint for a division among these clitics: some occur in adverbial phrases while others occur in argument-position phrases.

Then, I continue with my initial hypothesis that there are different groups of *tse* phrases and discuss the differences between the *tse* from the *tse* adverbs, the attributive *tse'sû*, and the pronoun *tsendekhû* (§5.2.2). Specifically, I will argue that *tse* from the adverbs refers to time and location while *tse'sû* refers to property of individuals and *tsendekhû* refers to individuals. Because of this contrast in function, I argue that only 'tse'

from the adverbs is a morpheme that is morphologically decomposable while both *tse'sû* and *tsendekhû* are fossilized forms that also have 'tse' in the surface form.

Finally, I incorporate my analysis of the nominal anaphor *tsa* into discussions of the different *tse* phrases and their differences from *tsa* (5.2.3). At the end of the chapter, I re-emphasize the dedicated anaphoricity of *tse* and its composite forms (§5.3), which is a similarity that *tse* shares with *tsa*.

5.2 Against a unifying analysis of all *tse* phrases

5.2.1 Some hints from syntax

I first support my hypothesis that there are different groups of *tse* forms through comparing the syntactic positions where the clitics that attach to *tse* occur with other roots. As shown in Chapter 4, the clitics that seem to attach to *tse* are the locative *=ni* and *='thi*, postessive *='the*, period *=ite*, attributive *='sû*, and the human plural *=ndekhû*. In order to see what syntactic component *tse* corresponds to, I compare the distribution of these clitics when occurring with *tse* versus when occurring with other words, and I show that syntactic evidence alone already suggests a potential division between different groups of *tse* phrases: some of the clitics mentioned above only appear in adverbial phrases, while the other clitics occur in noun phrases in argument positions.

For the locative morphemes *=ni* and *='thi*, examples like (141) and (142) show that they attach to noun phrases. The noun phrase describes the location for the current clause's event, and with the addition of the locative morphemes, the entire *noun=ni/='thi* phrase becomes an adverb.

(141) Na'enkhûfanitsû mûnda kanjeñe atesû va'kini.

na'en=khû=fa**=ni**=tsû mûnda kanje=ñe atesû va='ki=ni.
river=SH.DLM=SH.LAT=LOC=3 peccary stay=INF know PRX=SH.LIN=LOC

'There are tapirs by this stream.' (Caza y pesca 5:41)

(142) Vaengi jañu khase jipa ña mamambathi kanjemba vae khase kha'thinga sumbupa kanjen tisûyi.

vae=ngi jañu khase ji=pa ña mama=pa**='thi** kanje=pa vae khase
already=1 now again come=SS my mum=SS=CL.LOC stay=SS already again
kha='thi=nga sumbu=pa kanjen tisû=yi.
other=CL.LOC=DAT go.out=SS stay RFLX=EXCL

'Now I came, I was living with my parents, but I went out and I'm living alone.'
(Autobiografía de MMEMQ y JC 1:00)

There seems to be a strong tendency for the locative *=ni* to only occur in adverbial phrases. Although *=ni* does receive additional clitics that seemingly suggest that the phrase with *=ni* is an argument, such as the third person subject *=tsû* and the accusative *=ma*, the actual decomposition of the sentence usually shows that's not the case. In (143), for example, *tseni* still is an adverbial phrase, referring to a location that was previously mentioned, despite the presence of *=tsû*. The function of *=tsû* here should be marking the subject *ña mama* "my mom".

(143) Tsumbangi ña tsenitsû ña mama ñama isûchu.

tsun=pa=ngi ña tse**=ni=tsû** ña mama ña=ma isû='chu.
do=SS=1 1.SG ANA.LOC=LOC=3 my mum 1.SG=ACC give.birth=SUB

'My mom gave birth to me there.' (Autobiografía de EQ 0:14)

Similarly, for the other locative morpheme *='thi*, despite it being able to receive an additional accusative marker *=ma*, the *='thi* still presents an adverbial meaning. One example is the (potentially lexicalized) word for "door": *sumbu'thi*. This word can be decomposed into *sumbu='thi* where *sumbu* means "go out". Together, *sumbu'thi* would literally mean "where (someone) goes out", which then gets lexicalized into "door". There are many examples of *sumbu'thima*, but the locative *='thi* still only has an adverbial function.

Now, for the temporal morphemes: in (145), the time period marker *=ite* attaches to a noun phrase *dûsûnga* "youth", so the whole phrase *dûsûngaite* refers to a time period of being young. In (144), in contrast, *=ite* attaches to the clause *ke kanjan* "you read", which becomes a temporal relative clause that loosely means "the time when you were studying".

(144) Juva kundasekanjan mingaeki mingautsû mingatsû escuela tayupi ke kanjaniteja?

ju+va kundase+kan=jan mingae=ki minga=u=tsû minga=tsû escuela
DIST+PRX tell+try=IMP how=2 how=AUG=3 how=3 school
tayupi ke kanjan**=ite**=ja
long.ago 2.SG read=CL.PRD=CNTR

'Can you tell us what the school was like back when you were studying?'
(Escuela 0:13)

(145) Tsatatsû amigo tayupi tayupi yayakhasheye'ye tise dûsûngûite, tise dûsûngûite'te.

tsa=ta=tsû amigo tayupi tayupi yaya+khasheye='ye tise
ANA=NEW=3 friend long.ago long.ago dad+oldman=HONR 3.SG
dûsûnga**=ite** tise dûsûnga=ite='te
reproductive.age=CL.PRD 3.SG reproductive.age=CL.PRD=RPRT

'That, my friend, is a story from long long time ago when my grandfather was a young man.' (Autobiografía de JWC 17:23)

The attributive *='sû* seems to be more productive, attaching to both nominal and adjectival phrases. The attributive *='sû* overall seems to have the meaning "of ..." or "having ...", connecting an object to a property. *='sû* in (146) connects some people with the property 'from here' and 'from Dureno', and *='sû* in (147) connects some people with the property 'from long time ago'.

(146) Tsakanditiki manisû a'indekhûtsû ti'tshe ñutshe kansefakheki injan vanisû o durenosû?

tsa='kan=ti=ti=ki mani='sû a'i=ndekhû=tsû titshe ñu='tshe
ANA=CMP=INT=INT=2 where=ATTR person=PLH=3 more good=ADJ.ADV
kanse-'fa=khen=ki in'jan **va=ni='sû** o **Dureno='sû**
live=PLS=THUS=2 think PRX=LOC=ATTR or Dureno=ATTR

'Then who do you think live well, those from here or from Dureno?'
(Autobiografía de ARLQ 11:40)

(147) Tsunsi ña asi'thaen'chuta'tsû tayupija tsa'kaen yuku yaje kû'ipa kansepa tsû tayupi'sû a'i ja kinsetshi'fa.

tsun=si ña asi'thaen='chu=ta=tsû tayupi=ja tsa='kan=e yuku
do=DS 1.SG think=SUB=NEW=3 long.ago=CNTR ANA=CMP=ADV yoco
yaje kû'i=pa kanse=pa =tsû **tayupi='sû** a'i ja kinse=tshi-'fa.
ayahuasca drink=SS live=SS =3 long.ago=ATTR person go health=ADJ=PLS

'Then, I wonder, long time ago, because they drink yuku and yaje, they were healthier' (Yaje tsa'u proyecto 2:09)

The plural human morpheme *=ndekhû* only attaches to nouns, although what syntactic categories can become a noun phrase in A'ingae are flexible. As shown in (148), nouns, adjectives, and even demonstratives can become a noun phrase. The entire phrase with *=ndekhû*, then, takes the argument position of a sentence and can be either the subject and object.

(148) a. dû'shû=ndekhû
child=PLH
'children'

b. kuenza=ndekhû
old=PLH
'old people'

c. va=ndekhû
PRX=PLH
'those who are here'

Contrary to the morphemes discussed above, all of which seem quite productive and can attach to various words depending on the context, the postessive morpheme *='the* in *tse'the* "after that time" is less productive. It mostly frequently only occurs with two demonstratives, *tse* and *va*, in *tse'the* and *va'the*, and both only occur in adverbial position. *Va'the* has a more deictic locative meaning, different from the temporal sequencing meaning of *tse'the*. In (149), for example, *va'the* means "from here". *Va'the* can also mean "across here", as in (150). Regardless of the specific meaning, *va* as a deictic demonstrative is referring to a location in *va'the*, and *tse* is referring to a time from previous discourse in the anaphoric counterpart *tse'the*.

(149) a. Bia'ati tseningae jaye kaentsû ke sûkhia'kaen kanungue?
bia=a=ti tse=ni=ngae ja=ye kaentsû ke
long=ADN=INT ANA.LOC=LOC=MANN go=INF SRCN 2.SG
sû=khia='kan=e kanungu=e
say=SML=CMP=ADV moriche.palm=ADV
'Are there palms far away from here?'

b. Ba've bia'utsû va'the.
ba've bia='u=tsû **va='the**.
approximate long=AUG=3 PRX=PSTE
'Very far from here.' (Caza y pesca 8:22-8:25)

(150) Ke ketati jenda vaye jachu naikie o tsampini va'the ja'jembitiki?
ke ke=ta=ti jen=ta va=ye ja='chu nai'ki=e o tsampi=ni
2.SG 2.SG=NEW=INT start=NEW PRX=ELAT go=SUB stream=ADV or forest=LOC
va='the ja-'je=mbi=ti=ki
PRX=PSTE go-IMPV=NEG=INT=2
'Do you go hunting along the river, or directly across the forest?'
(Caza y pesca 4:21-23)

Similarly not productive is the morpheme *='i*, which also only occurs after *tse* and *va* and becomes *tse'i* "afterwards" and *va'i* "here" (151). The morpheme *='i* is currently glossed as ADV2 because of its tendency to occur in adverbs, similar to the adverbializer *=e* (glossed as ADV), but the *='i* morpheme itself has not been studied too much at this point.

(151) Da va'i kha'indekhû sethaye atesûchu kanjenfati?

da **va='i** kha'i=ndekhû setha=ye atesû='chu kanjen=fa=ti
HES PRX=ADV2 other=PLH chant=INF know=SUB live=PLS=INT

'And others live here who know how to sing?' (Yaje 2 1:14)

Finally, though not a clitic that was discussed earlier as one that attaches to *tse*, the adverbial morpheme *=e* is worth a note here. In A'ingae, *=e* can be seen attached to various kinds of stems and suffixes to result in an adverbial form. It is possible that some or all of the surface forms 'tse' can be fossilized adverbial forms that originally could be decomposed into *ts* (or some ts-word) plus the adverbial *=e*, which would in turn suggest that *tse* is really some "ts" root plus an adverbializer. There are analogous examples in the language: the adverbial counterpart to the adjectival morpheme *-tshi* is *-tshe*, which can be seen as *-tshi-e*. Similarly, the negative polarity morpheme *-mbi* has the adverbial form *-mbe*, which can be *-mbi-e*. In both of these two cases, no strict phonological process dictates that the adverbial form will remove the 'i' and retain the 'e', so it seems non-accidental that these two adverbial clitics both end in 'e'.

From the distribution of the clitics that commonly attach to *tse*, there seems to exist a division that resembles the one I proposed at the end of Chapter 4: there are clitics, such as *=ni*, *='thi*, *=ite*, that turn a noun phrase or a clause into an adverbial adjunct, and there are other clitics, *='sû* and *=ndekhû*, that let a noun phrase maintain its argument position.

The syntactic evidence presented here, however, is only preliminary, partially because the specific functions of each of the clitics discussed here are not yet well studied. Because of this, I will continue into discussions on the content of *tse* through other perspectives and only use its syntactic distribution as a starting hint.

5.2.2 Comparisons among different *tse* forms

The previous section proposes some syntactic evidence for the division between the function of *tse* from the *tse* adverbs (*tseni*, *tse'thi*, *tse'i*, *tse'the*, and *tseite*) and the functions of the non-adverbs *tse'sû* and *tsendekhû*. Moving further from these syntactic hints, in this section I will argue for a three-way division among the *tse* forms based on their functions: *tse* from spatial-temporal adverbs, the attributive adjectival *tse'sû*, and the plural pronoun *tsendekhû*. In addition, taking the function of bare *tse* into consideration, I will argue that 'tse' in *tse'sû* and *tsendekhû* are now fossilized into the word itself, so only the 'tse' in the adverbs surfaces as a productive morpheme that can go through morphological composition; *tse'sû* and *tsendekhû* are both not decomposable.

Firstly, comparing *tse* adverbs with the property adjectival *tse'sû*, we see that *tse* from *tse* adverbs refer to the time and location of a proposition/event while *tse'sû* refers to the property of an individual within the proposition, namely an individual/entity from that proposition. In (152), for example, the reference of *tse* in *tseni* is the "forest" mentioned in the first clause, and the forest is in the adjunct position. The reference of the locative

adverb *tseni* is the location of the proposition *Kuengi tsampinga* "I grew up in a forest". In (153), on the other hand, the reference of *tse* from *tse'sû* is a property of the "bird", an entity and also an argument of the proposition *Mingûitekhengi athe'jembichua indzia chhiririama* "I have never seen a blue bird before". *Tse'sû* refers to the "blue" property and does not refer to time or location of the entire proposition.

(152) Kuengi tsampinga, tsenitsû ña familia panzaye japa kanse'fa.

kue=ngi tsampi=nga, **tse=ni**=tsû ña familia panza=ye ja=pa
grow=1.SG forest=DAT ANA.LOC=LOC=3 my family hunt=INF go=SS
kanse-'fa.
live=PLS

'I grew up in a forest. That's where my family usually went hunting.'

(153) Mingûitekhengi athe'jembichua inzia chhiririama. Kaningi tse'sûma athe.

mingûite=khe=ngi athe-'je=mbi='chu=a inzia chhiriria=ma.
never=ADD=1.SG see-IMPF=NEG=SUB=ADJR blue bird=ACC
kani=ngi **tse'sû**=ma athe.
yesterday=1.SG ANA.ATTR=ACC see

'I have never seen a blue bird before. Yesterday I saw one like that.'

If we add *tsendekhû* into this comparison, the division appears even clearer. As a pronoun, the reference of *tse* in *tsendekhû* naturally is an individual from previous discourse instead of some preceding proposition itself.

To summarize, there is a division between three groups of *tse* phrases, as preliminarily shown in Table 5.1.

	Group 1	Group 2	Group 3
Members	*tse* adverbs (*tseni*, *tse'thi*, *tse'i*, *tseite*, *tse'the*)	*tse'sû*	*tsendekhû*
Content of *tse*	Time and location	Property of individual	Individual
Decomposable?	Yes	No	No

TABLE 5.1: Three groups of *tse* phrases

In order to understand and explain such division between different groups of the *tse* forms, I re-examine the function of bare *tse* in hopes that the function of its bare form should shed more light on its function in the composite forms. As introduced in §4.6,

bare *tse* indexes the time of an aforementioned proposition and means "at the same time". This function of bare *tse* suggests that the reference of *tse* rooted phrases should be some spatial-temporal element of a proposition, which aligns with the function of the first group of *tse* phrases, the *tse* adverbs.

There are two possible paths of arguments that can be made to explain this three-way distinction: 1) all three groups are in fact decomposable into 'tse' plus some other morpheme, which then means that there are three different underlying forms that all surface as 'tse' in these three groups; and 2) there is one underlying form,'tse', which has the same surface form 'tse' in the adverbs, and the 'tse' in *tse'sû* and *tsendekhû* are historically some other forms that have been fossilized with the word as non-decomposable surface forms "tse'sû" and "tsendekhû".

In this thesis, I will adopt the second argument, with the main motivation being parsimony. The first argument still has its merits — if both *tse'sû* and *tsendekhû* are in fact decomposable, the morphemes here would be 'tse', '='sû', and '=ndekhû'. Both '='sû' and '=ndekhû' are quite productive morphemes, as discussed in §5.2.1, and their general functions do align with the meanings of *tse'sû* and *tsendekhû*, so a decomposition argument is quite possible.

The main downside of the first argument is that it would suggest there are three different lexical entries that all surface as "tse", which leads to the question of what the underlying forms of "tse" in *tse'sû* and *tsendekhû* could be — the answer is not immediately clear. One potential candidate for such underlying form is the third-person singular pronoun *tise*, and the derivation is as such: *tise='sû* becomes *tse'sû*, and *tise=ndekhû* becomes *tsendekhû*, where the vowel *i* gets reduced. Purely phonologically speaking, this proposal is possible, but still there is a drawback: the distribution of *tise* shows that this pronoun seems to only refer to animate individuals, and the counterpart for inanimate reference would the nominal anaphor *tsa*. The animacy of *tise* aligns with the animate reference of *tsendekhû* (and also *-ndekhû* is generally only used for animates), but sentences like (126), repeated below in (154), indicates *tse'sû* is not restricted to animate references. This poses a challenge to the proposal that *tse* in *tse'sû* is underlyingly *tise*. In addition, there is a reflexive morpheme in A'ingae, *tisû* "oneself", that can argued to be decomposable into *tise='sû*, so more explanation of differences is needed if *tse'sû* is also decomposable into *tise='sû*.

(154) *(Context: a person walks into a store and says to the store owner:)*

Kaningi chava khuangikhû'ya jabombe. In'jangi khuangi tse'sûveyi.

kani=ngi yesterday=1.SG chava buy khuangi=i'khû='ya two=INST=VER jabon=ve. soap=ACC2 in'ja=ngi want=1.SG khuangi two
tse'sû=ve=yi.
ANA.ATTR=ACC2=EXCL

'Yesterday I bought two bars of soap. I want two more of those.'

Such evidence on *tse'sû* being able to refer to non-animate entities leads to two other potential hypotheses for the division between the groups of *tse* phrases: 1) the underlying form of *tse* in both *tse'sû* and *tsendekhû* is something other than *tise*; 2) the underlying form of *tse* in *tsendekhû* is *tise*, but the *tse* from *tse'sû* is a separate *tse* from *tse* in the adverbs.

So, with parsimony as the main motivation, I adopt the second argument, namely that only 'tse' from the *tse* adverbs is a morpheme on its own. *Tse'sû* and *tsendekhû* are both fossilized forms and not decomposable, although they contain "tse" in their surface forms. Based on this argument, throughout this thesis, I have glossed 'tse' in the adverbs as ANA.LOC, a locative anaphor, while I have not decomposed *tse'sû* and *tsendekhû*. For these two, I have glossed 'tse'sû' as a single morpheme ANA.ATTR, an attributive anaphor, and 'tsendekhû' as ANA.PLH, a human plural anaphor.

In addition, as discussed at the end of §5.2.1, it seems not coincidental that *tse* ends in 'e', same as the adverbial morpheme *-e*, so it could be the case that the underlying forms of *tse* in *tse'sû* and *tsendekhû* are historically 'tsV' words, where V is some vowel that is deleted after the additional "=sû" and "=ndekhû" come.

Moving on from the investigation of different *tse* phrases, a bigger goal of this thesis, on top of describing the functions of different anaphoric expressions in A'ingae, is looking at them together and investigating their comparisons. In the next section, I will continue with my argument my hypothesis that there are three different groups of *tse* forms — *tse* adverbs, *tse'sû*, and *tsendekhû* — and compare the content of each group with the content of *tsa*.

5.2.3 Comparisons with *tsa*

At this point, I have gone into much detail discussing an interpretation of the empirical observation that there are three different groups of *tse* phrases that are categorized by their distinct functions and anaphoric reference. A broader purpose of this thesis lies in examining anaphoric expressions in A'ingae as a whole, so after discussing the functions of different *tse* phrases, in this section, I will compare the function and referential content of *tsa* and each of the three groups of *tse* phrases.

Compare *tse* from *tse* adverbs and *tsa*

Firstly, focusing on *tse* from the *tse* adverbs, I will argue for some important differences between the content of *tse* in these adverbs from the content of *tsa* in nominal anaphors. One important empirical piece of evidence is that the group of clitics that can attach to *tse* to construct adverbs cannot also attach to *tsa*: *tsa'thi*, *tsani*, *tsa'i*, *tsa'the*, and *tsaite* are all non-existent. Conversely, the comparative *='kan* that commonly attaches to *tsa* to form a comparative adverb *tsa'kan* also does not attach to *tse*: *tse'kan* is non-existent.

The split between the availability of certain clitics for *tsa* and *tse* reflects the difference between the content of these two anaphors. The content of *tse* does not overlap with the content of the nominal anaphor *tsa*; namely, *tse* does not refer to individuals, entities, or

propositions. Based on the data presented in Chapter 4, the reference of *tse* is a the time or location of an event from the antecedent clause. *Tse*, therefore, only combines with the clitics that will make the whole phrase an adverb.

In (155), for example, the content of *tsa* reference is an entity, and in this case it is "the village" from the first sentence. On the other hand, *tse* would require a reference to some spatial-temporal aspect of the proposition from the first sentence "My friend lives in a beautiful village". None of this event's time or location is being referred to in the second sentence, so *tse* is not felicitous here.

On the other hand, in (156), the reference of *tse'thi* in the second clause is the location of the first clause. Using *tsa* in *tsa'thi* is not felicitous, because there is not a clear nominal antecedent for *tsa* here.

(155) Ñukhatshia kankhenitsû kanse ña faengasû. Ñakhengi {**tsa**/***tse**}'kanga kanseye in'jan.

ñu=kha=tshi=a kankhe=ni=tsû kanse ña faengasû. ña=khe=ngi
good=IMP=QUAL=ADJR village=LOC=3 live my friend 1=ADD=1.SG
{**tsa**/***tse**}='kan=nga kanse=ye in'jan.
{ANA/*ANA.LOC}=CMP=DAT live=INF want

'My friend lives in a beautiful village. I also want to live in a place like that.'

(156) Kanitsû panza'je kuse. {***Tsa**/**Tse**}'thitsû ña mamakhe shukaen'jechu.

kani=tsû panza-'je kuse. {***tsa**/**tse**}='thi=tsû ña mama=khe
yesterday=3 hunt-IMPV night {*ANA/ANA.LOC}=CL.LOC=3 my mother=ADD
shukaen-'je='chu.
cook-IMPV=SUB

'I hunted for the entire day yesterday. At that same location, my mom was cooking.'

These evidence show that, for *tse* from the *tse* adverbs, there is a clear distinction between *tse* and *tsa* in these adverbs, which suggests that the *tse* in these adverbs is a separate morpheme from the nominal *tsa* .

Compare *tse'sû* and *tsa* from *tsa'kan*

Moving onto *tse'sû*, I will compare *tse'sû* with the comparative adverbial *tsa'kan*, described in §2.3. Despite *tse'sû* and *tsa'kan* seeming to have similar meanings, as they are both used in comparisons, I will show below that they are not always interchangeable.

The main difference between *tse'sû* and *tsa'kan* is that the anaphoric reference of *tsa* in *tsa'kan* is an entity or an event while the reference of *tse'sû* is the property of an entity

rather than the entity itself. As shown in (157), the presence of *tse'sû* requires the dog in the second sentence to have the exact same characteristic as mentioned in the previous sentence, namely "smart". The reference of *tsa* in *tsa'kan* in (157) is the "dog" mentioned in the first sentence, without any connection with the property "smart". Using *tse'sû* in (157b), then, is not felicitous, because (157b) makes it clear that the dog of the second speaker does not have the same property as the previously mentioned dog. Using *tsa'kan*, on the other hand, only means that the two dogs look similar without any commitment to other similarities, especially without any connection with the aforementioned "smart" property. A similar context is presented in (158), where an explicit mentioning of a different property in (158b) makes *tse'sû* not felicitous.

(157) a. *Person 1:*
Vatsû ña injamapa ain.
va=tsû ña injama-'pa ain.
PRX=3 my heart-N dog
(Pointing to a photo) 'This is my smart dog.'

b. *Person 2:*
Ñakhengi ambian fae ain {tsa'kan/*tse'sû}ma, tsa'matsû injamapambi.
ña=khe=ngi ambian fae ain {tsa='kan/***tse'sû**}=ma, tsa='ma=tsû
1=ADD=1.SG have one dog {ANA=CMP/ANA.ATTR}=ACC ANA=FRST=3
injama-'pa=mbi.
heart-N=NEG
'I have a dog like that, although mine is not smart.'

(158) a. *Person 1:*
Kuengi jûrûtshia tsampinga.
kuen=ngi jûrû=tshi=a tsampi=nga.
grow=1.SG hot=QUAL=ADJR forest=DAT
'I grew up in a forest where it was very hot.'

b. *Person 2:*
Ñakhengi kuen {tsa'kan/*tse'sû}nga, tsa'ma chanditshitsû tsenijan.
ña=khe=ngi kuen {**tsa='kan/*tse'sû**}=nga, tsa='ma
1=ADD=1.SG grow.up {ANA=CMP/*ANA.ATTR}=DAT ANA=FRST
chandi=tshi=tsû tse=ni=jan.
cold=QUAL=3 ANA.LOC=LOC=CNTR
'I grew up in a similar place, although it's very cold there.'

Brief note on *tsendekhû*

So far, I have individually compared *tse* adverbials and *tse'sû* to *tsa*. The final *tse* phrase is *tsendekhû*, which I have presented as a third group in Table 5.1, separate from both the adverbs and *tse'sû*. A morphologically possible counterpart to *tsendekhû* is the form with *tsa* as its root, *tsandekhû*, but *tsandekhû* does not exist, at least not as a surface form in A'ingae. The puzzle here is that, since *tsa* is available for both animate and inanimate references, the animate plural morpheme *=ndekhû* theoretically could attach to *tsa*. So, it is possible that the underlying form for *tsendekhû* is actually *tsandekhû*, and the change in vowel is due to some historical phonological process.

Interim summary

Overall, I have argued for 3 different groups of *tse* phrases: *tse* adverbs, which are decomposable with *tse* as a morpheme, that refer to time and location; attributive *tse'sû* that refers to property of individual, and third-person plural pronoun *tsendekhû* that refers to individuals. The content of references of these *tse* phrases, as well as how they interact and different from the content of *tsa*, is summarized in Table 5.2.

Phrase	Reference
tsa	individual and proposition
tse adverbs (*tseni*, *tse'thi*, *tse'i*, *tseite*, *tse'the*)	time and location
tse'sû	property of individual
tsendekhû	individual

TABLE 5.2: Reference of *tsa* and different *tse* phrases

5.3 Anaphoricity of *tse*

Despite the differences among each group of *tse* forms, all of them still converge in their dedicated anaphoricity. In other words, it is not entirely coincidental that both *tse'sû* and *tsendekhû*, although fossilized, still start with 'ts' — there must be a connection between the 'ts' morphemes and their dedicated anaphoricity.

In Chapter 2, I have presented empirical evidence for the lack of exophoric force of *tsa* in that *tsa* cannot deictically refer to an entity that exists in the physical environment of the speaker. Similarly, when *tse* is used in a locative adverbial, *tseni* and *tse'thi* both are not felicitous as deictic locatives. The deictic demonstratives *va* and *juva* are used in these constructions, where the demonstrative receives one of the locative clitics and become *vani/juni* or *va'thi/ju'thi*.

(159) Kanja, {*tse'thi/ju'thi}tsû kan'jen inzia chhiriria.

kan=ja, {***tse='thi/ju='thi**}=tsû kan'jen inzia chhiriria.
look=IMP {ANA.LOC=LOC/DIST=CL.LOC}=3 stay blue bird

'Look, a blue bird over there.' *(Speaker is also pointing at the bird at the same time)*

As a result of the anaphoricity of the *tse* adverbs, these adverbs cannot be uttered 'out of the blue' without an antecedent clause that is meant to set up the reference that can be anaphorically referred to. For example, the infelicity of *tseni* in (91), repeated here, comes from the fact that there does not seem to be a salient location reference from the first sentence. The anaphoricity of *tseni*, therefore, is not satisfied by barely mentioning a paper without specifying any location.

(160) Afeja fae tevaenjenve. Tevaeña'chungi {tsanga/?tseni}.

afe=ja fae tevaenjen=ve. tevae='ya='chu=ngi
give=CNTR one paper=ACC2 write=IRR=SUB=1.SG
{**tsa=nga/?tse=ni**}.
{ANA=DAT/?ANA.LOC=LOC}

'Give me a piece of paper. I need to write on it.'
(With *tseni*, the second sentence means"I need to write while I am physically over there.")

The same anaphoricity holds for the other *tse* forms. For *tsendekhû*, because it functions as a pronoun, there needs to be an explicit mentioning and understanding of an antecedent for *tsendekhû*. In the case of *tse'sû*, there needs to exist a salient property from previous discourse for *tse'sû* to be felicitous, although this requirement tends to be flexible depending on the discourse context. In (126), repeated below, there doesn't seem to be a salient property that is mentioned in the first sentence, so *tse'sû* can be licensed by the mentioning of the entity itself, because there is some innate property of the entity in the first place.

(161) *(Context: a person walks into a store and says to the store owner:)*

Kaningi chava khuangikhû'ya jabombe. In'jangi khuangi tse'sûveyi.

kani=ngi chava khuangi=khû='ya jabon=ve. in'ja=ngi khuangi
yesterday=1.SG buy two=INST=VER soap=ACC2 want=1.SG two
tse'sû=ve=yi.
ANA.ATTR=ACC2=EXCL

'Yesterday I bought two bars of soap. I want two more of those.'

5.4 Summary

In this chapter, I continued with the proposal from the end of Chapter 4 that, from the surface meanings of different *tse* phrases, there seems to be some division between different groups of *tse* phrases. I investigate this hypothesis more in depth in this chapter and provide evidence for a three-way division between *tse* phrases based on their anaphoric contents.

I started by looking at the syntactic distribution of *tse* and the clitics that form the *tse* phrases. Syntactic evidence hints at a division between clitics that occur mostly in spatial-temporal adverbial phrases and clitics that occur in noun phrases. From this syntactic evidence, I then moved onto presenting a three-way distinction between the *tse* forms: *tse* adverbs, the property adjectival *tse'sû*, and the pronoun *tsendekhû*. I argued that this division is based on the different anaphoric content of each of these three groups: *tse* from the adverbs refers to space and time, *tse'sû* refers to property of individuals, and *tsendekhû* refers to individuals. From this division, I discussed two potential explanations, one that proposes three different underlying forms that all surface as 'tse' for the three groups, and the other one that treats only the *tse* adverbs as morphologically decomposable. I adopted the second idea and conclude that only the *tse* adverbs can be decomposed into "tse" and additional clitics, where the reference of *tse* is time and location. I argued that the other two *tse* forms, *tse'sû* and *tsendekhû*, are not decomposable and already fossilized from historical changes, because their reference and functions do not align with the spatial-temporal function of *tse*.

Finally, after focusing much on differences, I present the important commonality among all the *tse* underlying forms: their dedicated anaphoricity. Similar to how *tsa* is restricted to anaphoric noun phrases, *tse* also requires an explicit anaphoric context to be felicitous, regardless of which underlying *tse* form it is.

This shared feature between *tsa* and *tse* segments into the next chapter, the final chapter of this thesis, where I zoom out of descriptions and analyses of individual *ts-* expression and instead focus on bigger pictures reflected by them. I discuss the theoretical implication of the dedicated anaphoricity of the *ts-* expressions and relate that to a broader cross-linguistic discussion on demonstratives. I will also look at the differences among the *ts-* expressions and relate them to the question of semantic ontology: does the division between the references of different *ts-* expressions reflect the semantic ontology of A'ingae?

Chapter 6

Broader implications of the patterns of *ts-* expressions

6.1 Overview

In previous chapters, I have introduced and discussed the distribution and functions of two anaphoric morphemes in A'ingae: the nominal anaphor *tsa* that refers to previously mentioned entities, and the locative anaphor *tse* that refers to time and location. Two other anaphoric expressions that also contain 'tse' in their surface form but are not in fact morphologically decomposable are the attributive anaphor *tse'sû* and the human plural anaphor *tsendekhû*.

Besides these phrases discussed previously, there is another anaphoric morpheme in A'ingae that also shares the morphological pattern of *tsa* and *tse* in that they all start with 'ts': *tsun*. An overarching goal for this thesis targets all of these *ts-* anaphoric expressions beyond their individual analyses. The bigger question, in simplified terms, is: what is the "meaning" of 'ts'? It does not seem to be the case that 'ts' is a morpheme that can be synchronically decomposed from 'tsa', 'tse', or 'tsun', but these three words do share similarities in their forms (ie. starting with 'ts') and functions (ie. their dedicated anaphoricity).

In this chapter, I zoom out from the analysis of each individual anaphor and look at them at a higher level. After a brief introduction of the third monomorphemic demonstrative *tsun* (§6.2), I will present two different perspectives on looking at all three *ts-* anaphoric expressions and describe their implications. First, I treat the different anaphoric expressions as one whole group and discuss the fact that this is a group of morphemes in the language that only have anaphoric interpretations (§6.3). This empirical pattern has significant theoretical implications, because the division between the anaphoric demonstratives (ie. the *ts-* expressions) and the exophoric demonstratives in A'ingae leads to a broader theory that exophoric and non-exophoric demonstratives should not receive a unified analysis in modeling. I will introduce this theoretical importance by discussing the shift from unification to division in the domain of definite descriptions, which is a shift parallel to what I will argue for in the domain of demonstratives. Secondly, I present these anaphoric expressions as individuals and focus on a potential theory that

utilizes the differences among the anaphoric phrases to construct the semantic ontology of the language. I will argue against such conclusion, using question words in A'ingae as a counter example (§6.4). Question words, at least on the surface, share some structural similarities with the *ts-* anaphoric expressions, but the question word roots reflect a somewhat different ontology than that from the *ts-* expressions.

6.2 Brief overview of verbal anaphor *tsun*

To fill in the broader picture of ts- expressions in A'ingae, I will add *tsun*, another monomorphemic anaphoric morpheme in A'ingae, into the same group as *tsa* and *tse*. There is substantial ongoing work done on *tsun*, as cited throughout this section, so in this thesis, I will not provide the most extensive description for *tsun*, and instead I will only summarize the findings on *tsun* so far (by myself and others cited). The more relevant discussion to this thesis is in talking about *tsun*'s similarities and differences with the other two *ts-* expressions.

Syntactically, *tsun* behaves as a verb and can be loosely translated into "do" or "do so" in English. *Tsun* primarily occurs in anaphoric sentences, where *tsun* refers to an action from previous discourse. In (162), for example, *tsun* acts like a verbal ellipsis for the verb phrase *kaningi simba* 'fished' in the first sentence. (163) shows that *tsun* picks up an entire verb phrase instead of just the verb, because the direct object is not felicitous co-occurring with *tsun*.

(162) Kaningi simba tres horave. **Tsun**'jenitsû tûiye ashaen.

kani=ngi simba tres hora=ve. **tsun**-'je=ni=tsû tûi=ye ashaen.
yesterday=1.SG fish three hour=ACC2 do-IMPV=LOC=3 rain=INF start

'I fished for three hours yesterday. When I was doing that, it started raining.'

(163) Ña kindyatsû fi'thi khuvima kani tsampini jakamba, {*khuvima} tsumbatsû avûjatshi napi tsa'uni.

ña kindya=tsû fi'thi khuvi=ma kani tsampi=ni jakan=pa,
my older.brother=3 kill tapir=ACC yesterday forest=LOC go=SS
{*khuvi=ma} tsun=pa=tsû avûja=tshi napi tsa'u=ni
tapir=ACC do=SS=3 rejoice=ADJ arrive house=LOC

'My brother caught a tapir when he was hunting yesterday. After doing that, he returned home happy.'

One special set of constructions where *tsun* commonly appears in is the switch reference constructions. Broadly, switch reference describes a structure where there are multiple participants in an event and special morphemes are dedicated to mark the change

in participant in focus. In A'ingae, the two main switch reference morphemes are *=pa* as 'same subject' and *=si* as 'different subject'. A more detailed investigation on switch reference construction is in AnderBois (2022).

Within switch reference constructions, *tsun* more specifically occurs in the "bridging/linkage" scenarios. Based on Guérin & Aiton (2019)'s definition, a bridging clause is a clause in between two other ones; it recapitulates the previous clause and then foregrounds the following clause. In these constructions, *tsun* occurs as an verbal ellipsis in the second clause and receive a switch reference marker that indicates who the subject or object of the second clause is. In these cases, *tsun* can be loosely glossed as "do so". In (164), for example, *tsun* in the second clause is an ellipsis for the verb phrase 'came to help' that is mentioned in the first clause, and the same subject marker *=pa* indicates that the subject of the second clause is the same as that of the first clause. Similarly, in (165), *tsun* refers to the action described in the first clause and can be translated as "..., having done so, ...".

(164) ...fûite afeyekhen jipa vae jijifaya. **Tsumba** jipangi fûite kanjen.

fûite afe-ye=khen ji=pa vae ji-ji-fa-ya. **tsun=pa** ji=pa=ngi
help give-INF=QUOT come=SS already come-ITER-PLS-VER do=SS come=SS=1
fûite kanjen.
help stay

'We came to help, so, then, we stayed and helped.'
(20170731 autobiography MM, line 49)

(165) a. Tseninde pûi kuragandekhû pa'fa'nijan muen'jen'fa.

tse=ni=te pûi kuraga=ndekhû pa-'fa='ni=jan muen-'jen-'fa.
ANA=LOC=RPT all shaman=PLH die-PLS=LOC=CNTR send-IMPV-PLS

'There, if all the shamans die, they send them.' (Thesi chan 1.3)

b. **Tsunsi**te tseni thesive dapa kanse'fa.

tsun-si=te tse=ni thesi=ve da-pa kanse-'fa
do-DS=RPT ANA=LOC jaguar=ACC2 become-SS live-PLS

'Them having done so, the shaman becomes a jaguar and stays that way.'
(Thesi chan 1.4)

It seems that *tsun* can also occur in 'split-antecedent' constructions, where there are multiple antecedent clauses with different actions, and *tsun* is able to pick up each clause's verb phrase respectively in each clause's scope. In (166), for example, the switch reference marker *=si* at the end of the final clause marks different subject, which potentially contributes to *tsun*'s ability to index different VPs from the two antecedent clauses.

(166) Josetsû kani panzangaye in'janchu, ñandangi simbangaye in'janchu, tsa'ma tsun'fambingi ûnjin tûi'jesi.

José=tsû kani panza=nga=ye in'jan='chu, ña=ta=ngi simba=nga=ye
José=3 yesterday hunt=DAT=INF want=SUB 1.SG=NEW=1.SG fish=DAT=INF
in'jan='chu, tsa='ma **tsun**-'fa=mbi=ngi ûnjin tûi-'je=si.
want=SUB ANA=FRST do=PLS=NEG=1.SG rain rain-IMPV=DS

'José wanted to go hunting yesterday, and I wanted to go fishing, but neither of us could do it because it was raining.'

The examples of *tsun* so far all indicate that *tsun* anaphorically refers to a verb phrase. There are, however, instances where it is not clear whether *tsun* is anaphoric. The main such examples come from when *tsun* is its lexical form, which can be translated into the lexical 'do' in English. As observed by Catherine Nelli (p.c.), lexical *tsun* occurs frequently in interrogatives, such as (167), where *tsun* is a lexical 'do' and does not seem to refer to any antecedent anaphorically. Other instances of a lexical *tsun* can be seen in (168) where 'tsun' has a similar meaning with 'to cook' or 'to prepare food'.

(167) a. Nane Veronica anga'chumase.
nane Veronia anga-'chu=ma=se
surely Veronica take-SUB=ACC=RCUR
'Veronica took them.'

b. Mingae tsuñende anga?
mingae **tsun**=ye=te anga
what do=INF=RPRT take
'Why did she take them?' (*lit.* 'What did she take them to do?')
(`River contamination, line 102-103`)

(168) Gua'thingi tsa'khûma, thûthû'puengi kuyema, tsungi yukuma, tsa pa'khuma tsumbangi yukuma kû'i.

gua'thi=ngi tsa'khû=ma, thûthû-'puen=ngi kuye=ma, **tsun**=ngi yuku=ma,
boil=1.SG water=ACC cut-IMPV=1.SG plantain=ACC do=1.SG yuku=ACC
tsa pa'khu=ma tsun=pa=ngi yuku=ma kû'i.
ANA all=ACC do=SS=1.SG yuku=ACC drink

'I boiled water, cut some plantains, and prepared the yuku. After doing all of this, I drank the yuku.'

The lexical use of *tsun* are also seen with some of the other *ts-* words discussed in previous chapters. For example, as shown in (38) and (46) (both repeated below in (169) and (170)) in §2.3, *tsa'kaen* plus *tsun* results in a phrase that is loosely 'do like that', where *tsa'kan* maintains its usual function of referring to an individual and points out a trait of that individual, *tsun* is the lexical 'do', and the adverbializer 'e' connects the two.

(169) Tisetsû khûcha fae khake'khû tise iñakha'chuma. Ña'khengi tsa'kaen tsun

tise=tsû khûcha fae khake=i'khû tise iñakha='chu=ma. ña='khe=ngi
3.SG=3 clean.with.hand one leaf=INST 3.SG get.hurt=SUB=ACC 1.SG=ADD=1
tsa='kan=e **tsun**.
ANA=CMP=ADV do

'He cleaned his wound with a leaf. I did like that, too.'

(170) Jendati tayupi tsa'kaen tsumba kûipa kansefa o vaeyiyitsheti tsa'kaen injanfa chhuchhukhuikhû?

jenda=ti tayupi **tsa='kan=e** **tsun**=pa kûi=pa kanse=fa o
then=INT long.ago ANA=CMP=ADV do=SS drink=SS live=PLS or
vaeyi=yi=tshe=ti tsa='ka=en injan=fa chhuchhukhu=i'khû
recently=EXCL=ADJ.ADV=INT ANA=CMP=ADV want=PLS beater=INST

'Then did they do it like that with a whisk long ago, or is it just recently?'
(Kûikhû, chicha 2:55)

There is, however, restriction on where this lexical use of *tsun* can occur. For example, (171) suggests that *tsun* cannot function as a lexical 'do' in an exophoric scenario, where the action in reference is happening in the environment of the speaker.

(171) *(Context: You and I are watching José trying to catch a bird. I don't believe that José will be able to catch it, so I say:)*

a. Indiyambitsû.
indi=ya=mbi=tsû.
take=IRR=NEG=3
'(He) can't catch (it).'

b. Indiye ushayambitsû.
indi=ye usha=ya=mbi=tsû.
take=INF can=IRR=NEG=3
'(He) can't catch (it).'

c. *Tsuñambitsû.
***tsun**=ya=mbi=tsû.
do=IRR=NEG=3
(Intended:) '(He) can't do it.'

From the above examples where *tsun* appears to be a lexical 'do', it is not clear on the surface whether *tsun* is still anaphorically referring to anything. The investigation of the distribution of *tsun* is still ongoing (see works by Catherine Nelli), so here I do not have more details on how to best analyze these seemingly non-anaphoric *tsun* instances. At this point, I will only focus on instances of *tsun* as an verbal anaphor. The instances of lexical 'do' presented above are of course important data points, but in this thesis I will not focus on providing a deeper description of *tsun* and therefore will only look at *tsun* in the anaphoric contexts.

Based on the current understandings and my assumption of the functions of *tsun*, there are important observations to be made regarding *tsun* in comparison with the *tsa* and *tse*. Firstly, the similarity between *tsun*, *tsa*, and *tse* adds more evidence to the idea introduced in the overview of this chapter that there is a semantic commonality between different 'ts' words even though 'ts' is not a morpheme that can be decomposed synchronically. On the other hand, the main difference between *tsun* and the other two phrases is that *tsun* is syntactically a verbal component, which aligns with its function of anaphorically referring to verb phrases. *Tsa* and *tse*, as discussed previously, both refer to nominal components. With the assumption that the current findings on *tsun* encompasses its main functions, I will continue to elaborate on bigger implications of the similarity and differences among the three *ts-* expressions.

6.3 Implication of anaphoricity of *ts-* expressions on analysis of demonstratives

After providing more details for another *ts-* expression, *tsun*, I have presented an important empirical generalization for all three *ts-* expressions: the exclusive anaphoricity of *tsa*, *tse*, and *tsun*. As analyzed in Chapter 3, *tsa*, as the nominal anaphor in the language, is not felicitous in non-anaphoric definite or indefinite noun phrases. The locative adverbials *tseni* and *tse'thi*, discussed in Chapter 5, are not felicitous in deictic contexts where the location being referred to is not present in previous discourse. Similarly, the primary function of *tsun* is a verbal anaphor.

The empirical pattern here shows that, in A'ingae, there exists a strict split between the anaphoric demonstratives (the three *ts-* expressions) and the exophoric demonstratives (*va* and *juva*), which is a generalization with much theoretical importance. Current literature on demonstratives tends to provide some degree of unification for both exophoric and non-exophoric demonstratives, so the A'ingae pattern, where the non-exophoric (ie. anaphoric) demonstratives do not also have exophoric uses, directly challenges the universality of such unifying analyses.

In this section, I elaborate on the theoretical importance of the dedicated anaphoricity of *ts-* expressions in A'ingae within the domain of demonstratives. I will start by drawing a parallel to the development in the domain of definiteness, where older works that focused on a limited number of languages tended to propose unified analyses for all

definite noun phrases, while the more recent, cross-linguistic works have argued against such unification and gradually adopted analyses that differentiate between unique and anaphoric definites. I will argue that a similar paradigm shift away from unification among all demonstratives is also necessary to encompass empirical patterns such as the one present in A'ingae.

6.3.1 Similar paradigm progression in the definiteness domain

In the domain of definiteness, early works from the philosophical tradition focusing on referring and descriptive content tended to consider all definite descriptions as one unified grammatical phenomenon. Several of the earlier works on definite descriptions (definite NPs, mostly, but also pronouns), view uniqueness as a requirement for their felicity. Russell (1919) argues that all definite descriptions represent existential quantifiers with a uniqueness condition built into its truth conditional content. A different approach by Frege (1892) and Strawson (1950) views definite descriptions as denoting individuals with the uniqueness as part of its presupposition.

A later perspective on definite descriptions relies on not uniqueness but familiarity, though this view still treats all definite descriptions in unity. Christophersen (1939) and other earlier works in this approach propose that definites refer to something that is already *familiar* at the current stage of the discourse, while indefinites introduce a *new* referent. Subsequently, Karttunen (1968) rephrases the familiarity theory by proposing a new notion of "discourse reference", and Heim (1982) updates Karttunen's discourse referent theory by avoiding the assumption that all of definite and indefinite noun phrases are referential and establishing a new file change semantics.

A transition away from viewing all definite noun phrases as one unified phenomenon later occurs, when additional layers of differentiation within the definite noun phrases domain are proposed. Prince (1981) is among these new frameworks and she proposed a distinction between two kinds of familiarity: the 'hearer-old' and the 'discourse-old'. Roberts (2003) makes a similar distinction between a 'weak' and a 'strong' familiarity.

This distinction then gets analyzed as the unique/anaphoric split in Schwarz (2009), and his work also advances the argument that different languages and different constructions within a language may encode different ones in the unique/ anaphoric split. This unique/anaphoric split builds on top of the 'familiarity' concept by categorizing the different ways through which a referent can become familiar: the unique definites refer to entities that are familiar because of contextual and world knowledge, while the anaphoric definites refer to entities that are familiar because they have been mentioned in previous discourse. Subsequent works following Schwarz's, some of which were discussed in 3 in the context of pragmatic competition, also build on top the non-unifying analysis of unique and anaphoric definites.

As shown in this progression of theories in the domain of definite description, the unified analyses of definiteness as one grammatical phenomenon evolve into analyses

with finer details of the distinctions between separate types within this grammatical occurrence. I argue that the overall empirical pattern of A'ingae *ts-* anaphoric expressions contribute to a similar shift in frameworks in the domain of demonstratives. As will be shown in the next section, many current frameworks on analyzing demonstratives do not differentiate between the exophoric and non-exophoric demonstratives, and such frameworks will need to be amended to account for empirical data such as the A'ingae one.

6.3.2 Exophoric/Non-exophoric demonstrative split

The paradigm shift in the domain of definiteness is very much parallel to a shift in the analyses of demonstratives, which I will argue is necessary in light of the dedicated anaphoricity of *ts-* expressions in A'ingae.

As discussed previous, the group of *ts-* expressions in A'ingae is *only* felicitous in anaphoric contexts — they are not available in any other contexts that might allow for similar morphemes in other languages, such as in unique definite noun phrases or as deictic demonstratives. In English, for example, nominal demonstratives "this" and "that" are available for both anaphoric and exophoric uses (172). In A'ingae, on the other hand, there is a strict division between the anaphoric nominal marker *tsa* and the demonstrative nominal markers *va* and *juva* (173). The same observation can be extended beyond nominal anaphors. The locative demonstrative "there" in English is felicitous in both anaphoric and deictic contexts (174). Data of the A'ingae *tse* adverbs, however, shows that a a strict division exists between anaphoric and deictic demonstratives: *tseni* and *tse'thi* both are only felicitous in anaphoric references to location and not in deictic demonstrative phrases (175).

(172) a. *Exophoric:* "**The/That** chair is broken." *(with pointing)*
b. *Anaphoric:* "I bought a chair yesterday on Amazon. **The/That** chair was already broken when it came."

(173) Kanja, {juva/*tsa} chhiririatsû vasia've chhaje

kan=ja, {ju+va/***tsa**} chhiriria=tsû vasia've chhaje.
look=IMP {DIST+PRX/*ANA} bird=3 slowly fly

'Look, that bird is flying slowly.' *(Speaker is also pointing at the bird at the same time)*

(174) a. *Exophoric:* "Can you leave the chair (over) **there**." *(with pointing)*
b. *Anaphoric:* "I went to the hospital yesterday, and I ran into a high school friend **there**."

(175) Kanja, {*tse'thi/ju'thi}tsû kan'jen inzia chhiririria.

kan=ja, {***tse='thi/ju='thi**}=tsû kan'jen inzia chhiriria.
look=IMP {ANA.LOC=LOC/DIST=CL.LOC}=3 stay blue bird

'Look, a blue bird over there.' *(Speaker is also pointing at the bird at the same time)*

Earlier works on demonstratives often present a uniform underlying meaning of both exophoric and non-exophoric demonstratives, and at the times of these works, this unification does align with the empirical pattern exhibited by the selected languages that these works have focused on. For example, Lakoff (1974) argues that the non-exophoric uses are a 'metaphorical extension' of the exophoric uses, thus suggesting a unified underlying meaning of both. In analyses of English demonstratives in particular, unifying frameworks for the semantics of exophoric and anaphoric uses include Wolter (2006)'s argument that nominal demonstratives in English belong to the same semantic class as the definite articles. Focusing on English determiner 'the' and demonstratives 'this/that', her argument uses shared features in scope interactions of both 'the' and 'this/that' as evidence to justify why the determiners and these demonstratives have both deictic and anaphoric content. As an example work in other languages, Bohnemeyer (2018) studies the exophoric and non-exophoric demonstratives in Yucatec Maya and claims that certain demonstratives in the language can be used both exophorically and anaphorically because they both share 'neutral' deictic content.

The unifying theories mentioned above have varying degrees of assertion on the universality of their claims. Not all of these unifying theories attempt to generalize the language-specific model to all languages, but at least these unifying analyses fail to arrive at the correct prediction for A'ingae. Namely, in A'ingae, there is a group of deictic demonstratives, *va* PRX and *ju* DIST series, that is separate from their anaphoric counterparts, the *ts-* series. Crucially, the *ts-* expressions are only felicitous in anaphoric contexts (as discussed in previous chapters), and the demonstratives *va* and *juva* are also limited to deictic reference — in (173) and (175), the 'ju' demonstratives are felicitous only when the bird in reference is in front of the interlocutors, not when the bird is only mentioned from previous discourse. This suggests that, in A'ingae, the split between exophoric/anaphoric demonstratives goes two ways: exophoric forms do not allow anaphoric uses, and anaphoric forms do not allow exophoric uses. In light of these empirical evidence of a strict split between anaphoric and deictic demonstratives in A'ingae, I argue that the exophoric and anaphoric demonstratives should be considered as separate entities with their own semantic features.

The details of how such analysis spans out will be left for future work, but my argument against unification among all demonstratives does join an already emerging group of works with similar arguments. Skilton (2019, 2021), for example, focus on the language of Ticuna and argue for a division, empirically in their forms and semantically in their formal model, between the deictic demonstratives and the anaphoric ones in the language. In addition, in the field of psychology and psycholinguistics (instead of

formal semantics), there also has been some amount of scholarship that suggests the exophoric and non-exophoric uses of demonstratives as distinct rather than unified. Some psycholinguistic works specifically target the exophoric uses of demonstratives (such as Peeters et al. (2015)). Other experiments, such as the one conducted in Kita (2001), aim to look at the exophoric uses directly in comparison with the non-exophoric uses of demonstratives. Although these works do not make explicit claims on whether the two kinds of demonstratives derive from the same lexical item or semantic meaning, the separated approach to both kinds at least implies that the authors view the two categories of demonstratives as distinct.

Another contribution of the current discussion on the strict anaphoricity of A'ingae *ts-* expressions lies in providing a more diverse group of demonstratives as evidence for theoretical analyses. As Skilton (2019) points out, across many of the current theoretical frameworks on functions and semantics of demonstratives, many such proposals are restricted to only nominal demonstratives and commonly in a language with a two-term demonstrative system. Taking into account the pattern of A'ingae *ts-* anaphoric expressions that refer to not only individuals but also other grammatical entities contributes to a fuller picture of the typology of demonstratives and can further disprove any proposals that argue for an underspecified exophoric/non-exophoric distinction, perhaps in all languages.

6.4 *Ts-* expressions and semantic ontology

The similarity in the forms of these anaphoric expressions, ie. starting with 'ts', leads to a potential similarity in function, which is supported by the previous section where I showed the strict anaphoricity of these expressions. Despite such strong morphological and semantic similarities, there are still significant distinctions among the three *ts-* expressions regarding what each of them refers to.

A theoretically plausible observation that can be extracted from the division among the different *ts-* words relates to the question of how these *ts-* might reflect the semantic ontology of the language. Broadly, theories of semantic ontology ask the question of what basic semantic types should the formal semantics of a language includes and on what bases should these basic types be established.

Based on the pattern of A'ingae *ts-* words discussed in this thesis, it is tempting to use the distribution of this group of words to reach some conclusion about semantic ontology: *tsa* refers to individuals and propositions, *tse* refers to time and adverb, *tse'sû* refers to property, and *tsun* refers to actions, so the ontology of A'ingae is divided as such. In this section, however, I will argue that the functions of *ts-* words, although non-overlapping with each other, do not provide conclusive evidence for what the ontology is in the language. I will utilize different ontology arguments surveyed in Rett (2018) as the basis, and I will also present the 'wh-question' words in A'ingae, a group of words with morphological parallel to the *ts-* words, as a counterargument to an attempt of using

the *ts-* expressions as ontological categories. The division among the question words that does not align with the division reflected by the *ts-* phrases. Therefore, the question of semantic ontology and basic semantic types needs further investigation beyond the surface distribution of functions of the *ts-* words and the wh-question words.

6.4.1 A'ingae anaphors in relation to morphological arguments for semantic ontology

The question of what the basic semantic types are in a language, or all languages, has received much investigation. Schlenker (2006) is among the works that initially observe that "reference to individuals, times and worlds is uniformly effected through generalized quantifiers, definite descriptions, and pronouns" (Schlenker, p.504), which suggests a potentially single entity for all of these grammatical categories. Building on such observation and many others, Rett (2018) provides an overview of many different frameworks that have argued for the existence of various basic semantic types. Within her overview, Rett provides an outline of three types of positions different frameworks have taken to try to answer the broad question of semantic ontology: type reduction, ersatzism, and proliferation. These three positions have different views on how many and what basic semantic types there are: the reductionist position assumes that there is no non-functional basic semantic type, the ersatzist assumes one basic non-functional type "entity" and treats all the other semantic objects within the 'entity' type, and the proliferationist treats any entity as a basic type as long as it passes various kinds of tests. Importantly, all of these different types of arguments relate to what exist in the 'toolkits' for *semantic* analysis rather than what the fundamental categories are in human *cognition*.

Within each of the three types of arguments for semantic types, Rett also divides each one into two categories based on their primary supporting evidence: morphologically-based arguments and semantically-based arguments. The semantically based arguments are related to 'semantic adequacy' and ideas such as a semantic model without a certain basic type cannot adequately model certain grammatical structures of a language. The morphologically based arguments, through a different perspective, pertain to a language's inventory of functional morphemes and assume that a language differentiates between two entities if it lexicalizes different *proforms*, *modifiers*, and *quantifiers* for these two entities (Rett, 2018, p.10). Based this criterion, it is plausible to view anaphors in a language as evidence for ontological division, ie. we can treat entities that participate in different anaphoric forms as separate entities, and therefore those that are involved in the same anaphoric form would belong to a same basic entity. A similar argument is made in Bittner (2003), where the anaphoric forms of a language are used as evidence for its semantic ontology.

Looking at the anaphoric expressions in A'ingae, each of the three *ts-* words has their own referential content that does not overlap with each other's. The nominal anaphor *tsa* refers to individuals and propositions, the adverbial *tse* refers to time and location, the attributive *tse'sû* refers to adjectival properties of individuals, *tsendekhû* is similar to *tsa* in

referring to individuals (although only animate in this case), and the verbal anaphor *tsun* refers to actions that are represented by verb phrases. The separation exhibited by this group of *ts* words leads to one version of semantic ontology in A'ingae — based on the anaphoric forms in the language, the basic types in the language are: entity (individual and proposition), time and location, property, and action.

On the surface, this categorization of the ontology seems plausible. The suggestion here that time and space should be categorized as one basic type is possible given a strong cross-linguistic tendency for spatial and temporal morphemes to be the same, such as discussed in Haspelmath (1997)'s overview of different proposals regarding the time-space metaphor through a typological study on NP-based temporal adverbials. However, although it seems that the mostly non-overlapping distribution among these *ts-* expressions leads to a promising description of the ontology of the language, the division among anaphoric forms should not be considered completely decisive in determining the ontology. As Bittner herself also notes, discourse reference can sometime be to complex entities instead of basic ones in certain formal frameworks, such as reference to "processes".

6.4.2 A different pattern from A'ingae question words

A even stronger piece of observation that leads me to caution against using *ts-* expressions as conclusive evidence for the language's semantic ontology comes from the contrast between the ts- words division and the division among question words in A'ingae. In Rett's survey, wh-question words are also used in morphological arguments for semantic types, because question words can be considered as either quantifiers or pro-forms, depending on the semantic theory. The argument essentially states that different question words lexicalize different semantic types that in turn make up the ontology for the language.

Still, Rett herself poses caution in relying solely on question words in determining semantic ontology, because evidence suggests that they, like anaphoric forms, do not always track all the plausible basic semantic entities. As will be discussed below in this section, question words in A'ingae seem to present a somewhat different division of ontology than the *ts-* expressions, which casts doubt on how much conclusion can actually be derived from the distribution of either *ts-* expressions or the question words.

In A'ingae, the wh-question morphemes exhibit a structural similarity to the *ts-* expressions. There are three roots for question words: *ma*, *mi*, and *jungae*. These roots are bound morphemes; they cannot occur on their own, and their meaning is licensed only when additional clitics are attached. Table 6.1 lists some common question words in A'ingae and proposed decomposition for each, though this list is not exhaustive of all possible question words in the language. Similar to the case of the *ts-* words, it seems that certain clitics only combine with certain question word roots and not with the other ones. For example, the comparative=*'kan* attaches to *ma* but perhaps not the other two roots.

jungue-	*junguesû*	'what'	*jungue-sû*	JUNGUE-SREL
	jungue'je	'why, what reason'	*jungue-'je*	JUNGUE-?IPFV?
	junguesie	'why, what goal'	*jungue-sû-e*	JUNGUE-SREL-ADV[2]
mi-	*mingae*	'how, what state'	*mi-ngae*	MI-MANN
	minkumba	'why, what cause'	*mi-???-pa*	MI-??-MANN[3]
	minkun'jen	'on what'	*mi-???-pa*	MI-??-?IPFV?
	minguite	'when, what time period'	*mi-nga-ite*	MI-?DAT?-TEMP
	mingani	'when'	*mi-nga-ni*	MI-?DAT?-LOC
ma-	*mani*	'where'	*ma-ni*	MA-LOC
	maningae	'to where'	*ma-ni-ngae*	MA-LOC-MANN
	ma'thi	'where'	*ma-'thi*	MA-LOC
	mapi	'how far'	*ma-pi*	MA-?LIM?
	mañi	'how many'	*ma-yi*	MA-EXCL
	ma'kan	'how, what manner'	*ma-'kan*	MA-COMP
	ma'kaen	'how, what manner'	*ma-'ka-en*	MA-COMP-ADVR
	majan	'who, (which?)'	*ma-ja*	MA-CT

FIGURE 6.1: A non-exhaustive list of question words in A'ingae (Scott AnderBois, p.c.)

Regarding the division of clitics that are available for each question word root, in Borman (1976)'s A'ingae dictionary, there is a very brief mentioning of a potential explanation. The claim from the dictionary is that each of these question roots is only available as a reference to a particular kind, as summarized in Table 6.1. This proposal then suggests that these question words in A'ingae indicate another version of the division of the language's ontology, as each question word root potentially lexicalizes a specific meaning that. According to the Borman proposal, the three "fundamental" types in A'ingae, as reflected by the question words, are selection, degree, and substance. A particular root is only available as a question word for a particular type of entity.

Root	Category
ma	selection
mi	degree
jungae	substance

TABLE 6.1: Borman (1976)'s proposal for A'ingae question words and their ontological categories

Beyond this speculation from the Borman dictionary, little further work on question words in A'ingae currently exists, so the Borman proposal should only be viewed as a vague hypothesis instead of a rigorously proven result. Firstly, how the Borman hypothesis labels each question word root should be investigated further. For example, *mani* is

a question word for "where", and *mañi* is for "how many". If both of these words have the 'ma' root, then it is not clear why 'ma' is both referring to the selection category, as proposed by the Bormans. There are also many additional questions to the distribution of question words in A'ingae, such as the question of how decomposable each of the question words actually is (which is a very parallel question to the decomposition of 'ts' phrases; eg. as shown in Chapter 5, *tse'sû* and *tsendekhû* should in fact be considered not decomposable synchronically).

Therefore, it is important to keep in mind that, based on the discussion in Rett's overview, neither anaphors nor question words should be considered as decisive in determining what the basic semantic types are in a language. And, a even broader issue that needs to be resolved in the domain of semantic ontology is how cross-linguistic any ontology is supposed to be. Many of the works discussed in Rett's survey tend to focus on specific languages, so there is a bigger question of how a certain framework for basic semantic types can be generalized to other languages.

Overall, the distribution of question words in the language and how different questions are divided into different roots provides presents versions of semantic ontology that do not completely align. The question word morphemes in A'ingae have not been well studied, so more detailed investigation on the functions of question words in the language is necessary for any further comparison between them and the *ts-* anaphoric phrases. In addition, based on the argument from Rett's survey of frameworks on ontology, neither anaphors nor question words should be considered as conclusive evidence in tracking what the basic semantic types are in a language, so even though the distribution of the *ts-* expressions probe some thoughts in ontology, there is no real conclusion that can be made at this point. And finally, as Rett suggests at the end of her paper, the question of semantic ontology as a whole has numerous different frameworks that can sometimes generate conflicting conclusions, so the topic of basic semantic types would require more investigation overall.

6.5 Summary

After focusing on describing the empirical patterns of the nominal anaphor *tsa* and the locative anaphor *tse* in previous chapters, in this chapter, I first contributed more description of a third monomorphemic *ts-* expression in A'ingae, the verbal anaphor *tsun*. I have shown that *tsun* anaphorically refers to some verb phrase from previous discourse. I also pointed out that there seems to be instances of *tsun* in non-anaphoric contexts, where *tsun* resembles a lexical 'do', but a more detailed description of *tsun* in these lexical uses is left for future investigation.

There are broader implications from the distribution of these three *ts-* anaphoric expressions. Firstly, the pattern that these *ts-* expressions are exclusively used in anaphoric contexts presents an empirically important distribution where these anaphoric demonstratives are entirely separate from the exophoric demonstratives *va* and *juva* in A'ingae.

Many previous works on demonstratives have proposed some type of unification among the exophoric and non-exophoric demonstratives, so the empirical pattern in A'ingae contributes important theoretical value to future frameworks that differentiate between the exophoric and non-exophoric demonstratives. I also argued that this shift in paradigm in the demonstrative domain can be seen as parallel to shifts in the domain of definiteness, where older works started the investigation of definite descriptions by unifying all definite noun phrases, while more current works have differentiated between separate types of definite phrases, such as the unique/anaphoric noun phrase split. How such framework of demonstrative can be fulfilled is a valuable direction for future work.

Another potential theoretical path that can be further investigated through the distribution of the *ts-* anaphoric expressions is in semantic ontology, although I did not have any concrete conclusion in this path. Anaphoric terms in a language have been used as evidence for how they correspond to the basis semantic types in the language, so the division among the three *ts-* expressions could shed some light on that, but anaphors do not always perfectly track the semantic ontology of the language, so the pattern from the *ts-* expressions should only be viewed as a preliminary idea. In addition, a structurally similar group of words in A'ingae is the question words, where there seems to be only a few roots for all question words, and each of the roots gets attached by specific clitics that license the word's core meaning. There are many open questions in the question word domain in A'ingae regarding each of their synchronic decomposition, so although in theory these question words might also shed light on semantic ontology, much empirical investigation is necessary for any further conclusions.

Chapter 7

Conclusions

7.1 Summary of main findings

In this thesis, I primarily focused on two *ts-* anaphoric expressions in A'ingae, the nominal anaphor *tsa* and the locative anaphor *tse*. On top of details in the functions and distributions of these anaphoric expressions, an important overall implication from their distribution is that there is an empirical division between anaphoric and exophoric demonstratives in the language, so there should also be separation between these two grammatical categories in any theoretical framework.

After an overview of the main motivations and contributions of this thesis as well as the background of A'ingae and the Cofán community in Chapter 1, I detail the distribution and function of the nominal anaphor *tsa* in Chapter 2, mostly within the context of the structure of definite noun phrases in A'ingae. In this chapter, I present evidence that A'ingae bare nouns are felicitous in all of indefinite and unique and anaphoric definite noun phrases, while the morpheme *tsa* is a dedicated anaphoric marker and is only available in anaphoric noun phrases. *Tsa* is also not a deictic demonstrative and lacks any exophoric force. In §2.3, I also discuss a specific case study of *tsa* in a commonly used composite phrase with *tsa* as its root: the comparative adverb *tsa'kan*. I show that *tsa'kan* is fully decomposable into the nominal anaphor *tsa*, where it maintains its dedicated anaphoricity, and the comparative marker *='kan*. I also provide some preliminary thoughts on the functions of *='kan* and suggest that it potentially is used for comparisons in kind, degree, and manner, which would contribute to other ongoing work on the connections between these three semantic types. Overall, the empirical evidence regarding definiteness structure in A'ingae, then, is that A'ingae lacks strict complementarity between the unique and anaphoric forms, which is a pattern that also exists in other languages as discussed in §2.4.3.

Chapter 3 builds on top of the empirical evidence presented in Chapter 2 and discusses theoretical implications of the structure of definiteness in A'ingae where there is no strict complementarity between the unique and anaphoric forms. The availability of both bare nouns and *tsa* in anaphoric phrases contradicts the predictions of proposals from previous work that utilize pragmatic competition, such as *Maximize Presupposition!*, to predict what forms are used in unique versus anaphoric phrases. I discuss a few such

pragmatically based proposals and how they all fail to arrive at the correct surface distribution of bare nouns and *tsa*. From here, I present a few alternative analyses that do not rely on pragmatic competition, and the proposal that I argue for is an account that is semantically-based. In §3.4.1, I first explain how a semantic account applies to the pattern in A'ingae, and then in §3.4.2 I sketch out how that a semantic account is still compatible with other patterns in languages like German and Fering, and I call for further investigation in these languages for a more detailed picture.

Chapter 4 transitions into the second half of the thesis, where I focus on another anaphor, *tse*. In this chapter, I start by a preliminary observation that there are many seemingly morphologically complex 'tse'-root phrases. I first provide detailed descriptions of several *tse* composite forms. Among them are the locative anaphoric adverbs *tse'thi* and *tseni* and the temporal anaphoric adverbs *tse'i*, *tse'the*, *tseite*. I argue that these *tse* adverbs have the common functionality of anaphorically referring to time and location from a proposition from previous discourse. Then, I discuss the attributive adjectival phrase *tse'sû* and the third-person plural pronoun *tsendekhû* and argue that these two composite forms' functions seem distinct from that of the *tse* adverbs — these two phrases are not adverbs, and they do not refer to time or location. I end Chapter 4 with a hypothesis that the 'tse' from *tse'sû* and *tsendekhû* are not the same underlying 'tse' as the one from the adverbs.

Chapter 5 picks up from the hypothesis of division among two groups of *tse* composite forms — the adverbs and the non-adverbs. Overall in this chapter, I argue against a unifying analysis of 'tse' in the adverbs and non-adverbs. Specifically, I argue that only the *tse* adverbs are morphologically decomposable with 'tse' as the root, while the non-adverbs, *tse'sû* and *tsendekhû*, are fossilized forms and therefore not decomposable. The main evidence is that the functions of *tse'sû* and *tsendekhû* do not align with the spatial-temporal function of *tse* from the adverbs or bare *tse*.

In addition to arguing for a division among the *tse* phrases, in Chapter 5 I also compare the functions of *tse* with functions of *tsa*. In the case of the morphologically complex *tse* adverbs, I present the empirical pattern that *tsa* and *tse* are available to receive different clitics, which underlines the different referential content of *tsa* and *tse* adverbs: *tsa* refers to individuals and propositions, and *tse* refers to space and time. Moreover, a comparison between *tse'sû* and *tsa'kan* reveals yet another difference between *tse'sû* and *tsa*: *tsa* refers to individuals while *tse'sû* refers to properties of individuals.

Finally, after individual investigation on *tsa* and *tse*, Chapter 6 unites these two paths of investigation by zooming out to look at the bigger implications of all the *ts-* anaphoric morphemes in A'ingae. After briefly discussing the current findings on a third anaphoric morpheme *tsun*, I examine these three morphemes as a whole and emphasize their shared dedicated anaphoricity as well as some theoretical implications of this. The separation between these anaphoric demonstratives and the deictic demonstratives in A'ingae indicates that frameworks that unifies both exophoric and non-exophoric demonstratives cannot account for empirical pattern such as the one in A'ingae and should be updated. Then, looking at the differences among the three *ts-* expressions, I argue that, although

the division among these three phrases might lead one to come up with a version of the semantic ontology of A'ingae, these anaphoric expressions do not create enough evidence for any such argument. I also draw a parallel to the question words in A'ingae, which seemingly represent a different ontology, and I emphasize my point that neither the *ts-* expressions nor the question words generate any conclusive results regarding the ontology of the language at this point.

7.2 Directions for future work

The description and analysis of *ts-* anaphoric expressions in this thesis have led to many more puzzles worth investigation in the future. Many such directions for future work have been discussed throughout the chapters, so here I will only summarize the main ones.

Typology of definite NPs and theoretical issues of pragmatic competition

Chapters 2 and 3 go in depth in discussing the structure of definite phrases in A'ingae and its cross-linguistic implication on theories behind the typology of definite NPs. In §3.4.1, I provide an account for the definiteness structure of A'ingae and other languages that is based on the semantics of (anti-)presuppositions of each form. This account differs significantly from previous proposals that rely on *Maximize Presupposition!*-like pragmatic competition. My discussion here joins with other recent works that originate from empirical evidence that suggests the competition-based accounts do not fully work and search for alternative analyses. As mentioned at the end of Chapter 3, more detailed investigation on how my semantic-based account should be applied to languages like German, Mandarin, etc. is worth important future investigation.

Tsa'kan and connections between kind, degree, manner

One of the interesting results that came out of this thesis' investigation focused on anaphors is the description of the comparative adverb *tsa'kan* and how the distribution of the comparative morpheme *='kan* relates to discussions on the intersection between kind, degree, manner (§2.3). Previous literature has recognized a pattern where the morpheme for kind, degree, and manner in in many languages is the same morpheme, and this seems, at least looking at surface functionality, to also be the case for A'ingae *='kan*. A fuller picture of the morpheme *='kan* could benefit from closer semantic analysis of its functions and comparisons with the semantics of the kind/degree/manner morphemes of other languages. If the semantics of *='kan* does prove to be compatible with proposals from other works, then this could serve as another piece of evidence for the argument for a cross-linguistic connection between kind, degree, and manner types. And then the bigger theoretical task from there would be examining whether these three entities converge into just one basic semantic type for formal frameworks.

Details on *tse* phrases

As discussed throughout Chapter 4, there are many places that would benefit from future investigations on certain details around *tse* and its morphologically complex phrases. These places include: a more extensive scrutiny of the accent pattern on *tse'sû* and whether/how the unaccented *tsesû* differs functionally from its accented counterpart, more details on the contrasts between the two locative adverbs *tse'thi* and *tseni*, and more thorough investigation of conditional clauses and if/how the morphemes used in conditionals relate to the temporal adverbs.

Details on *tsun*

This thesis has primarily focused on two of the *ts-* expressions, *tsa* and *tse*. A very brief description of a third *ts-* expression, *tsun*, is in §6.2. *Tsun*'s structure and functions is another focus point worth investigating, as it will add to the description of the *ts-* expressions. Currently, I have only included instances of *tsun* in anaphoric contexts into the broader category of anaphoric expressions, but as shown in §6.2, there are instances of *tsun* that are hard to be argued to be anaphoric and more resemble a lexical 'do'. Further analysis on these two seemingly different *tsun* uses might be able to contribute to a fuller understanding of the nature of this verbal anaphor.

Relative clauses in A'ingae

Finally, a significant point of future work that has not been discussed in this thesis is the structure of relative clauses in A'ingae. This thesis has focused on anaphoric expressions and their interactions with discourse. Zooming out of anaphora, a related bigger question to be asked is the structure of relative clauses in A'ingae and how certain types of relative clauses interact with definiteness morphemes of the language.

Currently, there is limited investigation on the structure of relative clauses in A'ingae. Building from brief discussion in Fischer & Hengeveld (to appear), Morvillo (2020) gives a preliminary overview of different types of relative clauses in the language, including the headed and headless ones. In headed relative clauses, the head noun that the clause is modifying can be seen adjacent (usually before) and outside the relative clause. Morvillo observes that both the subordinator *='chu* and the attributive *='sû* can be seen as relativizers ((176) and (177)).

(176) Patrisia tsa'uma tsauñeje'chuma nani.

Patrisia tsa'u=ma tsauña-je='chu=ma nani
Patrisia house=ACC build-IMPV=SUB=ACC finish

'Patricia completed the house she was building.' (Morvillo, 2020, (1))

(177) Atesûngi dûshû kinijinma thûthû'sûma.

atesû=ngi dûshû kinijin=ma thûthû='sû=ma.
know=1.SG child tree=ACC cut=ATTR=ACC

'I know the child that cut the tree.' (Morvillo, 2020, (4))

The headless relative clauses are ones where the head nouns do not appear in the matrix clause, such as in (178). In addition, there are 'free' relative clauses where there is no apparent relativization strategy by using *='chu* or *='sû*, such as (179). In these cases, a wh-question word is usually present.

(178) Dûshûma mandian'sû ampi.

dûshû=ma mandian='sû ampi.
child=ACC chase=ATTR fall

'The one who chased the child fell.' (Morvillo, 2020, (17))

(179) Nane tisetsû ña mani jakan'ni'khe ñama fûitepa angakan.

nane tise=tsû ña mani jakan=ni=khe ña=ma fûite=pa anga+kan
truly 3.SG=3 1.SG where walk=LOC=?? 1.SG=ACC help=SS carry+try

'He has helped and guided me wherever I have gone.'

(Morvillo, 2020, (26); Genesis 35:3; I adopted the sentence into new orthography)

The examples here represent very preliminary evidence and categorization of relative clauses in A'ingae, and much future work is needed to consolidate and strengthen these categories. The theoretically interesting question that is more relevant to this thesis, though, lies in the connection between relative clauses and definiteness semantics. Works in other languages have suggested strong connection between relative clauses and definiteness structure, where the main question under investigation is whether/how different types of relative clauses reflect different in/definite semantics. Especially works on non-Indo-European languages have presented discussions beyond free relative clauses. AnderBois & Chan Dzul (2020), for example, examines relative clauses in Yucatec Maya and presents four different headless relative clause constructions. Specifically regarding free relative clauses, they show that Yucatec Maya has a single morphosyntactic form whose (in)definiteness is determined by syntactic context, which is different from patterns in more well-studied Indo-European languages that have morphosyntactically distinct constructions for definite and indefinite free relative clauses.

A series of questions analogous to the ones discussed for Yucatec Maya can be asked for A'ingae: do headless relative clauses in A'ingae behave like indefinite noun phrases? Definite noun phrases? Or some other structure all together? What about the free relative clauses and the other kinds of relative clauses in the language?

List of Abbreviations

1	first person subject [1]
2	second person subject
3	third person subject
ABL	ablative case
ACC	accusative
ACC2	accusative
ADD	additive focus
ADJR	adnominal marker
ADJ	adjectivizer
ADJ.ADV	adjectival adverbializer
ADV	adverbializer
ANA	nominal anaphoric
ANA.ATTR	attributive anaphoric
ANA.LOC	locative anaphoric
ANA.PLH	plural human anaphoric
APPR	apprehensive marker
ATTN	attenuative marker
ATTR	attributive marker
ASSC	associative marker
AUG	augmentative marker
CL.DRN	diurnal classifier
CL.LOC	locative classifier
CL.PRD	periodic classifier
CMP	comparative marker
CNTR	contrastive focus
COLL	collective marker
DAT	dative case
DIST	distal
DS	different subject
ELAT	elative case
EXCL	exclusive focus
FRST	frustrative marker

[1] This is not an exhaustive list of abbreviations for all suffixes and clitics in A'ingae; this list only contains the abbreviations used in this thesis

HAB	habitual marker
HES	hesitative particle
HONR	honorific marker
HORT	hortative particle
IMP	imperative mood
IMPV	imperfective aspect
INF	infinitive marker
INT	polar interrogative marker
INST	instrumental case
IRR	irrealis mood
ITER	iterative aspect
LOC	locative case
MANN	manner case
N	nominalizer
NEG	negative polarity
NEG.HAB	negative habitual marker
NEW	new topic
PASS	passive voice
PLS	subject plurality
PLH	human plurality
PRHB	prohibitive mood
PRSP	prospective form
PRX	proximal
PSTE	postessive case
RCUR	recursive marker
RCPR	reciprocal voice
RFLX	reflexive
RPRT	reportative
SH.DLM	delimited space shape
SH.FLT	flat shape
SH.FRC	fractured shape
SH.LAT	lateral shape
SH.LRG	large shape
SML	similative marker
SRCN	switch-reference conjunction
SS	same subject
SUB	nominalizing subordinator
THUS	manner demonstrative
VER	veridical mood
WH	wh-question word

Bibliography

Ahn, Dorothy (2019) *THAT thesis: A competition mechanism for anaphoric expressions*. Ph.D. thesis, Harvard University.

AnderBois, Scott (2022) Towards a coherence-based understanding of switch reference: evidence from A'ingae. Presentation at Linguistics Department Colloquium, University of California, San Diego; based on joint work with Daniel Altshuler and Wilson Silva.

AnderBois, Scott & Miguel Oscar Chan Dzul (2020) Headless relative clauses in Yucatec Maya. In *Headless relative clauses in Mesoamerican languages*, Ivano Caponigro, Harold Torrence, & Roberto Zavala, eds., Oxford University Press, 444–474.

AnderBois, Scott & Wilson de Lima Silva (2017) Kofán Collaborative Project: Collection of Audio-Video Materials and Texts. In *Endangered Languages Archive*, URL https://www.elararchive.org/dk0466/.

Anderson, Curt & Marcin Morzycki (2013) Degrees as Kinds. *Natural Language & Linguistic Theory* **33**: 791–828.

Arrieta Zamudio, Ana Laura (2020) *La expresión de la cardinalidad definida en español y en zapoteco de San Pedro Güilá*. Master's thesis, UNAM.

Arroyo, José Luis Blas & Juan González-Martínez (2019) Escritura, oralidad y variación: nuevos datos sobre la alternancia allí/allá a la luz de un corpus epistolar del siglo XVI. *Zeitschrift für romanische Philologie* **135**(4): 971–1006.

Bittner, Maria (2003) Word order and incremental update. In *Proceedings from the 39th Annual Regional Meeting of the Chicago Linguistics Society*, vol. 1, Chicago Linguistics Society, 634–664.

Blaser, Magdalena & Maria Enma Chica Umenda (2008) A'indeccu canqque'sune condase'cho. Mitos del pueblo cofan. Centro Cultural de Investigaciones Indígenas Padre Ramon López.

Bohnemeyer, Jürgen (2018) *Yucatec Demonstratives in Interaction: Spontaneous versus Elicited Data*. Cambridge: Cambridge University Press, 176–205.

Borman, M.B. (1976) Vocabulario Cofán. In *Serie de vocabularios indígenas*, Mariano Silva y Aceves, ed., Quito, Ecuador: Instituto Lingüístico de Verano en cooperación con el Ministro de Educación Publica.

Bremmers, David, Jianan Liu, Martijn van der Klis, & Bert Le Bruyn (2021) Translation Mining: Definiteness across Languages—A Reply to Jenks (2018). *Linguistic Inquiry* .

Christophersen, Paul (1939) *The articles: A study of their theory and use in English*. Copenhagen: Munksgaard.

Clark, Herbert H. (1975) Bridging. In *Theoretical issues in natural language processing*, R. C. Schank & B. L. Nash-Webber, eds., New York: Association for Computing Machinery.

Dayal, Veneeta & Li Julie Jiang (2021) The Puzzle of Anaphoric Bare Nouns in Mandarin: A Counterpoint to *Index! Linguistic inquiry* : 1–42.

De Cock, Barbara (2018) Spanish spatial deictic adverbs: interpretation and discourse functioning with depersonalizing constructions. *Quaderns de Filologia - Estudis Lingüístics* **23**(23): 59–79.

Dąbkowski, Maksymilian (2019a) Heavy feet and glottal stops in A'ingae. Presentation at the 9th Conference on Indigenous Languages of Latin America, University of Texas at Austin.

Dąbkowski, Maksymilian (2019b) The Morphophonology of A'ingae Verbal Stress. Bachelor's Thesis, Brown University.

Dąbkowski, Maksymilian (2021) A'ingae (Ecuador and Colombia) - Language Snapshot. In *Language Documentation and Description*, vol. 20, Peter K. Austin, ed., 1–12.

Fischer, Rafael & Kees Hengeveld (to appear) A'ingae (Cofán/Kofán). In *Amazonian languages: language isolates*, Mouton de Gruyter.

Frege, Gottlob (1892) On sense and reference. In *Translations from the Philosophical Writings of Gottlob Frege*, P. Geach & M. Black, eds., Oxford: Blackwell, 56–78.

Fretheim, Thorstein (2006) English *then* and Norwegian *da/så* compared: a Relevance-theoretic account. *Nordic Journal of Linguistics* **29**(Jun 2006): 45–93.

Gundel, Jeanette K., Nancy Hedberg, & Ron Zacharski (1993) Cognitive Status and the Form of Referring Expressions in Discourse. *Language* **69**(Jun. 1993): 274–307.

Guérin, Valérie & Grant Aiton (2019) Bridging constructions in typological perspective. In *Bridging constructions*, Valérie Guérin, ed., Language Science Press, 1–44.

Haspelmath, Martin (1997) *From Space to Time: Temporal Adverbials in the World's Languages*. München – Newcastle: Lincom Europa.

Hawkins, John A. (1978) *Definiteness and Indefiniteness*. London: Croom Helm.

Heim, Irene (1991) Artikel und definitheit. In *Semantics: An international handbook of contemporary research*, Arnim von Stechow & Dieter Wunderlich, eds., de Gruyter.

Heim, Irene Roswitha (1982) *The Semantics of Definite and Indefinite Noun Phrases*. Ph.D. thesis, University of Massachusetts.

Jenks, Peter (2018) Articulated Definiteness without Articles. *Linguistic Inquiry* **49**: 501–536.

Karttunen, Lauri (1968) What Makes Definite Noun Phrases Definite? RAND Corporation report P3871, unpublished.

Kita, Sotaro (2001) Locally-anchored spatial gestures, version 2: Historical description of the local environment as a gesture elicitation task. In *Manual for the field season 2001*, Stephen C. Levinson & Asifa Majid, eds., Nijmegen: Max Planck Institute for Psycholinguistics, 132–135.

Lakoff, Robin Tolmach (1974) Remarks on *this* and *that*. In *Proceedings of the Chicago Linguistic Society*, vol. 20, 345–356.

Lauer, Sven (2016) On the status of 'Maximize Presupposition'. *Proceedings of SALT 26* : 980–1001.

Leahy, Brian (2016) On Presuppositional Implicatures. *Topoi* **35**: 83–91.

Little, Carol Roseman (2020) *Mutual Dependencies of Nominal and Clausal Syntax in Ch'ol*. Ph.D. thesis, Cornell University.

Matthewson, Lisa (1996) *Determiner systems and quantificational strategies: Evidence from Salish*. Ph.D. thesis, The University of British Columbia.

Mendoza, Eduardo López (2021) Marcación de la definitud en Tsotsil Sureño. Presentation at FAMLi 6 meeting.

Moroney, Mary (2021) Updating the typology of definiteness: Evidence from bare nouns in Shan. *Glossa: A Journal of General Linguistics* .

Morvillo, Sabrina (2020) An Overview of Headless Relative Clauses in A'ingae. Brown University, unpublished student paper.

Morvillo, Sabrina & Scott AnderBois (to appear) The inner workings of contrast: decomposing A'ingae tsa'ma. Proceedings of SULA 11.

Peeters, David, Peter Hagoort, & Aslı Özyürek (2015) Electrophysiological evidence for the role of shared space in online comprehension of spatial demonstratives. *Cognition* **136**: 64–84.

Peeters, David, Emiel Krahmer, & Alfons Maes (2021) A conceptual framework for the study of demonstrative reference. *Psychonomic Bulletin Review volume* **28**: 409–433.

Pride, Kalinda, Nicholas Tomlin, & Scott AnderBois (2020) LingView: A Web Interface for Viewing FLEx and ELAN Files. *Language Documentation & Conservation* **14**: 87–107, URL http://hdl.handle.net/10125/24916.

Prince, Ellen F. (1981) Toward a taxonomy of given/new information. In *Syntax and semantics: Vol. 14. Radical Pragmatics*, P. Cole, ed., New York: Academic Press, 223–255.

Repetti-Ludlow, Chiara, Haoru Zhang, Hugo Lucitante, Scott AnderBois, & Chelsea Sanker (2020) A'ingae (Cofán). *Journal of the International Phonetic Association* **50**(3): 431–444.

Rett, Jessica (2018) A typology of semantic entities.

Roberts, Craige (2003) Uniqueness in Definite Noun Phrases. *Linguistics and Philosophy* **26**(3): 287–350.

Russell, Bertrand (1919) *Introduction to Mathematical Philosophy*. London.

Schiffrin, Deborah (1990) Between text and context: Deixis, anaphora, and the meaning of *then*. *Text - Interdisciplinary Journal for the Study of Discourse* **10**(3): 245–270.

Schlenker, Philippe (2006) Ontological symmetry in language: a brief manifesto. *Mind Language* **21**: 504–539.

Schlenker, Philippe (2012) 'Maximize Presupposition' and Gricean reasoning. *Natural Language Semantics* **20**: 391–429.

Schwarz, Florian (2008) Two Types of Bridging with Two Types of Definites.

Schwarz, Florian (2009) *Two Types of Definites in Natural Language*. Ph.D. thesis, University of Massachusetts, Amherst.

Schwarz, Florian (2013) Two Kinds of Definites Cross-Linguisitically. *Language and Linguistic Compass* **7/10**: 534–559.

Schwarz, Florian (2019) Weak vs. strong definite articles: Meaning and form across languages. *Definiteness Across Languages* : 1–37.

Skilton, Amalia (2021) Demonstratives and visibility: Data from Ticuna and implications for theories of deixis. *Language* **97**(4): 793–824.

Skilton, Amalia E. (2019) *Spatial and non-spatial deixis in Cushillococha Ticuna*. Ph.D. thesis, University of California, Berkeley.

Strawson, P. F. (1950) On referring. *Mind* **59**: 320–344.

Vásquez Martínez, Norma Leticia (2020) Definitud e indefinitud en el zapoteco de San Pedro Mixtepec, unpublished Ms. CIESAS.

Vázquez Martínez, Morelia & Carol-Rose Little (2020) Dimensions of definiteness in Ch'ol: A dialectal comparison. Presentation at the 2020 SSILA Annual Meeting.

Wolter, Lynsey (2006) *That's that: the semantics and pragmatics of demonstrative noun phrases*. Ph.D. thesis, University of California, Santa Cruz.