

Polar questions in Kham Mueang and Standard Thai

Timothy Joseph Pistotti

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Saurov Syed

Abstract

This thesis distinguishes between seven distinct strategies used across languages to form polar questions. These strategies include the use of question particles, interrogative verb morphology, interrogative word order, the absence of declarative morphemes, interrogative intonation, pragmatic/semantic cues, and the use of polar alternative questions. There is great variation between languages in which strategies are available and how they are used. The main goal of this thesis is to investigate the key properties of the available polar question strategies in Standard Thai and Kham Mueang.

Presenting data from a variety of languages, Chapter 1 introduces seven attested polar question strategies and then lays out the key research objectives of this thesis. It shows that while both Standard Thai and Kham Mueang form polar questions with what I refer to as Polar Particle Questions (or PPQs) and Polar Alternative Questions (PAQs), each language also has a unique configuration of other strategies. Chapter 2 demonstrates that while interrogative intonation is an obligatory strategy in Standard Thai, it is unavailable in Kham Mueang. Chapter 3 discusses the semantic and syntactic distribution of the polar particles in Standard Thai and Kham Mueang. Chapter 4 then analyzes the underlying structure of PPQs and PAQs, discussing the benefits of a polar particle analysis over a disjunction-deletion model. Chapter 5 presents the findings of recent research which proposes that polar particles can be subdivided into three types. It then argues that Standard Thai and Kham Mueang polar particles have unique properties which necessitate the introduction of a fourth and fifth particle type. Finally, this chapter summarizes the findings of this thesis, which, at its core, is an examination of the interface between semantics, syntax, and intonation.

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Abbreviations

AFF	affirmative
ASP	aspect
AUX	auxiliary
CLS	classifier
CM	challengeable marker
COMP	complementizer
CONT	continuous
COP	copular
DECL	declarative
EXC	exclamation
F	female
Fut	future
HES	hesitation
Hon	honorific
INT	interrogative particle
inter	interrogative
M	masculine
NAR	no available research
NC	no consensus
NCM	non-challengeable marker
NEG	negation
OS	older sibling
PAQ	Polar Alternative Question
POT	potential
PPQ	Polar Particle Question
PST	past tense
Q	question particle
REC	reciprocal
SG	singular
SLP	speech level particle
TAM	tense aspect marker
YNQ	yes-no question
YNR	yes-no reply

1

Introduction

This thesis identifies and discusses the polar question strategies of two closely related languages of the Tai-Kadai (or Kra-Dai) family: Standard Thai and Kham Mueang. Standard Thai is the official language of Thailand, spoken throughout South and Central Thailand, and Kham Mueang is a Northern Thai language, spoken by roughly 5 million people. While there is substantial research in various fields of linguistics concerning Standard Thai, there is currently limited research on Kham Mueang. This thesis aims to fill some of these gaps in knowledge. This thesis has three main objectives: (i) to identify the optional and obligatory polar question strategies in Standard Thai and Kham Mueang; (ii) to understand how these strategies work and interact with one another; and (iii) to discuss the implications of these findings on our current understanding of the universal properties of polar questions.

This paper is organized in the following way. Chapter 1 presents Dryer's (2012) work on polar question strategies, and after proposing minor modifications to their typology, I arrive at a set of six polar question strategies which can be found in languages cross-linguistically. These strategies include the use of question particles, interrogative verb morphology, interrogative word order, the absence of declarative morphemes, interrogative intonation, and pragmatic or semantic clues. Having presented prototypical examples of each polar question strategy from a diverse set of languages, I then identify which strategies are available in Standard Thai and

Kham Mueang. My research indicates that Standard Thai uses interrogative intonation and polar question particles to form polar questions, while Kham Mueang relies on question particles, interrogative word order, and semantic or pragmatic clues. In Chapter 2, I discuss the tone and intonation systems of both languages. I present evidence that Standard Thai has obligatory interrogative intonation which can be detected through the analysis of pitch contour lines. Interrogative intonation in Standard Thai takes the form of a sentence-final RISE intoneme. Interestingly, Kham Mueang appears to lack a distinction between interrogative and declarative intonation. The findings in Chapter 2 will be of particular interest to anyone interested in intonation, as Kham Mueang appears to violate some universal attributes of intonation. Namely, in Kham Mueang tone faithfulness requirements seem to interfere with declination. While Standard Thai exhibits clear sentential declination, Kham Mueang does not. The primary importance of this chapter is that it establishes, definitively, that interrogative intonation is an obligatory polar strategy in Standard Thai and an unavailable strategy in Kham Mueang. Having established these facts, Chapter 3 then discusses the semantic and syntactic distribution of polar question particles in Standard Thai and Kham Mueang. This chapter reviews previous works and attempts to draw a comparison between the particles in these two languages. Chapter 4 delves into the structure of polar questions and suggests that the attested patterns are best analyzed with a question-particle-analysis (along the lines of Simpson & Wu (2002b) for Taiwanese, Syed & Dash (2017) for Hindi, Bangla, and Odia, and Bhatt & Dayal (2020) for Hindi-Urdu). This chapter also critically evaluates an existing analysis in terms of disjunction-deletion, Yaisomanang 2012, and argues that such an approach cannot be maintained for patterns observed. In this chapter, I also suggest that what looks like the polar questions in these languages can be of two types: Polar Particle Questions (PPQs) and Polar Alternative Questions (or PAQs). PPQs are formed with polar particles, and PAQs are alternative questions which consist of two overt polar constituents of the same kind. In Chapter 5, I discuss Gonzalez's (2021) recent work which captures the crosslinguistic variation between polar particles by identifying a set of principal properties across three particle types.

In summary, this paper begins with a broad discussion of polar question strategies around the world. It then narrows its focus to available strategies in Standard Thai and Kham Mueang, with special attention paid to polar particles. And, finally, it zooms back out to discuss how these findings relate to polar questions in other languages.

1 POLAR QUESTION STRATEGIES

1.1 DRYER'S SEVEN STRATEGIES

As mentioned above, this paper explores elements of intonation, semantics, pragmatics, and syntax in an effort to capture the principal characteristics of polar questions in Standard Thai and Kham Mueang. While such an approach might seem overly ambitious, a quick overview of the different ways languages encode polar questions should provide ample justification for this type of linguistic analysis of interface phenomenon. For an introduction to polar question strategies, we turn to Dryer (2013), whose global survey of languages identified seven strategies used to code an utterance as a polar question¹. These include the use of a polar question particle, the use of interrogative verb morphology, the use of both a question particle and verb morphology, the use of interrogative word order, the absence of declarative morphemes, the use of interrogative intonation only, and no interrogative-declarative distinction. The following briefly defines each strategy and provides relevant examples².

The first strategy is the use of a question particle. According to Dryer, this is the most common strategy among the languages surveyed. Dryer points to the clause-final question particle *a* in Maybrat of Indonesia as an example of this polar question strategy. See the example provided in (1), below (Dol, 1999, p. 178).

- (1) Petru y-ama oh a
 Petrus 3M-come already INT
 ‘Has Petrus already come?’

The second strategy is the use of interrogative verb morphology. The polar-Q suffix *-là*, found in Bisu of Northern Thailand, serves as a prototypical example, as seen in (2) (Nishida,

¹ For a visual representation of the global distribution of Dryer's seven polar question strategies, visit <https://wals.info/chapter/116>. This link includes an interactive map along with Dryer's (2013) chapter.

² Dryer's work provides at least one example of each strategy. Where resources cited in Dryer's work were unavailable for review, I have provided alternative examples from more readily available sources.

1973, p. 73³). In (2a), the auxiliary morpheme -*ɲɛ* attaches to the verb resulting in a declarative. In (2b), the polar-Q suffix *-lâ* attaches to the verb resulting in an interrogative.

- | | | | | | | | |
|-----|----|-----------|--------|--|----|--------------|-------|
| (2) | a. | naŋ | ʔɛ-ɲɛ | | b. | naŋ | ʔɛ-lâ |
| | | you | go-AUX | | | you | go-Q |
| | | ‘You go.’ | | | | ‘Do you go?’ | |

The third polar question strategy involves a combination of a question particle and interrogative verb morphology. For example, Pirahã is a language with both a question particle and interrogative verbal suffixes (Everett, 1986, p.236-237).⁴ These elements can cooccur, occur individually, or be completely omitted in YNQs. The most common interrogative suffix is *-xóxói* which always appears to the left of the optional question particle *hix*. In (3), the interrogative verbal suffix attaches to the verb and the question particle is represented optionally in final position. In (4), the question particle occurs alone, and in (5), the interrogative is marked exclusively by the intonational pattern, namely a sharp rise in pitch towards the end of the sentence.

- | | | | | | | |
|-----|---------------------------|------------------------------|-----|----|---------|-------|
| (3) | xísi | ib- | áo- | p- | óxói | (hix) |
| | 3 animal | hit/arrow-TELIC-IMPERF-INTER | | | (INTER) | |
| | ‘Did (you) arrow (fish)?’ | | | | | |

- | | | | | | |
|-----|---|---------|----------|---------------------------|-------|
| (4) | hi | soxóá | patoá | kak-áo-p-i | “hix |
| | 3 | already | suitcase | request-TELIC-IMPERF-PROX | INTER |
| | ‘Did he already request a suitcase?’ | | | | |
| | (“ = ‘strongest accentuation in clause’) ⁵ | | | | |

³ This data has been formatted to fit the general style of this paper. The original consists of only the Bisu sentence and its English translation. The gloss is my own.

⁴ Everett provides the following note on their data: “The analysis of this suffix as well as the majority of the interrogative morphemes in this section was done by SS. For the most part, the examples are his as well, although I have added several of my own.” SS here presumably refers to Steve Sheldon, a colleague of Everett’s. Steven Sheldon also appears in multiple entries in Everett’s bibliography. I have included this note to properly credit the original source of the data.

⁵ Everett’s original work includes this note as well as a hand drawn intonation line across the sentence which rises sharply at the end. They further note that this *hix* always receives the strongest accentuation in a clause.

The sixth strategy uses interrogative intonation only. Semelai, of Peninsular Malaysia, relies entirely on this strategy (Krsupe, 2004). The rising tone associated with interrogative intonation can attach to a variety of constituents such as verbs, NPs, and entire clauses. In the following example, the rising intonation is over the verb. Yet, this same sentence would be interpreted as a declarative if uttered with interrogative intonation.

- (9) ʔmaʔbapaʔ ʔrisʔ
 parents be.alive
 ‘Are your parents alive?’

Finally, strategy seven is to have no overt interrogative-declarative distinction but rely completely on context to code an utterance as a polar question. This is the case in Chalcatongo Mixtec, which represents the only documented language of this type. The following sentences can be interpreted as either a declarative or a polar question (Macaulay, 1996, p. 127)⁷.

- (10) xakú-ro
 laugh.2
 ‘You’re laughing.’ / ‘Are you laughing?’

- (11) ñábaʔa-ró librú-ro
 have-2 libro-2
 ‘You have your book’ / ‘Do you have your book?’

1.2 CHALLENGES TO DRYER’S TYPOLOGY

While Dryer (2013) serves as a solid introduction to polar question strategies in languages around the globe, the design of their typology produces some undesirable results. This subsection evaluates the ways in which Dryer categorizes languages and identifies the key

⁷ This data is of particular value as it directly contradicts assumptions in Yaisomanang 2012 about YNQs: YNQs must be marked in some way. Macaulay (1996, p. 127) notes, ‘There is no marking of interrogative status of such forms --- by question particle, intonation, tone, or other method’. As we shall see, this is an optional strategy in Kham Mueang.

problems which arise from how their current strategies are defined. The findings in this subsection demonstrate a clear need to revise these strategies; revisions will be offered in the subsequent subsection. Establishing a clear set of strategies is a fundamental step in this research, as the focus of this paper is the discussion of polar questions and polar question strategies in Standard Thai and Kham Mueang. The core claim of this subsection is that the current typology divides languages along inconsistent and inadequate criteria which leads to a skewed representation of their global distribution and inaccurate description of individual languages.

The main problems with the current typology are that it makes no distinction between primary and secondary polar question strategies, and it makes no distinction between obligatory and optional strategies. These shortcomings result in a confusing situation in which Dryer identifies the use of polar particles as the most common polar question strategy, and also informs the reader that "many if not most languages of the first five types employ a distinct intonation" (Dryer 2012, pg 1). Mathematically, this would indicate that interrogative intonation is used, minimally, at roughly the same rate as question particles, and maximally, at a much higher rate than question particles⁸. Looking at the distribution of strategies across language in Table 1, we see that interrogative intonation is grossly underrepresented in this typology (Dryer, 2013).

Table 1

Polar question strategy	Attested languages
1. question particles	585
2. interrogative verb morphology	164
3. question particle and verb morphology	15
4. interrogative word order	13
5. absence of declarative morphemes	4
6. interrogative intonation only	173
7. no interrogative-declarative distinction	1

⁸ These ranges are based on Dryer's claim that "many if not most languages of the first five types employ a distinct intonation". If we take the sum of the first five types and assume that half of them have interrogative intonation, then we find that 390.5 languages use interrogative intonation plus another strategy. Add this to the interrogative intonation only languages, and the total number of interrogative intonation languages reaches 563.5. This gives us the minimal range of 563.5 with no upward limit of how to interpret Dryer's 'if not most' claim.

To further illustrate this point, consider the following generalizations about English polar question strategies. First, the auxiliary-subject word order and rising intonation in (12a), below, establishes that this is a polar question. Second, the subject-auxiliary word order and neutral intonation of (12b) represents a prototypical declarative. Third, a prototypical declarative uttered with interrogative intonation will be construed as a polar question, as illustrated in (12c). Despite these facts, Dryer’s typology classifies English as a word order language, and consequently fails to capture basic facts about intonation, a problem that stems from a lack of flexibility in the criteria which would be resolved if optionality were a feature of the typology.

- (12) (a) Is Bill on his way↑?
(b) Bill is on way.
(c) Bill is on his way↑?

Additionally, Stiver’s (2010) research on American English suggests that word order is not even the primary polar question strategy of the language. Stiver identified three polar question types—declarative, interrogative, tag—and found that declarative polar questions, those using intonation only, made up 63% of the question types used in actual speech. Meanwhile, interrogative word order questions, those using subject-auxiliary inversion, only accounted for 31%, and tag questions, those which use some sentence-final morphological marker, made up the remaining 6%. In light of these findings, I argue that any typology of polar questions should include information about the optionality of the polar question strategies, and when possible, identify if a strategy is primary or secondary.

Similarly, Urdu/Hindi speakers use interrogative intonation to encode an utterance as a polar question, and the polar morpheme *kya* is largely optional, though, its absence or presence may have different pragmatic effects (Biezma et al., 2018). In the example below, taken from Biezma et al. (2018, p. 20)⁹, the speaker reluctantly offers coffee to a visitor and hopes the offer will be declined. If the speaker does not care to obscure their underlying sentiment, they would omit the *kya* particle.

⁹ This data is an unedited representation of the original, (see Biezma et al. 2018). Later sections of this paper adopt a theoretical stance on polar *kya* which require a different gloss of the question particle, i.e., Q. However, this gloss reflects Biezma, Butt, and Jabeen’s (2018, p. 11) assumption that ‘polar *kya* is NOT a question marker’ which stems from the work of Bhatt and Dayal (2014).

- (13) (kya) ap coffee lē-ge?
 KYA you.Hon coffee.F.Sg take-Fut
 ‘Will you have coffee?’

Again, this is a problem for Dryer’s typology as it raises the following question: if interrogative intonation is sufficient to mark an utterance as a polar question in the absence of a question particle, and question particles are insufficient to mark a polar question in the absence of interrogative intonation, then is it factually accurate to call this a question particle language or an interrogative intonation only language? I argue neither category adequately encompasses the facts of the language and some adjustment to this typology is required.

Furthermore, while languages with a distinct interrogative intonation appear to be in the majority, there are languages which make no intonational distinction between declaratives and polar questions. Take for instance Imbabura Quechua (Cole, 1982, p. 210). In (14), all three sentence types have the same intonation pattern¹⁰.

- (14) a.) statement: /Kitumanda famungi/
 Quito-from come-2
 ‘You come from Quito.’
- b.) yes-no question: Kitumanda famungitsu
 Quito-from come-2-inter
 ‘Do you come from Quito?’
- c.) information question: imaɟpatax famungi
 why-inter come-2
 ‘Why do you come?’

In Dryer’s typology, languages such as Imbabura Quechua, in which polar questions are expressed morphologically with no distinct interrogative intonation, would be grouped together with languages in which polar questions are expressed intonationally without morphological

¹⁰ The original data includes hand drawn lines indicating intonation, but I am reluctant to reproduce these impressionistic representations in this work. Instead, I point to Cole’s observation that the intonation peak is the penultimate syllable in all three sentence types.

marking. Again, this obscures the basic facts about individual languages and present a murkier picture of how strategies interact with one another.

Finally, consider strategy 7: the use of no interrogative-declarative distinction. While Dryer identifies only one language that employs this strategy, it is likely that more languages occasionally rely on context to determine if an utterance is a polar question. Take example (15).

(15) Are you stupid?¹¹

Regardless of intonation and sub-aux inversion, this sentence can only be determined to be an interrogative or declarative based on the context. If the addressee believes the speaker is asking in earnest, then it is an interrogative; if not, it is a declarative indicating that the speaker believes the addressee has done something foolish. In fact, it is not uncommon to clarify in this context if the speaker is in fact asking a question, see (16).

(16) ‘No, seriously. I am asking you a question. Are you stupid?’

Additionally, in courtroom English, lawyers regularly ask polar questions which have neutral intonation and declarative word order:

(17) Layer: This belongs to you.
Defendant: Yes.
Layer: And you were there on the night of the murder.
Defendant: No.

However, because the current typology has no allowance for optionality, this strategy is grossly underrepresented. This is particularly problematic for the current research, as Kham Mueang speakers regularly form polar question which are phonologically and morphosyntactically unmarked. That is, when the question word *goh* appears between the verb and the direct object, it can be interpreted as either a declarative or a polar question, depending on context. See (18) below.

¹¹ This data was collected throughout my youth, and on several occasions was spontaneously elicited from my dear mother, a native English speaker.

- (18) tagon boon suu goh nangsu
 PST Boon buy goh book
 ‘Boon probably bought a book.’ / ‘Did Boon buy a book?’

In response to these challenges to Dryer’s typology, the following subsection proposes a few modifications which have several advantages over the current way of classifying polar strategies.

1.3 REVISED STRATEGIES

The table below represents my proposed revisions to Dryer’s strategies, along with an implicit identification of whether each strategy is obligatory or optional. If the strategy is neither obligatory nor optional, it is unavailable in the described language. In a language where all strategies are optional, at least one must be employed for an utterance to be understandable as a polar question. I have included an additional strategy, the use of alternative questions, in the chart. In Table 1 I use English as an example to demonstrate the advantages of this model.

Table 1.1

polar question strategy	English	
	obligatory	optional
1. question particle	NO	NO ¹²
2. interrogative verb morphology	NO	NO
3. interrogative word order	NO	YES
4. absence of declarative morphemes	NO	NO
5. interrogative intonation	NO	YES
6. pragmatic/semantic distinction	NO	YES
7. alternative questions	NO	YES

¹² For an interesting research project which discusses whether English will develop Thai-type or Japanese-type particles, see (Bailey, 2013).

The evaluation of the availability of these strategies in English is based on my own native speaker intuitions and supported by the data above¹³. Note that while all strategies are optional, at least one must be selected to encode polar questions. The advantages of this system are immediately apparent, as it more accurately describes the polar question strategies available in a language without obscuring the fact that most languages probably employ more than one strategy. Hopefully, future research will be able to conduct a large survey of global languages which applies this model of obligatory and optional strategies and identifies how these strategies typically interact with one another. While this is beyond the scope of the current research, this project aims at accomplishing the more immediate goal of using this typology to discuss polar question strategies in Standard Thai and Kham Mueang. The following section begins this work and presents some of the key findings of this research project.

2. STANDARD THAI AND KHAM MUEANG POLAR QUESTION STRATEGIES

2.1 IDENTIFYING GAPS IN KNOWLEDGE

One of the most challenging constraints on this research project is the lack of existing research on Standard Thai and Kham Mueang polar questions. Kham Mueang in particular is severely understudied, and, though some extremely limited resources exist, there is currently no available research which describes the language's polar question strategies. To illustrate my point I present table 1.2, below, which represents our current knowledge of polar question strategies in each language.

¹³ Note, I do not claim that interrogative intonation is the primary strategy in this language, as I have not established clear criteria for distinguishing primary versus secondary strategies in languages which have multiple optional strategies and no obligatory ones. However, based on Striver (2010), I assume that the interrogative word order might be a reasonable candidate if future researchers decide to assign a primary status to one strategy.

Table 1.2

polar question strategy	Standard Thai		Kham Mueang	
	obligatory	optional	obligatory	optional
1. question particle	NC	NC	NAR	NAR
2. interrogative verb morphology	no	no	NAR	NAR
3. interrogative word order	no	no	NAR	NAR
4. absence of declarative morphemes	no	no	NAR	NAR
5. interrogative intonation	NC	NC	NAR	NAR
6. pragmatic/semantic distinction	NC	NAR	NAR	NAR
7. alternative questions ¹⁴	NC	NAR		
NC = no consensus NAR = no available research				

In its present state, this table serves as an effective visual representation of our current gaps in knowledge. As such, it is a roadmap of unexplored areas of research, and attempting to fill it out requires that we answer the following research questions. Which strategies are available in Standard Thai and Kham Mueang? And how do these strategies work? The rest of this paper delves into these areas and attempts to answer these questions.

2.2 PROPOSALS

The basic premise of this paper is to consider the seven polar question strategies identified above and evaluate their availability and function in Standard Thai and Kham Mueang. In each chapter, I generally begin by discussing some aspect of polar question strategies in Standard Thai and then create an analogous account for Kham Mueang. I have selected this method as the abundance of research on Standard Thai permits easier access to the basic facts about the language, which in turn provides a more manageable path towards understanding the closely related Kham Mueang. In the following subsections, I present the proposals and key findings of this paper. As with later chapters, I begin with Standard Thai.

2.2.1 STANDARD THAI PROPOSALS

Table 1.3, presents the basic findings of this research project on the availability of polar strategies in Standard Thai.

¹⁴ I will explain this strategy in the following subsections, as it is of particular interest to the research at hand.

Table 1.3

polar question strategies	Standard Thai	
	obligatory	optional
1. question particle	no	yes
2. interrogative verb morphology	no	no
3. interrogative word order	no	no
4. absence of declarative morphemes	no	no
5. interrogative intonation	yes	no
6. pragmatic/semantic distinction	no	no
7. alternative questions	no	yes

Beginning with strategy 1 and 7, I found that both of these strategies are available in Standard Thai. In my research I identify two types of polar questions which are regularly used in Standard Thai and Kham Mueang: Polar Particle Questions (or PPQs) and Polar Alternative Questions (or PAQs). In Standard Thai, PPQs are formed by using one of three sentence-final polar question words: *máy*, *ruu*, and *yang*. Example (19) below serves as a prototypical example of a PPQ.

- (19) khaw phuut phasaa thai dai máy
 he speak language thai can Q
 ‘Can he speak Thai?’

PAQs are a special type of alternative question which form a disjunction between polar constituents, and thus prompt a yes-no reply (or YNR)¹⁵. Example (20) below serves as a prototypical example of a PAQ.

- (20) khaw khap rot ruu mây (khap rot)
 he drive car or not (drive car)
 ‘Does he drive or not?’

¹⁵ I acknowledge this is a somewhat controversial claim, and I will do my best to address any potential concerns the reader might have regarding this claim in later chapters.

Because a speaker can use either a PPQ or a PAQ, I consider both optional. Interrogative intonation, however is present in both question types, and is therefore considered obligatory.

Concerning the use of interrogative verb morphology, in (19) above, we see that Standard Thai uses question particles which are not affixed to any verb. Later chapters will demonstrate this more clearly, but for now, let this example stand as evidence that interrogative verb morphology is unavailable in Standard Thai.

Interrogative word order is also unavailable in Standard Thai. Rearranging words results in ungrammatical sentences rather than polar questions. Evidence supporting this claim can be seen in (21), below.

- (21) a. boon gin khao
Boon eat rice
'Boon eats rice'
- b. *gin boon khao
eat Boon rice
*'Does Boon eat rice?'
- c. *khao gin boon
rice eat Boon
*'Does Boon eat rice?'
- d. *boon khao gin
Boon Rice eat
*'Does Boon eat rice?'
- e. *gin khao boon
eat rice Boon
*'Does Boon eat rice?'
- f. *khao boon gin
rice Boon eat
*'Does Boon eat rice?'

Strategy 4, the absence of a declarative morpheme, is also unavailable in Standard Thai. Comparing the examples below, this is apparent as the declarative sentence of (22a) becomes an interrogative in (22b) through the addition of a question particle and not through the subtraction of a declarative morpheme.

- (22) a. khaw phuut phasaa thai dai
 he speak language thai can
 ‘He can speak Thai.’
- b. khaw phuut phasaa thai dai máy
 he speak language thai can Q
 ‘Can he speak Thai?’

Finally, polar strategy 6, the use of a pragmatic/semantic distinction, is not available to Standard Thai speakers. In Standard Thai, all polar questions must be marked morphologically. In the absence of a question word, the sentence must be interpreted as a declarative. This point will be discussed in detail in chapter 4, as such an analysis is necessary to discount a disjunction-deletion model.

2.2.2 KHAM MUEANG PROPOSALS

Table 1.4, below, presents the basic findings of this research project on the availability of polar strategies in Kham Mueang.

Table 1.4

polar question strategies	Kham Mueang	
	obligatory	optional
1. question particle	no	yes
2. interrogative verb morphology	no	no
3. interrogative word order	no	maybe
4. absence of declarative morphemes	no	no
5. interrogative intonation	no	no
6. pragmatic/semantic distinction	no	yes
7. alternative questions	no	yes

As with Standard Thai, Kham Mueang regularly makes use of both PPQs and PAQs. In Kham Mueang, PPQs are formed by using one of three sentence-final polar question words: *goh*, *ga*, and *la*. However, unlike Standard Thai, Kham Mueang has more flexibility in where these particles can surface. The particles *goh*, *ga*, and *la* can be in sentence-final position, as seen in example (23).

- (23) boon khap rot chang goh
 Boon drive car can INT
 ‘Can Boon drive?’

The particles *goh* and *la* can appear to the left of the verb, as seen in (24), below.

- (24) geow yuu goh boon
 Geow push INT Boon
 ‘Geow only pushed Boon.’ (not Tim and Boon.)/ ‘Did Geow push Boon?’

However, in this position the sentence can be interpreted as either a polar question or a declarative. This indicates that strategy-6, the use of pragmatic or semantic clues is an available strategy, as the addressee must discern from context if the utterance is a polar question. Additionally, because (24) can be either a declarative or an interrogative, and there is no distinction between the intonation in the declarative form or the interrogative form, we can see that there is no distinct interrogative intonation in Kham Mueang; meaning strategy 5 is unavailable. I will explore this in greater detail in Chapter 2.

We can also deduce from the data in (24), above, that word order plays an important role in polar question formation. Note that the ambiguity created when the particle is sentence-medial is eliminated when the particle is sentence-final. This suggests that word order is an available strategy in Kham Mueang, as one word order is more strongly associated with polar questions than another. Interestingly, when the particle *goh* is to the left of the verb, the sentence can no longer be interpreted as a question. See (25).

- (25) geow goh yuu boon
 Geow Q push Boon
 ‘Geow only pushed Boon, too.’ / ‘*Did Geow push Boon?’

While further research will be required to better understand the significance of word order in Kham Mueang, I have schematized the generalizations made thus far in table (1.5).

Table 1.5

syntactic distribution of <i>goh</i> in Kham Mueang									
a.)	subject	+	verb	+	object	+	<i>goh</i>	=	polar Q
b.)	subject	+	verb	+	<i>goh</i>	+	object	=	polar Q or declarative
c.)	subject	+	<i>goh</i>	+	verb	+	object	=	declarative

Concerning strategy 2, the use of interrogative verb morphology, the data presented thus far suggests that Kham Mueang question particles are not affixed to the verb and interrogative verb morphology is not an available strategy. This will be discussed in greater detail in Chapters 3 and 4.

Strategy 4, the absence of a declarative morpheme, can be ruled out as there is no declarative morpheme in Kham Mueang. This is obvious in (26), where the addition of the interrogative marker in (26b) changes the declarative into an interrogative.

- (26) a. geow yuu boon
 Geow push Boon
 ‘Geow pushed Boon.’
- b. geow yuu boon goh
 Geow push Boon Q
 ‘Did Geow push Boon?’

Finally, PAQs are common in Kham Mueang, and therefore strategy 7, the use of alternative questions, is available in Kham Mueang.

- (27) Boon khap rot ga wa ba khap
 Boon drive car or COMP NEG drive
 ‘Can Boon drive or not?’

2.2.3 CROSSLINGUISTIC IMPLICATIONS

The general claims made thus far on the availability of different polar question strategies in Standard Thai and Kham Mueang are represented visually below.

Table 1.6

polar question strategies	Standard Thai		Kham Mueang	
	obligatory	optional	obligatory	optional
1. question particle	no	yes	no	yes
2. interrogative verb morphology	no	no	no	no
3. interrogative word order	no	no	no	yes
4. absence of declarative morphemes	no	no	no	no
5. interrogative intonation	yes	no	no	no
6. pragmatic/semantic distinction	no	no	no	yes
7. alternative questions	no	yes	no	yes

I contend that the variation captured in this table justifies my revisions to Dryer’s typology and reveals a need for future research to identify the distinguishing characteristics of each strategy and how different strategies interact with one another. While the first 4 chapters of this paper focus more narrowly on the goal of describing and analyzing polar question strategies in Kham Mueang and Standard Thai, the final chapter looks more broadly at how the polar particles of these two languages compare with polar particles in other languages. To accomplish this second goal, I turn to the recent work of Gonzalez (2021), who conducted a crosslinguistic analysis of the characteristic traits of different polar particles. Gonzalez identifies three types of interrogative particles:

- (i) particles which can occur in interrogatives and can also form disjunctions and indefinites in declaratives, e.g., Japanese *-ka* (Kuroda, 1965; Hagstrom, 1998; Uegaki, 2018);

- (ii) particles which are optional and restricted to polar and alternative questions, e.g., Hindi-Urdu *kya* (Biezma et al., 2015; Bhatt and Dayal, 2020);

and

- (iii) particles which are restricted to polar and alternative questions and are mandatory in both matrix and embedded questions, e.g., Finnish *-ko* (Holmberg et al., 1993; Holmberg, 2003; Holmberg, 2014) and Turkish *mi* (Kamali, 2011; Allamaz, 2015; (Kamali & Krifka, 2020).

Gonzalez’s subdivision of interrogative particles into more specific classes is a crucial step for future research of polar questions as it provides a clear set of criteria for conducting meaningful cross-linguistic comparisons. Chapter 5 applies these criteria to Kham Mueang and Standard Thai question particles and finds that the unique attributes of these languages require a fourth and fifth polar particle type be added to Gonzalez’s typology. Below is a revision of Gonzalez’s original table which now includes my own observations about Standard Thai and Kham Mueang¹⁶.

Table 1.7

	Mandatory?	Polar Q? Alternative Q?	Wh-Q?	Embedded Q?	Q only?	Focus sensitive?
Japanese	no	yes	yes	yes	no	no
Hindi-Urdu	no	yes	no	sometimes	yes	yes
Finish	yes	yes	no	yes	yes	yes
Turkish	yes	yes	no	yes	yes	yes
Standard Thai	no	yes	no	yes	yes	yes
Kham Mueang	no	yes	no	yes	no	yes

¹⁶ Note, Kham Mueang *goh* and *la* have different characteristics than the Kham Mueang *ga*, which falls into the same category as Standard Thai polar particles.

3 SUMMARY AND OUTLINE

This chapter laid out the general themes of this research project and presented the main proposals to be expanded upon throughout the rest of the paper. It began by discussing Dryer's typology of polar question strategies and then proposed certain revisions which allow for a more accurate account of how polar questions actually work in languages around the globe. This chapter then identified which strategies are available in Standard Thai and Kham Mueang, before commenting on how the polar particles of these two languages compare with particles in other languages. The following chapters will substantiate and expand upon the claims laid out thus far. Chapter 2 presents data on the intonation systems of Standard Thai and Kham Mueang. It uses this data to argue that interrogative intonation is obligatory in Standard Thai but not available in Kham Mueang. Chapter 3 looks at how past works have treated polar questions in Standard Thai and attempts a comparative analysis of Kham Mueang while outlining the semantic and syntactic distribution of polar particles in both languages. Chapter 4 discusses Yaisomanang's (2012) disjunction-deletion model and proposes a particle model which has several advantages over Yaisomanang's approach. Chapter 5 looks at Gonzalez (2021) and uses their criteria for classifying polar particles to compare Kham Mueang and Standard Thai polar particles with polar particles in other languages. Chapter 5 also discusses potential research questions which have been identified in the course of this project.

2

Tone and intonation

There is a rich history of studying tone in the Tai-Kadai family of languages of Southeast Asia. Researchers have shown that the Tai tone systems can vary in respect to the phonetics of the tones, the number of tonal contrasts permitted, and which morphemes are assigned to a particular tone (Gedney, 1972). Within the Tai-Kadai family, most research has focused on Thai¹⁷. A survey of the available literature on Thai tonal systems reveals a diverse range of topics including Brown's (1962) early work on vowel length, Svastikula's (1986) experiment-based research on the impact of the rate of speech on vowel duration, Ruangjaroon's (2006) Optimality Theoretic approach to understanding the interaction between consonants and tones, and Luksaneeyanawin's (1998) study of the interaction between tone and intonation¹⁸.

While substantial work has been done to describe tone and intonation in other Tai languages, minimal attention has been paid to Kham Mueang. To the best of my knowledge, only two

¹⁷ Here 'Thai' refers to Standard Thai, Central Thai, and Bangkok Thai.

¹⁸ This list represents a small sample of the available research. For an extensive history of Thai language research, see Diller (2008). Their overview of Thai language resources is divided by field and highlights several works written in Thai which are often overlooked. Diller estimates that more than five hundred works have been written on various aspects of the Thai language.

studies have focused on tone in Kham Mueang, namely Gardner (1996)¹⁹ and Kirk (1998), and no research exists on the intonation system. An additional challenge for the current work is that the available research on tone in Kham Mueang has relied completely on Gedney's (1972) tone-box²⁰ to contrast the shapes of tones in different areas of Thailand, identifying dialectal differences between language communities without making any firm claims regarding the actual shape or number of the tones in the language.

This chapter provides an overview of the literature on tone and intonation in Standard Thai and then begins the important work of documenting these systems in Kham Mueang. While documentation and description are vital aspects of this project, the primary objective of this chapter is to establish the following four claims: (i) while interrogative intonation is an obligatory polar question strategy in Standard Thai, it must be used in conjunction with another polar strategy; (ii) there is no phonological basis to support the claim that the interrogative particle *máy/mǎy* is underlyingly the NEG particle *mây*²¹; (iii) Kham Mueang does not have a distinct interrogative intonation; and (iv) Kham Mueang *goh* can occur in both declarative and interrogative sentences. As such, along with contributing to the conversation on tone and intonation in Standard Thai, this chapter provides important insights into the tone and intonation systems of Kham Mueang, an endangered language which is grossly underrepresented in the literature.

This chapter is organized in the following way. Section 1 introduces key concepts relevant to the study of tone and intonation, and details the experimental model used in this chapter. Section 2 presents an overview of tone and intonation in Standard Thai and then provides original data which highlights the impact of intonation on tones in Standard Thai polar questions. Section 3 discusses the available research on tone in Kham Mueang and then provides novel data which can be used by future researchers interested in tone, intonation, and polar questions. Section 4 summarizes the findings of the chapter and comments on the implications these findings have on the rest of this project.

¹⁹ I was unable to locate this work, but it is cited in Person (1998). I have included the reference for the convenience of curious researchers based in Chiang Mai with access to this document through the Payap University archive.

²⁰ Gedney (1972) compiled a list of Tai-Kadai cognates and divided them based on their assumed tone in Proto-Tai. The objective of the tone-box method is to identify which tones are ascribed to words within a language community. While reproducing this experiment is incredibly straightforward, making use of the results beyond a dialectological assessment requires a deeper understanding of phonology and more extensive research.

²¹ The assumption that *rǎu + mây → mǎy/máy* is a linchpin of Yaisomanang's (2012) disjunction-deletion hypothesis. Yet, they provide no phonological argumentation to support the creation of this rule.

1 INTRODUCTION AND THE EXPERIMENTAL MODEL

1.1 TONE AND INTONATION

In speech production, outward flowing air from the lungs pushes apart the vocal folds, which are pulled back together by the Bernoulli effect (Sonesson, 1970). The folds then momentarily come into contact before separating once more. Fundamental voice frequency, (F_0), is the number of vibrations per second that occur when the larynx is set in motion. During ‘normal’ adult speech, this cycle is repeated around 70 to 250 times per second (Cooper & Sorensen, 1981). The perceptual correlate of F_0 is known as voice pitch (Cooper & Sorensen, 1981). Variations in voice pitch encode, among other things, information about the speaker’s age (Peterson & Barney, 1952), sex (Peterson & Barney, 1952), and emotional state (e.g., Williams & Stevens, 1972). Pitch also provides insights into structure and meaning (Cooper & Sorensen, 1981). For example, in tone languages words have prescribed pitches or sequences of pitches. The pitch contours of these phonemic tones can be impacted by tonal coarticulation and sentential intonation (Abramson & Svastikula, 1983). Cruttenden (1997) suggests that intonation can be superimposed onto tone languages in the following four ways: (i) an increase or decrease of the overall pitch level can occur for the duration of the utterance; (ii) there can be ‘downdrift’ of the F_0 of the tones; (iii) an increase or decrease can occur for the overall range of pitch; or (iv) there may be some change of the final tone.

In this chapter, I suggest that emotionally neutral utterances in Standard Thai are marked by sentential downdrift, and polar questions are marked by a sentence-final RISE intoneme. I also propose Kham Mueang has an incredibly static intonation system which lacks distinct interrogative intonation.

1.2 THE EXPERIMENTAL MODEL²²

As mentioned above, age, sex, and emotional state (among other things) can influence tone and intonation. The data for this chapter was collected through elicitations with a single language consultant who is a native speaker of both Standard Thai and Kham Mueang. Evaluating the F_0 of one speaker minimizes the effects of several variables which might complicate the data. Ideally this project would present examples found in natural speech; however, no corpus of natural speech currently exists for either Kham Mueang²³ or Standard Thai²⁴ and creating one for the purpose of this paper was not possible due to constraints on time and resources. Instead, the data for this paper was collected in a controlled setting where intonation was intentionally produced by the speaker. When necessary, the speaker was instructed to produce an utterance with the intonation associated with specific meanings (e.g., interrogative vs. declarative) and emotional states (e.g., neutral vs. excited). The speaker was later asked to revisit the audio recordings and verify that the correct intonation was used in each instance. The same procedures were followed for both Kham Mueang and Standard Thai. While there is no research available to check my results in Kham Mueang, I was able to cross-reference my Standard Thai data with the findings presented in past research. The intonation patterns produced under these conditions closely resembled those predicted by Luksaneeyanawin (1998) as well as Charnvivit et al. (2003). As the language consultant was consistently able to accurately produce the requested Standard Thai intonation patterns, I assume they were capable of doing the same in Kham Mueang.

²² The data collection process for this paper was carefully designed to generate reliable results concerning tone and intonation in Standard Thai and Kham Mueang. Some researchers have asserted that only native or near-native speakers of a language can accurately describe the intonational systems of a language (Hirst, Daniel; Di Cristo, Albert, 1988). While I do not subscribe to this school of thought, I considered it a warning to exercise additional caution in description.

²³ To be clear, there is currently no corpus of Kham Mueang, written or spoken. The most accessible collection of Kham Mueang words can be found in the 53-page ‘Northern-Central Thai Dictionary’ (Tumsorn & Chansiriyotin, 1986), though there is no phonetic transcription. Instead, Kham Mueang is transcribed in a slightly modified Thai script.

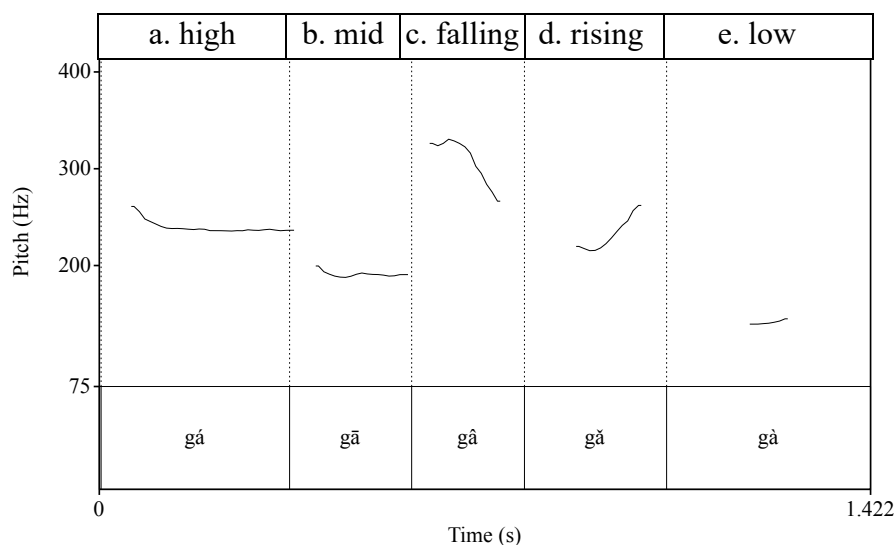
²⁴ The HSE Thai Corpus contains 50 million tokens of Thai collected mostly from news and websites, but there is no spoken Thai component of this or any other corpus.

2. TONE AND INTONATION IN STANDARD THAI

2.1 TONE

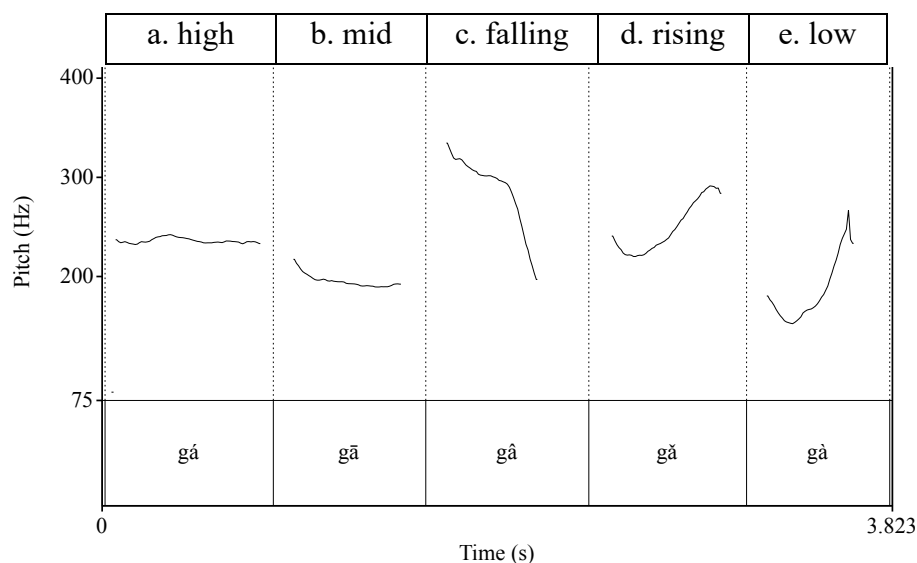
For the purpose of this paper, I adopt the view that Standard Thai has an inventory of five contrastive lexical tones which can be divided into two categories (Abramson, 1962, 1975 and Teeranon, 2007)²⁵. In the first category we find three relatively static or level tones. Traditionally, these have been the high tone, mid tone, and low tone, though, as I will discuss shortly, the status of the high tone has recently been reevaluated. The second category consists of the dynamic or contour tones; namely the falling tone and rising tone. Aside from pitch, Standard Thai has contrastive vowel duration. The contour lines in (28) represent the five short tones in Standard Thai while the contour lines in (29) represent the five long tones.

(28) Standard Thai 5 short tones



²⁵ While some have suggested that there are six tones in Standard Thai, the commonly accepted five-tone model aligns more closely with the native speaker intuitions of our language consultant.

(29) Standard Thai 5 long tones



These F_0 tracings provide insights into both the tone and intonation systems of Standard Thai. They also establish a baseline of what to expect from the native speaker recorded for this project. When comparing the results in (28) with those in (29), we can make the following observations. First, the increase in vowel length does not greatly impact the average F_0 of the two leftmost tones, the high tone and mid tone. Additionally, these tones remain relatively static in both environments. In contrast, the two dynamic tones, rising and falling, demonstrate a noticeable increase in range of pitch when produced with a long vowel. This is expressed visually by the exaggeration of the dynamic movement from the initial F_0 to the final F_0 as seen in (29). A final drop in F_0 for the rising tone can also be detected. Perhaps the most profound consequence of the production of the long vowel can be seen when comparing the low tone produced in (28) with the low tone in (29). In (28), the low tone appears to be static, whereas the low tone in (30) is undeniably dynamic. I see the following potential explanations for this dynamicity: (i) tonal shift throughout the language community has resulted in a novel low-rising tone or; (ii) the decreased rate of speech in (29) inadvertently triggered an intonational effect which impacted the series final tone. I briefly address these possibilities below.

First, concerning possibility (i), tonal shift, we turn to Teeranon (2007). Having conducted perceptual experiments with a diverse set of native Standard Thai speakers, Teeranon demonstrates the ways in which tones have changed over the past one hundred years. The primary focus of their paper is to describe the change of the high tone, which they found is changing from high-level to mid-rising. However, they also note in their study that the low

tone has not changed in a significant way. This suggests that the shape of the low tone in (29) does not represent the underlying shape of the tone. Having discounted possibility (i), it seems then that (ii) must be the cause for the dynamic final tone. However, a brief introduction to the Standard Thai intonation system is required to validate this suspicion.

2.2 INTONATION

According to Luksaneeyanawin (1998), intonation in Standard Thai operates under a “Tune System”. In the system there are four tunes divided into three classes. These are represented in table 2.0, below.

Table 2

Standard Thai Tune System	
Class 1: ‘Downdrift ²⁶ ’ or ‘Fall Class’	Tune 1 and Tune 3
Class 2: ‘Rise Class’	Tune 2
Class 3: ‘Convolution Class’	Tune 4

Each tune corresponds to specific discourse types and speaker attitudes. Below is a reproduction of Luksaneeyanawin’s table (1998, pp 387) which schematizes these correlations. Under the influence of different tunes, the same tone surfaces with different but predictable absolute frequencies and contours that clearly correlate to their prototypical norms. In other words, though intonation causes increases and decreases of absolute frequency of items within an utterance it does not affect the phonological system of tones. Phonological tones retain their own distinct phonetic features which distinguish them from other tones.

²⁶ See Connel (2001) for a discussion on the differences between downdrift, downstep, and declination. For the purposes of this paper, the term downdrift will be used to describe the downtrend of F_0 in Standard Thai following Luksaneeyanawin’s (1998) usage of the term. Declination will also be used in reference to the downtrend of F_0 in a given utterance, though I adopt the common usage of this term which is less theoretically charged.

Table 2.1

Summary of grammatical and attitudinal meanings for the 4 tunes			
Note: the tunes marked * are distinguished from others in the same group by other prosodic features ²⁷ .			
Tune 1	Tune 2	Tune 3	Tune 4
1. Statement 2. Citation form 3. Attitudinally unmarked 4. Submissive*	1. Question 2. Disagreeable 3. Disbelieving 4. Surprised 5. Unfinished	1. "Telephone-Yes" 2. Concealed ander 3. Bored 4. Authoritative*	1. Emphatic 2. Anger 3. Very agreeable 4. Very interested 5. Very believing

Applying Luksaneeyanawin's framework to the mystery of the dynamic low tone seen in (29), above, we discover the following solution. The list of short vowel tones, seen in (28), was uttered in an 'attitudinally unmarked' manner, i.e. Tune 1, while (29) was produced with an 'unfinished' quality, i.e. Tune 2, resulting in a sequence-final rise in tone. Essentially, because the production of (29) required a change of rate of speech, the longer duration of the vowels caused an accidental shift of tune. This hypothesis is confirmed as we find the surface shape of the sequence-final low tone matches the predicted shape of a low tone uttered in tune 2; tune 2 correlates to class 2, the Rise Class, and the rise of the final tone reflects the impact of intonation.

This exercise in understanding the root cause of a seemingly unexpected tone shape in a single piece of data might seem somewhat tangential. However, I argue that it has already provided an excellent set of results. First, it has introduced the work of Luksaneeyanawin (1998) and, to some extent, validated their claims. Second, it has demonstrated the impact of intonation on tone through a comparison of two pieces of data in which the only distinction should be a difference in vowel length. This demonstrates the complicated nature of this research and provides clear evidence for the need to limit variables in the data collection process. Third, this exercise has shown the effect of a segment-final Rise intoneme on an

²⁷ This note comes from Luksaneeyanawin's original table. 'Other prosodic features' refers to such things as intensity and rate of speech.

individual tone. This will be important in later sections as we discuss the sentence-final RISE intoneme associated with polar questions.

Moving forward, the values in (28) serve as baseline for pitch values and tone shapes in Standard Thai, as they closely resemble what Abramson and Svastikula (1983, p 143) refer to as “ideal” pitch contours. In their work they note that “ideal” is an abstract concept which cannot be achieved in actual speech. While the impact of tonal coarticulation, segmental features, and sentential intonation makes capturing such an ideal an unattainable goal²⁸, the tones in (28) generally take the shapes predicted by Standard Thai orthography and modern research. As such, the images in (28) represent my best attempt to represent an abstract ideal in concrete terms. Any deviation from these “ideal” pitch contours should be considered relevant to the discussion of the Standard Thai intonation system.

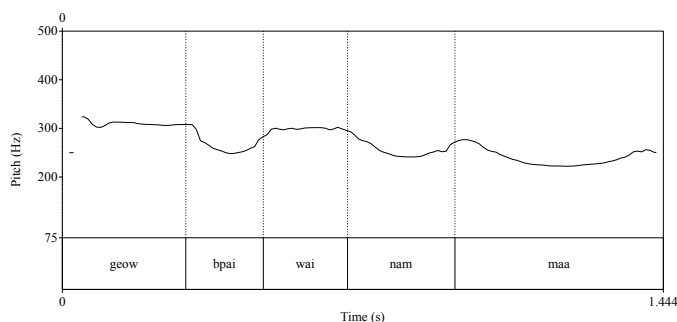
The following subsections highlight the fundamental features of Standard Thai intonation through an exposition of images which depict pitch contour lines in increasingly complex sentence structures. By presenting the data in this way, I am able to simultaneously describe the Standard Thai intonation system and introduce the basic syntax of the language.

2.2.1 INTONATION OF DECLARATIVES

2.2.2.1 INTRANSITIVES

Standard Thai is an SVO language which relies heavily on context to convey meaning. The subject is routinely elided in conversation, and the overt tense, mood, and aspect markers are often completely optional. In example (30), the only obligatory element is the verb. Assuming the information can be derived contextually, all other elements are entirely optional.

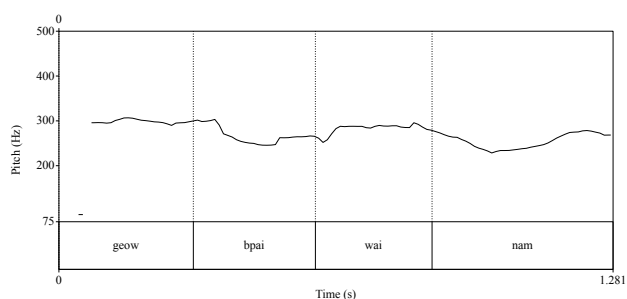
- (30) (Geow) (bpai) wai.nam (maa)
 Geow ASP swim PST
 ‘Geow swam.’



²⁸ Perceptual experiments have demonstrated that participants struggle to identify certain tones uttered in isolation. An addressee requires additional input to establish the average range of the speaker. Delivering the tones in list form provides the necessary input and creates a clear distinction between tones. This requirement creates the unavoidable problem of the individual tones being influenced by external factors.

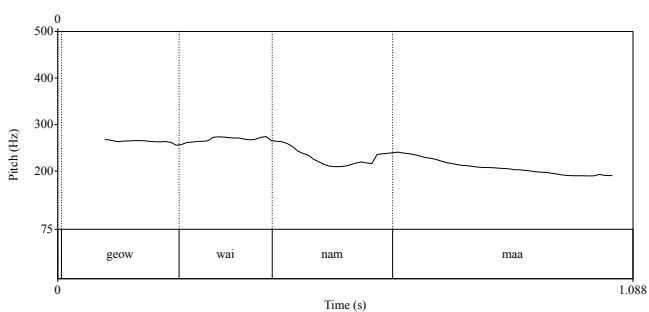
The distinct downtrend in (30) above is representative of Luksaneeyanawin’s class-1 intonation pattern. The production of this intonation pattern is predicted by the fact that this sentence was read in an emotionally neutral state; recall that tune-1 corresponds to class-1. In (31) below, the absence of the final element, *maa* ‘PST’, does not change the shape of the overall sentence nor of the individual tones. However, the duration of the vowel in *nam* ‘water’ is longer in sentence-final position. The language consultant suggested that vowel elongation is a common feature of sentence-final words; further research is needed to verify this. While this chapter primarily focuses on the relation between intonation and pitch, this data highlights the inextricable link between intonation and both the rate and intensity of speech.

(31) geow bpai wai.nam
 Geow ASP swim
 ‘Geow swam.’



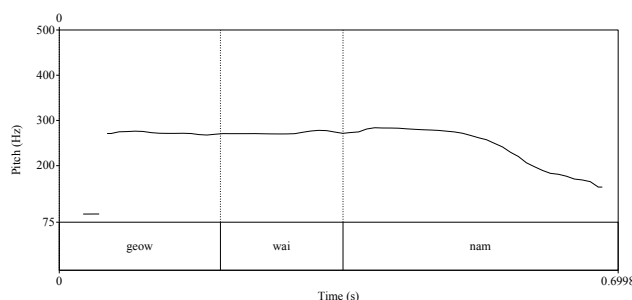
In (32) below, the first three tones remain consistent with the expected shapes. However, the past tense marker *maa* undergoes a noticeable transformation and no longer resembles an ‘ideal’ rising tone. Again, this is predicted by Luksaneeyanawin (1998), as the class-1 intonation pattern is marked by downdrift.

(32) geow wai.nam maa
 Geow swim PST
 ‘Geow swam.’

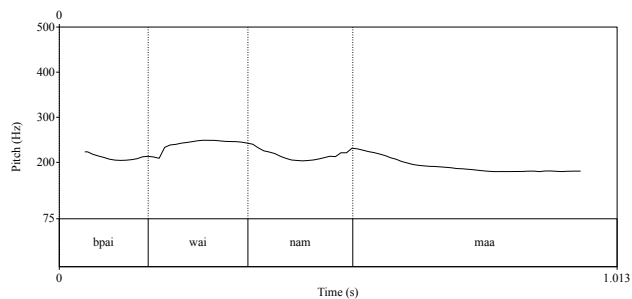


Below, in (33) through (36), the sentence-final vowels are noticeably longer, and the contour of each sentence has a visible downward trajectory.

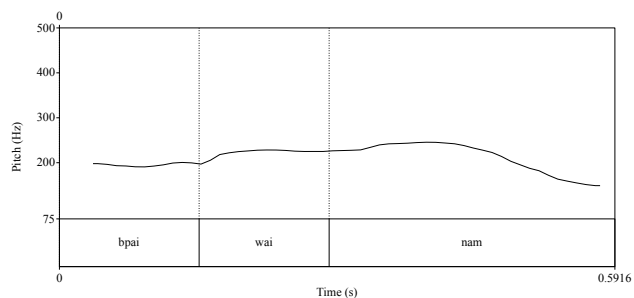
(33) geow wai.nam
 Geow swim
 ‘Geow swam.’



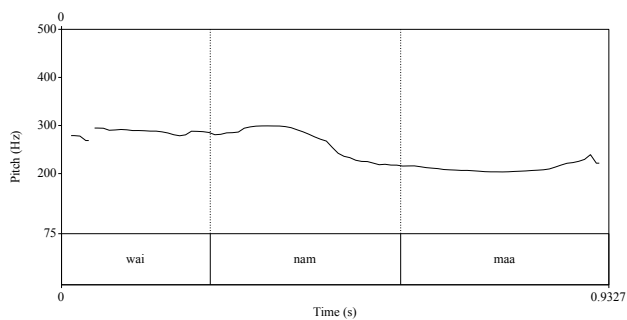
(34) bpai wai.nam maa
 ASP swim PST
 ‘Geow swam.’



(35) bpai wai.nam
 ASP swim
 ‘Geow swam.’

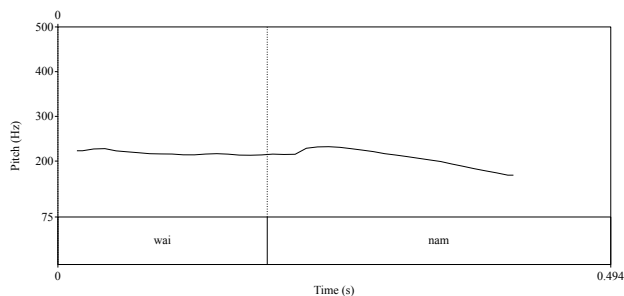


(36) wai.nam maa
 swim PST
 ‘Geow swam.’



The final possible permutation of these elements, which still preserves the ‘Geow swam’ meaning, can be seen in (37) below. Despite all other elements having been elided from the sentence, this utterance follows the expected intonational pattern.

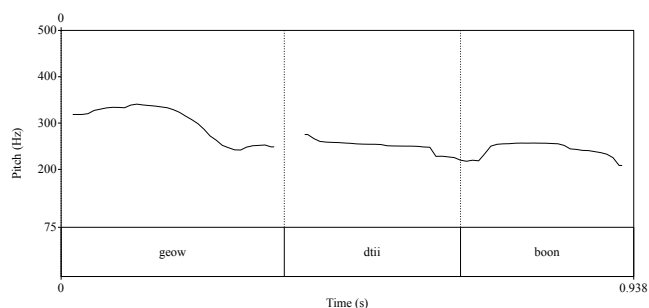
(37) wai.nam
 swim
 ‘Geow swam.’



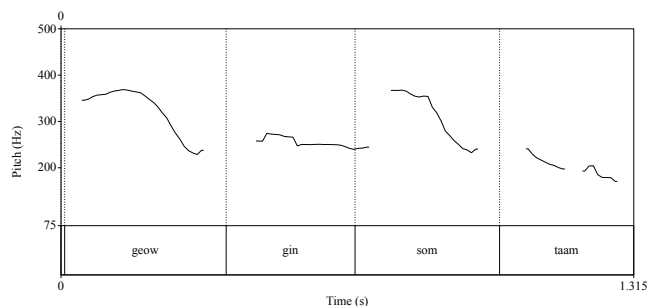
2.2.2.2 TRANSITIVES

The data in this section represents a series of utterances produced in an emotionally neutral state which would be classified by Luksaneeyanawin (1998) as Tune-1. Once again, Tune-1 utterances correlate to class-1 intonation patterns, and as predicted, we consistently see declination throughout the sentences. In other words, the peaks of the tones are progressively lower.

- (38) geow dtii boon
 Geow hit Boon
 ‘Geow hit Boon.’

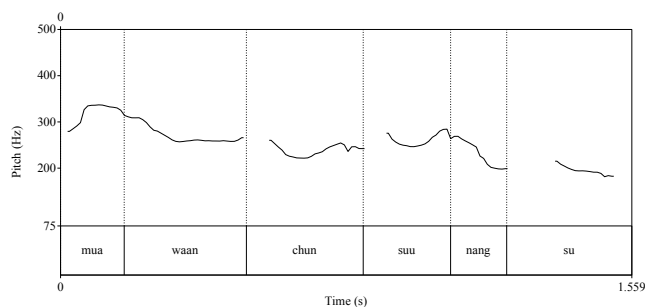


- (39) geow gin som.taam
 Geow eat papaya.salad
 ‘Geow eats papaya salad.’

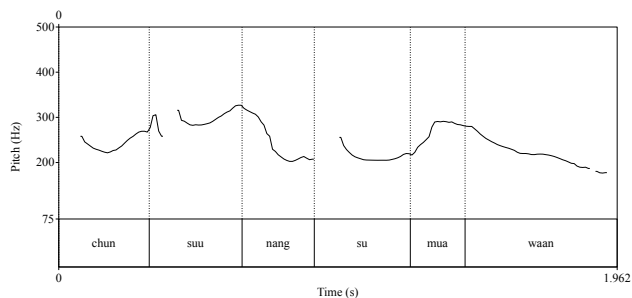


Interestingly, in (40) and (41), the Standard Thai word for ‘yesterday’ *mua.waan* can appear at the beginning or the end of the sentence without changing the contour of the overall sentence. This indicates that the entire construction is one intoneme, or unit of intonation. In other words, the word *mua.waan* lies within the same intonational boundary as the rest of the sentence.

- (40) muu.waan chun suu nangsu
 PST.day 1SG buy book
 ‘Yesterday, I bought a book.’



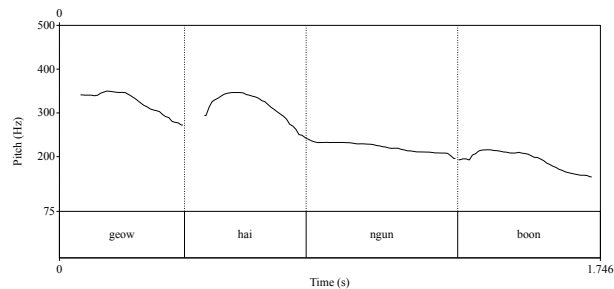
(41) chun suu nangsu mua.waan
 1SG buy book PST.day
 ‘Yesterday, I bought a book.’



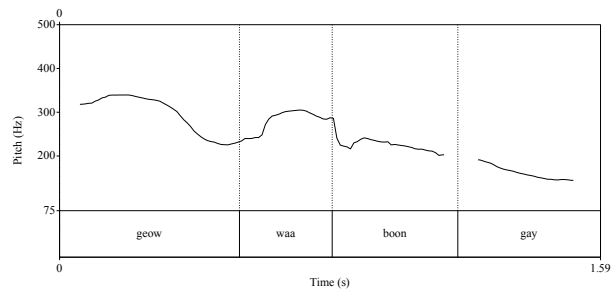
2.2.2.3 DITRANSITIVES

Next, we look at Standard Thai intonation in sentences with ditransitive verbs, we notice the same trends as above. In examples (42) and (43), we see general declination while the individual words retain their expected shapes.

(42) geow hai ngun boon
 Geow give money Boon
 ‘Geow gave Boon money’



(43) geow waa boon gay
 geow call boon old
 ‘Geow called Boon old.’



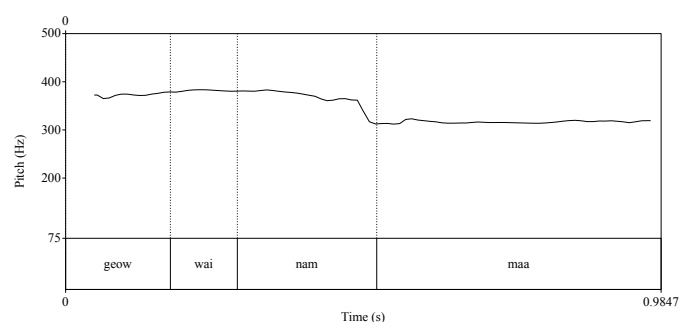
Having demonstrated that statements made in Standard Thai using tune-1 have a predictable shape regardless of the valency of the verb or the sentence length, I will now discuss the role of intonation in interrogatives.

2.2.2 INTONATION OF POLAR QUESTIONS

As suggested by the title, this section describes intonation in polar questions. For the most part, the interrogatives discussed correlate to declaratives in the sections above. When appropriate, images of the declaratives have been reproduced to provide a more pleasant reading experience.

To begin this section, we recall that one research question this chapter hopes to answer is whether or not interrogative intonation is available as an independent polar question strategy in Standard Thai. The data in (44), below, represents an attempt by our language consultant to change the declarative sentence *geow wai.nam maa* ‘Geow swam’ into a polar question through a manipulation of intonation. Despite their sincerest effort to imagine such a strategy, the speaker was unable to affect an intonation which conveyed a polar question meaning for this sentence. The objective of this utterance was to produce a tune-2, class-2 intonation pattern²⁹. It was reported to be impossible and sounded ‘very funny’ when attempted. This confirms interrogative intonation is not an independent polar question strategy in Standard Thai.

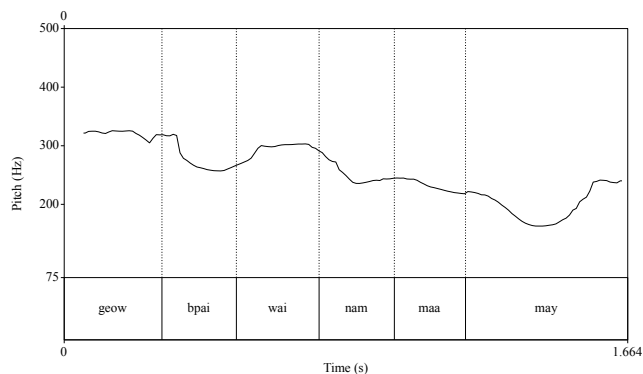
- (44) **geow wai.nam maa*
Geow swim PST
*‘Geow swam?’



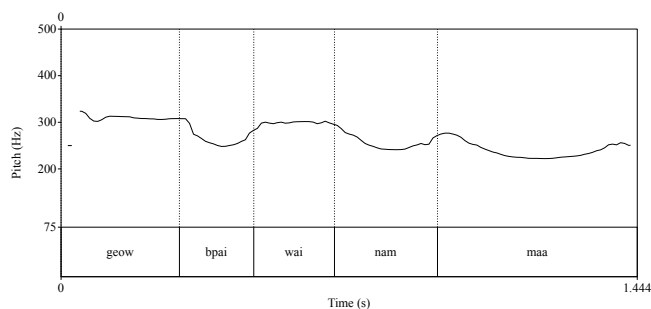
However, this does not suggest that Standard Thai lacks interrogative intonation. Looking at (45a), below, we see a clear downtrend throughout the sentence followed by a sentence-final rise in pitch associated with the question word. When comparing the shape of the proposition in (45a) with the shape of the entire declarative sentence in (45b), we see that the contours of these portions are roughly equivalent, though (45a) demonstrates a slightly greater downtrend, theoretically to create a greater contrast with the sentence-final rise.

²⁹ An English example of interrogative intonation was used to explain the requested sentence type. The speaker was adamant that there is no equivalent in Standard Thai.

(45) a. geow bpai wai.nam maa may
 Geow ASP swim PST Q
 ‘Did Geow swim?’

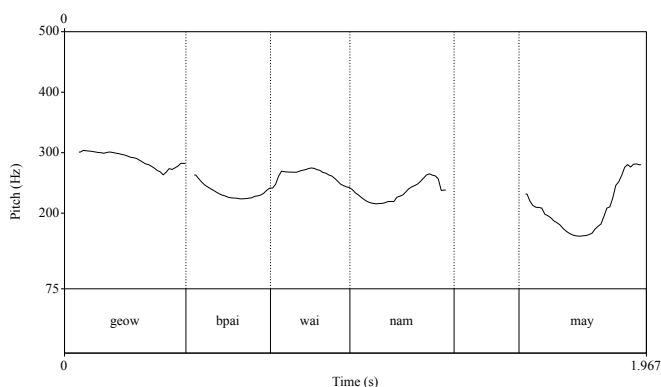


b. geow bpai wai.nam maa
 Geow ASP swim PST
 ‘Geow swam’



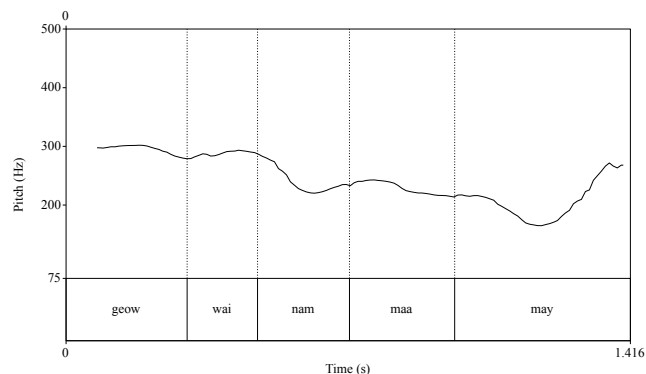
This indicates that, in a polar question, there is an intonational boundary between the proposition and the question word. I argue that the terminal intoneme in Standard Thai polar questions is a Rise intoneme³⁰. Evidence in support of this claim can be seen in the following examples. In (46) and (47), the downtrend of the propositions is clearly separate from the sentence-final increase in pitch of the interrogative particle.

(46) geow bpai wai.nam may
 Geow ASP swim Q
 ‘Did Geow swim?’



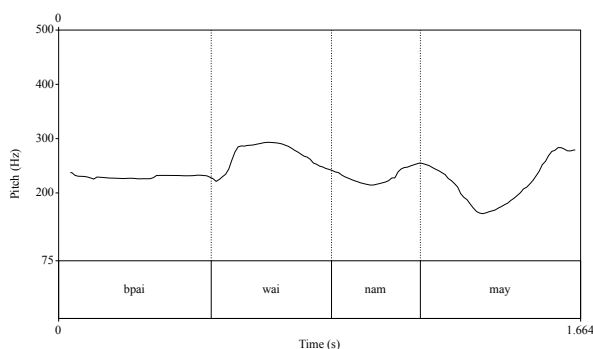
³⁰ For an interesting discussion on tone and intonation, see Caron (2015). Their work provides an excellent background on terminal intonemes and discusses key questions researchers must address when investigating intonation.

(47) geow wai.nam maa may
 Geow swim PST Q
 ‘Did Geow swim?’



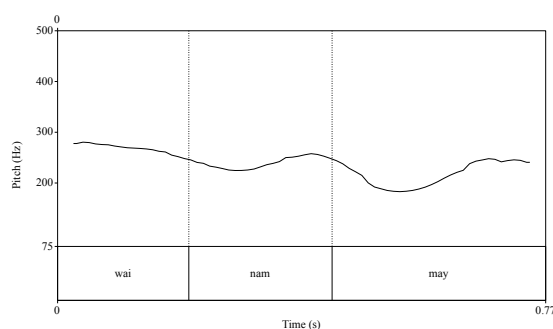
Interestingly, when an utterance beginning with a low tone is sufficiently brief, then the peak of the final tone can have a higher F_0 than the peak of the initial tone. This fact is observable in (48) below.

(48) bpai wai.nam may
 ASP swim Q
 ‘Did Geow swim?’



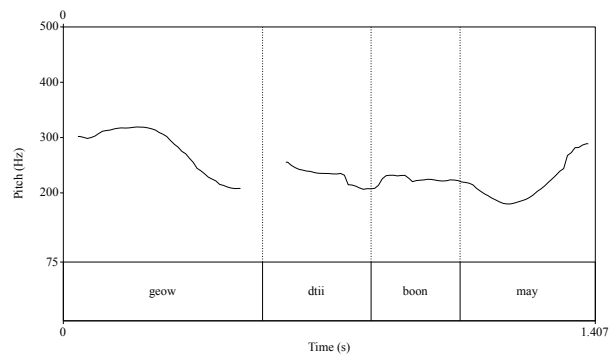
However, in (49) there is an overall decrease in F_0 as the terminal rise in pitch is counterbalanced by the height of the initial height of the first tone of the proposition. Still, the effect of the terminal Rise intoneme can be detected as the high tone of the question particle has a peak roughly equivalent to the peak of the adjacent falling tone.

(49) wai.nam may
 swim Q
 ‘Did Geow swim?’

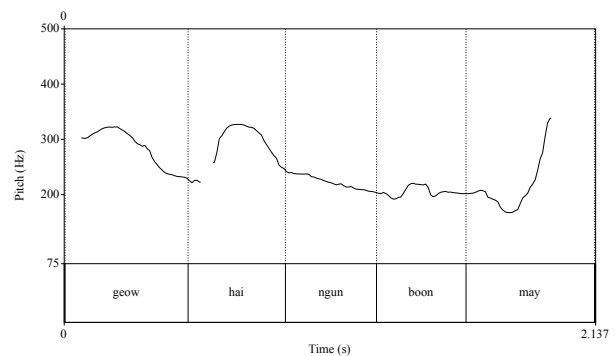


As expected from our discussion of intonation in declaratives, we see the same patterns regardless of the valency of verbs. See (50) and (51) below.

(50) geow dtii boon may
 Geow hit Boon Q
 ‘Did Geow hit Boon?’



(51) geow hai ngun boon may
 Geow give money Boon Q
 ‘Did Geow give money to Boon?’



Based on the data presented thus far, we see that the proposition of a polar question uttered in a neutral emotional state shares the same intonation pattern as an emotionally neutral statement: both are marked by downdrift. However, the polar question particle lies outside of the intonational boundary of the proposition and is assigned its own intoneme. The terminal Rise intoneme in polar questions accentuates the underlying height of the interrogative particle *máy*, causing a dynamic rise in F_0 , which exceeds the values predicted were the same toneme to be contained within the intonation boundary of the preceding downward trending intoneme. I argue this is clear evidence that interrogative intonation is an obligatory polar question strategy in Standard Thai. Later chapters will show how this analysis helps to support my proposed typology of Standard Thai polar question particles.

Having established that interrogative intonation is a polar question strategy, we now consider Yaisomanang’s claim that the disjunction marker *ruu* and the negation word *mây* combine to form the question particle *măy/máy*. This claim is essential to their proposal that all polar questions in Standard Thai are underlyingly disjunctions which obligatorily contain the particle *ruu*, either covertly or overtly. While Yaisomanang creates a morphological rule

which states that $r\check{u} + m\hat{a}y \rightarrow m\check{a}y/m\hat{a}y$, they provide no phonological basis for this rule. In an attempt to evaluate the validity of this claim, I consider the possible motivations for this transformation. The two primary mechanisms which might cause this transformation include the impact of interrogative intonation or tonal feature assimilation. However, according to Luksaneeyanawin (1998), intonation in Standard Thai does not change the underlying shape of the tone. Therefore, $m\hat{a}y$ Neg must surface with a falling tone. Since the interrogative particle in polar questions always surfaces with a high or rising tone, the underlying tone must be either high or rising. If we are to assume the motivation of this morphological rule is assimilatory in nature, then we must assume that $m\hat{a}y$ NEG takes on the tonal features of $r\check{u}$ ‘or’ before deletion. In this case, there must be other instances in which deletion triggers tonal assimilation. In the many examples of elision presented in this chapter, this never happens; an elided element never imprints its features on adjacent tonemes. As such, there is no reason to accept the ad hoc morphological rule presented in Yaisomanang (2013).

This section has demonstrated that interrogative intonation is an obligatory polar question strategy in Standard Thai. It also presented evidence that Standard Thai polar interrogative intonation is marked by a sentence-final Rise intoneme. Importantly, I have argued that sentential downdrift binds the upward limits of F_0 of tones within the intonational boundary of the proposal, and as the polar question particle is outside of those boundary lines, the upward limit of F_0 of the sentence-final polar question particle is unbound. This serves as confirmation that polar question particle is obligatorily marked by interrogative intonation.

Having established these facts, we now shift our focus to Kham Mueang. There has been no research on intonation in Kham Mueang and all claims in the ensuing sections reflect my own research on the subject. The facts established about Standard Thai tone and intonation in the current section will serve as a template for our discussion of Kham Mueang.

3. TONE AND INTONATION IN KHAM MUEANG

As mentioned throughout this paper, Kham Mueang is a severely understudied language with no written grammar. While a few works exist which have briefly touched on the Kham Mueang

³¹ Later sections discuss past researchers use of the IPA to represent this particle. While I generally opt not to use the IPA when reporting Standard Thai and Kham Mueang data, for reasons I will expand upon later, I represent Yaisomanang’s work as it was originally transcribed.

tone system, the intonation system of the language remains completely undocumented. This section presents novel data and observations which aim to provide future researchers with the essential facts about tone and intonation in the language, and it is organized in the following way. Section 3.1 begins with a literature review of the available research on tone in Kham Mueang. Section 3.2 then provides a rough sketch of the tone system and identifies five distinct lexical tones. Section 3.3 introduces the intonation system and its effect on individual tones in declarative sentences. Finally, section 3.4 identifies the characteristics of interrogative intonation in Kham Mueang and considers whether interrogative intonation is an available polar question strategy by evaluating pitch contour lines of the question particles in different positions.

3.1 LITERATURE REVIEW

William J. Gedney's work on the Tai-Kadai family provides an incredible set of resources for exploring etymology through tonal variation in the Tai languages. However, even this work only skims the surface when discussing the tone system used in Kham Mueang. In a fairly recent compilation of Gedney's work, there is only a brief description of the 'dialect of Chiangmai' which is said to be found in and around the city of 'Chiangmai³²' in northern Thailand (Hudak, 2007, p. 23). Gedney suggests this dialect has six tones, though it should be noted that this claim was based on an impressionistic analysis (Person, 1998) of uncited data (Hudak, 2007).

Current research typically classifies the language spoken in Chiang Mai as a dialect of Kham Mueang³³. Kham Mueang has two main dialects outside of Chiang Mai which can be identified based on their tonal differences. The boundary for these two dialects is drawn between the Thai states of Lamphun and Lampang. The language consultant for this project comes from a small village in a valley directly on this border. So, while Gedney has reported that the Chiang Mai language has six tones, the language consultant for this project asserts that her dialect only has five. As existing research on the subject is limited, it is impossible to conclusively confirm the current use of a sixth tone in any Kham Mueang dialect. Even

³² Currently spelled Chiang Mai.

³³ Alternative spellings include Kam Meuang and kammuang, among others. It is also referred to as the Northern Thai, Yuan, or Lanna language.

Person's (1998) research, which was designed specifically to describe the tones in the Kham Mueang dialects of Lampang and Chiang Rai, fails to classify the tones in either dialect³⁴. While I ultimately rely on the native speaker intuitions of my own language consultant³⁵, I hope that future researchers are able to conduct more in-depth studies which can conclusively identify the tones across different dialects of Kham Mueang.

3.2 TONE

Orthographically speaking, Kham Mueang is expected to have six tones. Unfortunately, Kham Mueang speakers typically lack access to their own traditional writing system, e.g., all school materials and government documents are written with the Thai script. As a result, the consultant for this project can neither read nor write in Kham Mueang³⁶ and was unaware that the Kham Mueang alphabet has six tones. However, despite their lack of familiarity with the writing system, the language consultant was confident that only five tones exist in the Kham Mueang of Mae Tha, Lamphun.

The language consultant also informed me that vowel length is not a contrastive feature in Kham Mueang. Whereas in Standard Thai, CV_i and CV_iV_i represent two distinct words, in Kham Mueang there is no such contrast. The table below represents the possible tones and vowel lengths according to the native speaker intuitions of the language consultant.

³⁴ Person's (1998) analysis used Gedney's tone box system to compare the tones of several cognates. While this method provides a simple and replicable experimental model for identifying dialect boundaries, analysis of the tones in the language requires additional metrics which were not used.

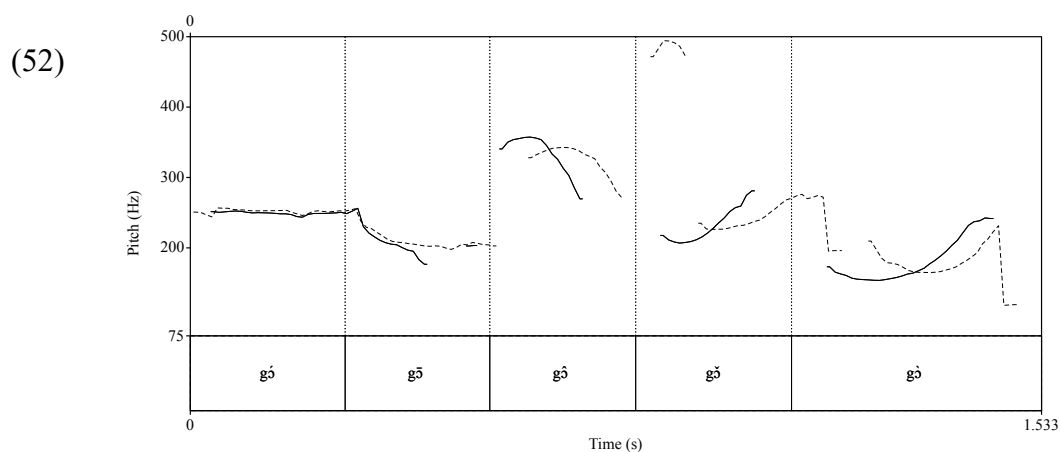
³⁵ Tests were conducted to verify the speaker's intuitions. This included having the language consultant listen to a Wikipedia sound file entitled 'the six phonemic tones of Northern Thai' (2022). This page does not identify the source of the file and there is no way to tell which region of northern Thailand this speaker is meant to represent. My speaker said these six tones do not reflect the language used in their dialect. In perceptual tests, they conflated the fourth and sixth tone.

³⁶ Note the language consultant is highly educated, having received a MS in Agricultural Sciences from Chiang Mai University. While she was never taught the Kham Mueang script, she can read and write in both Standard Thai and English. I mention this to highlight the extent to which Kham Mueang script is absent from the educational system in Northern Thailand.

Table 2.2

	tone	duration	example
1.	low/ low-rising	short	gò
2.	mid	short	gō
3.	high	short	gó
4.	falling/high-falling	short	gô
5.	rising/mid-rising	short	gǒ

The contour lines of these five tones are represented in (52), below. As with the Standard Thai data, they were recorded in succession to establish the relative frequency. I have included the results from two recordings to demonstrate that the second tone is in fact relatively static. This can be seen more clearly in the dashed line. While I am reluctant to make any definitive claim on the shape of these tones, it appears that there are at least five distinct tones: the high tone, the mid tone, the high-mid (falling) tone, the mid-high (rising), and the low-mid (rising) tone. Again, I must point out that these are only preliminary findings and conducting an in-depth analysis of the tones is beyond the scope of this paper. Fortunately, these cursory observations will be sufficient to the task at hand: understanding the impact of intonation on tones during the formation of polar questions.



3.3 INTONATION

This section represents the only documented research on intonation in Kham Mueang. It also introduces the first recorded description on basic Kham Mueang syntax. My discussion of Kham Mueang intonation begins with an investigation of how tones surface in different

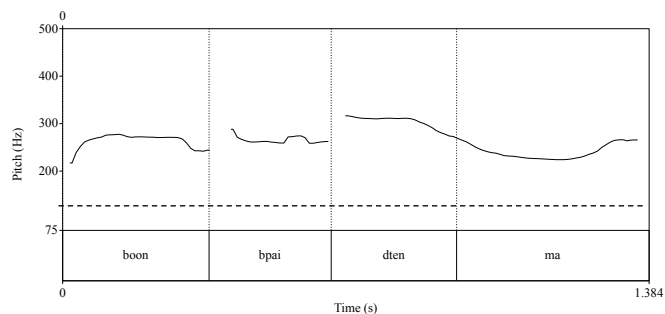
declaratives when produced in an emotionally neutral state. After establishing some basic facts about the intonation system, I then discuss how tones surface in polar questions. The major findings of this section are that (i) declination is not a feature of Kham Mueang emotionally neutral speech; (ii) the shape and absolute frequency of individual tones are not affected by intonation effects or the shape of adjacent tones in emotionally neutral utterances; and (iii) interrogative intonation is not a polar strategy in Kham Mueang because there is no distinction between polar questions and declaratives in Kham Mueang.

3.3.1 DECLARATIVES

3.3.1.1 INTRANSITIVES

Like Standard Thai, Kham Mueang is an analytic language that freely drops elements when meaning can be derived contextually. The parenthetical elements in (53) are optional and can be omitted without altering the ‘Boon danced’ interpretation.

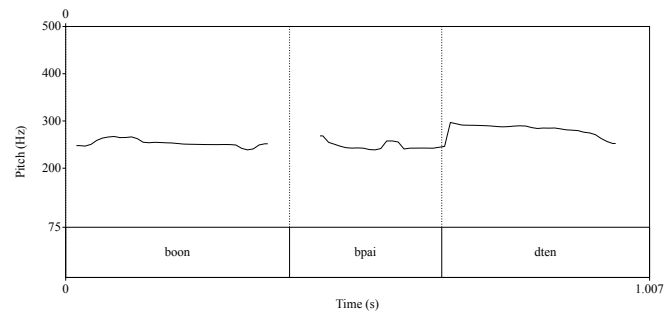
(53) (boon) (bpai) dten (ma)
 Boon ASP dance PST
 ‘Boon danced.’



Looking at the initial and final values of pitch for (54), we find the first exciting result: sentential declination of absolute frequency is not an intrinsic feature of Kham Mueang statements produced in a neutral emotional state. The initial pitch of (54) was recorded at 217 Hz, and the final pitch measures in at 265.6 Hz. However, if we are to focus on the peaks instead of the initial and final F_0 , then we must note that the peak of the first tone is higher than the peak of the last tone. As such, further evidence is required to determine if declination actually occurs.

In (54) below, there is no such ambiguity. In this example, regardless of whether you measure the tone's phonetic target³⁷, the maximal pitch of the peaks, or the initial and final F₀, the values demonstrate no sign of downtrend. The final peak is clearly higher than the initial peak, and the sentence shows a slight increase in pitch from start to finish, rising from 248.0 Hz to 253.2 Hz. This further supports my claim that declination is not an inherent feature of intonation in emotionally neutral Kham Mueang statements.

- (54) boon bpai dten
 Boon ASP dance
 'Boon danced.'

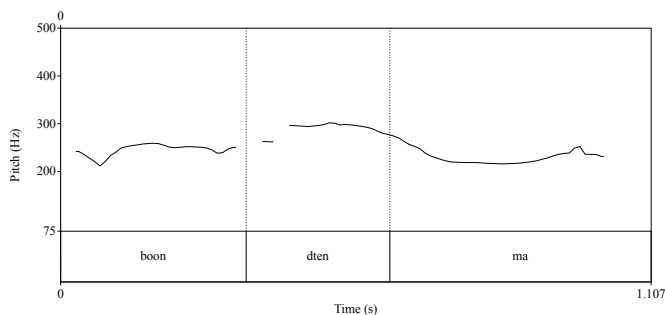


Focusing more specifically on the shapes of the individual tones, we encounter our second discovery: when a lexical tone is produced in a statement with neutral emotion, it retains its shape regardless of its position in the intonational phrase and irrespective of the shape of neighboring tones. Notice, unlike Standard Thai, in the Kham Mueang data shown in (54) there is no increase in vowel duration for the sentence-final word and, more importantly, there is no change in the shape of the verb when it is sentence-medial or sentence-final.

In (55), below, the initial pitch measures 249.4 Hz and the final pitch measures 235.1 Hz. This serves as the first example of an overall decrease in pitch in a Kham Mueang sentence and eliminates the possibility that emotionally neutral statements are marked by sentential inclination. It appears, unlike Standard Thai, Kham Mueang does not adjust the pitch of individual words to maintain a prosodic effect across the sentence. Instead, Kham Mueang prioritizes faithfulness of the features of individual tones.

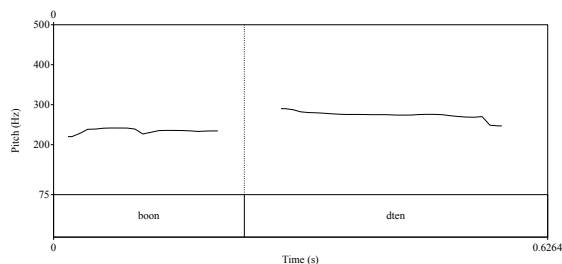
³⁷ Akinlabi and Liberman (2001) discuss the notion of the phonetic target of a tone. They suggest the phonetic target of a High tone is the highest F₀ and the target of the Low tone is the lowest F₀. For the purpose of this research, I have chosen not to rely on this metric since the evaluation of phonetic targets requires a greater amount of data and is not necessary for the claims made in this paper. However, future research on intonation in Kham Mueang might benefit from incorporating this concept into the analysis.

(55) boon dten ma
 Boon dance PST
 ‘Boon danced.’

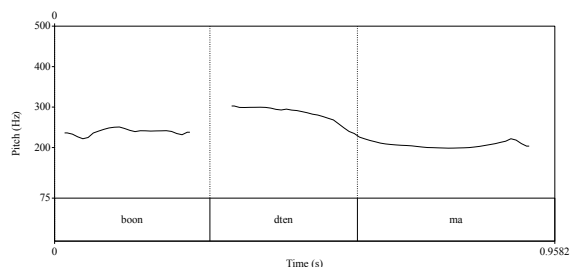


In all potential permutations of the declarative sentence, *boon bpai dten ma*, which maintain the ‘Boon danced’ interpretation, the contour of each tone retains its underlying shape regardless of the presence or absence of adjacent tones. This can be seen clearly in (56) through (60). Focusing on the verb *dten*, we see the initial F_0 is typically close to 300 Hz and the final F_0 is typically closer to 200 Hz.

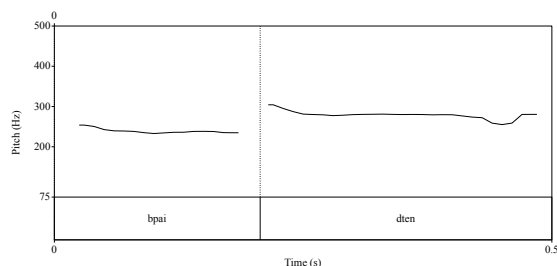
(56) boon dten
 Boon dance
 ‘Boon danced.’



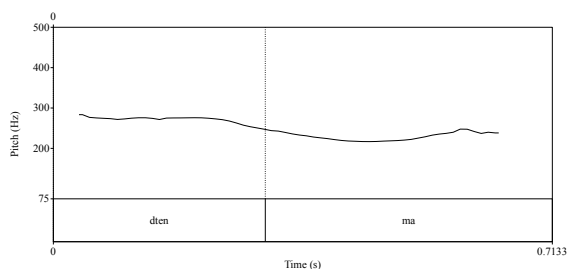
(57) bpai dten ma
 ASP dance PST
 ‘Boon danced.’



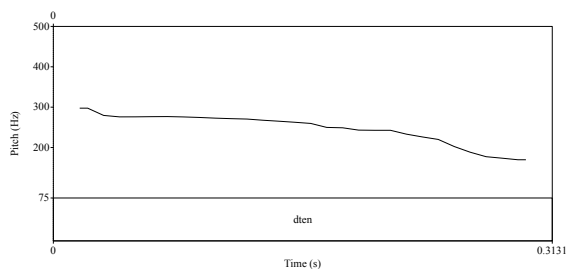
(58) bpai dten
 ASP dance
 ‘Boon danced.’



(59) dten ma
 dance PST
 ‘Boon danced.’



- (60) dten
 dance
 ‘Boon danced.’



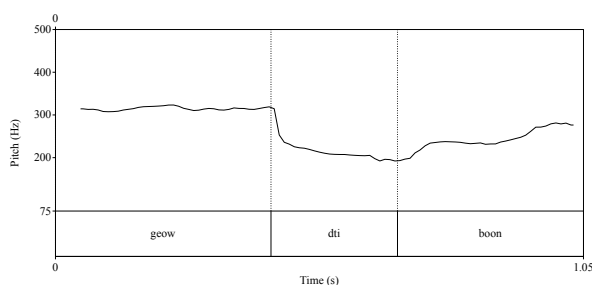
Based on the patterns evident in the data above, I draw the following conclusion. Kham Mueang declaratives with intransitive verbs are not subject to the same prosodic effects as Standard Thai, assuming they are uttered in an emotionally neutral state. The following subsections attempt to broaden and strengthen this claim through a discussion of increasingly complex sentences.

3.3.1.2 TRANSITIVES

The juxtaposition of the Kham Mueang data in (61) with the Standard Thai equivalent in (62) demonstrates quite clearly that Kham Mueang and Standard Thai have two very distinct intonation systems. Unlike Standard Thai tones, which are subject to intonation effects and feature assimilation, Kham Mueang tones uttered in emotionally neutral declaratives surface with a shape which resemble their ‘ideal’ pitch contour. Notice the downward trend in the Standard Thai data and the lack of sentential declination in the Kham Mueang data.

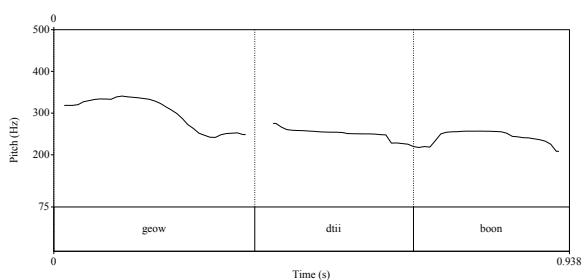
- (61) Kham Mueang:

geow dti boon
 Geow hit Boon
 ‘Geow hit Boon.’



- (62) Standard Thai:

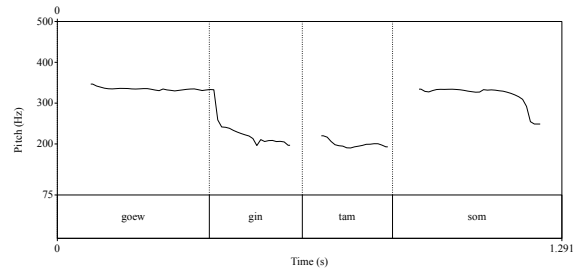
geow dtii boon
 Geow hit Boon
 ‘Geow hit Boon.’



In (63), below, this claim is verified as *Geow*, a common name in Northern Thailand, has a pitch contour and average F_0 almost identical to *Geow* in (61), above. However, when this name is embedded in a Standard Thai sentence, as in example (62), above, there is a distinct curve. While some variation is to be expected, as the two languages have unique prosodic configurations, the different pitch tracings captured when this name is produced in these examples suggests a great degree of variation even between cognates. Recall, these recordings represent the speech of a single speaker.

(63) Kham Mueang:

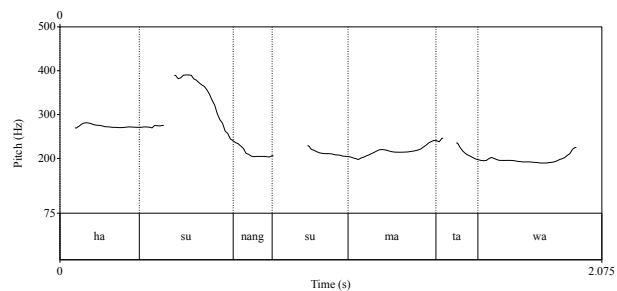
geow gin taam.som
 Geow eat papaya salad
 ‘Geow eats papaya salad.’



Sentences (64) and (65), below, provide further evidence that in emotionally neutral declaratives, tones operate relatively independently from one another and free from intonational effects. In (64), the word *tawa* (‘yesterday’) is sentence-final, and in (65) it is sentence-initial. Yet, regardless of its position, *tawa* remains relatively flat as the language does not have the declination requirement that would necessitate an overall increase or decrease in F_0 to maintain the necessary prosodic effect.

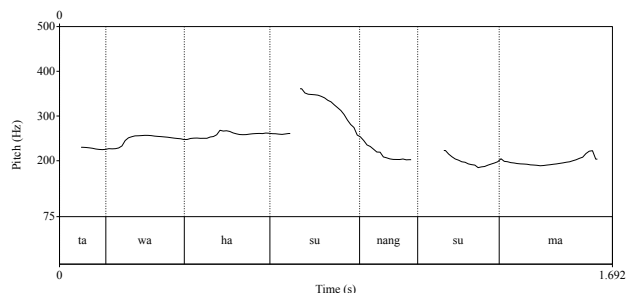
(64) Kham Mueang:

ha su nangsua maa tawa
 1SG buy book PST yesterday
 ‘I bought a book yesterday.’



(65) Kham Mueang

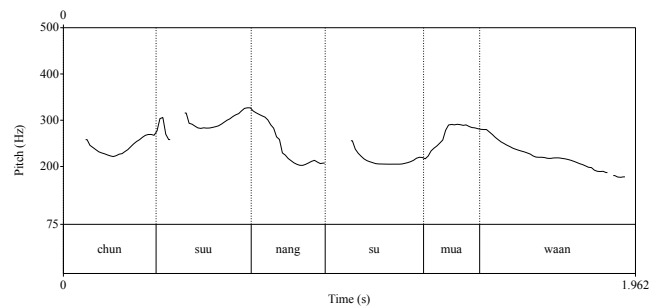
tawa ha su nangsua maa
 yesterday 1SG buy book PST
 ‘I bought a book yesterday.’



Reinforcing this point are the Standard Thai equivalent sentences reproduced in (66) and (67), below. Once again, in Standard Thai, declination is the norm, i.e., the initial F_0 is typically higher than the final F_0 . And, because the pitch of the sentence-initial word, *mua.waan* ‘yesterday’, establishes the relative pitch for the sentence, its associated tone requires an increase in pitch to accommodate a downtrend across the sentence. Conversely, when in sentence-final position, it must undergo an overall decrease in pitch to accommodate the pitch reset which signals the next informational unit.

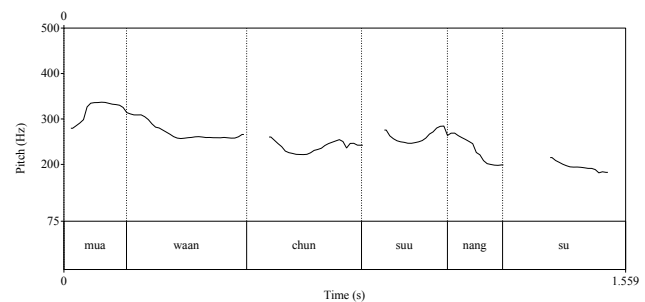
(66) Standard Thai:

chun suu nangsu mua.waan
 1SG buy book PST.day
 ‘Yesterday, I bought a book.’



(67) Standard Thai:

mua.waan chun suu nangsu
 PST.day 1SG buy book
 ‘Yesterday, I bought a book.’



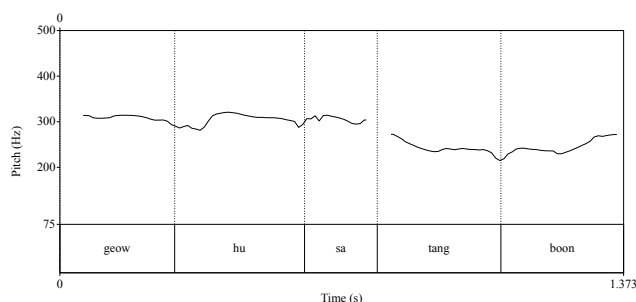
The prosodic requirements of Kham Mueang are quite different: pitch contours stay relatively unchanged regardless of the height and shape of neighboring elements. Cross-linguistically, this placidity is quite unique.

3.3.1.3 DITRANSITIVES

While (68) does not offer any particularly fresh insights, it broadens our understanding of Kham Mueang intonation to include ditransitive sentences. Here, the tones surface as expected without any indication of prosodic effects, i.e., each tone surfaces as expected and there is no increase or decrease in pitch over the duration of the sentence. *Geow* starts the sentence high, because the name is associated with a high tone, *Boon* ends the sentence low, because the name is associated with a low tone.

(68) Kham Mueang:

Geow huu sadtang Boon
geow give money boon
'Geow gave Boon money.'



3.3.1.4 SUMMARY OF FINDINGS

This section has discovered the following qualities of Kham Mueang tones and intonation. First, individual tones seem to be relatively unaffected by the shape and F_0 of adjacent tones, and declination is not a feature of Kham Mueang intonation in emotionally neutral statements. Additionally, it is impossible to identify any intonational units when sentences are produced under these conditions. Considering what is known cross-linguistically about intonation, these are significant findings and ones backed by clear and reliable data. First, while declination was once assumed to be a universal tendency, as the decrease in F_0 correlates to a physiological need to breath, these findings support more recent research which upends this assumption. Take for example, Dicanio et al (2021) which discusses how universal tendencies in speech production may be constrained by tonal complexity. Second, it is generally accepted that declination is used to demarcate the limit of speech units where pitch resets. If there is no declination, there can be no reset, and speech units must be marked in some other way. Unfortunately, discovering this mechanism for delimiting speech units is beyond the scope of this paper. Hopefully these findings will be useful to anyone interested in tone, intonation, and, more broadly, to the field of phonology. Having identified some of the basic facts about declaratives in the language, the following will discuss intonation in polar questions.

3.3.2 INTONATION OF POLAR QUESTIONS

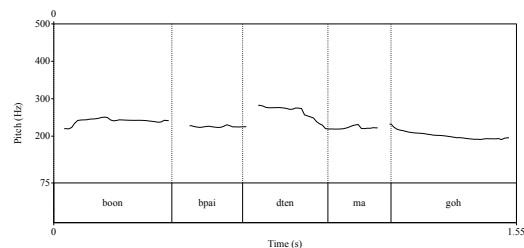
In Standard Thai, *may* and *yang* are strictly clause-final polar question particles, while *ruu* can also be used as a disjunctive morpheme in the formation of alternative questions. In Kham Mueang, *goh* and *la* are polar question particles, while *ga* can be used in polar questions or as a disjunctive morpheme in alternative questions. This subsection will primarily focus on the polar question particle *goh*, though the generalizations made about intonation in respect to *goh*

typically apply to *la* as well, and in sentence-final position, to all three question particles. I begin my discussion of polar particles by identifying the prototypical shape of the *goh* particle in sentence-final position. I then attempt to identify a distinct interrogative intonation, but I find no evidence that one exists. Instead, the data points to the fact that there is no tonal contrast between *goh* in declaratives and *goh* in polar questions. The relevance of these findings will be of great significance to my discussion of the cross-linguistic properties of polar particles in Chapter 5.

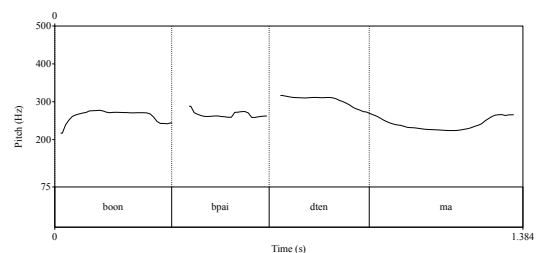
3.3.2.1 SENTENCE-FINAL POLAR QUESTION PARTICLE

The first set of data contrasts the pitch contour lines of a polar question, seen in (69), with a declarative, seen in (70). Important to this analysis is the fact that the declarative in (70) is contained within the proposition of the polar question in (69). This comparison generates two initial findings. First, it shows that there is no difference between the intonation of the proposition and the corresponding declarative sentence. And second, it indicates that Kham Mueang does not have a final Rise intoneme attached to the question particle.

(69) boon bpai dten ma goh
 Boon ASP dance PST Q
 ‘Did Boon dance?’

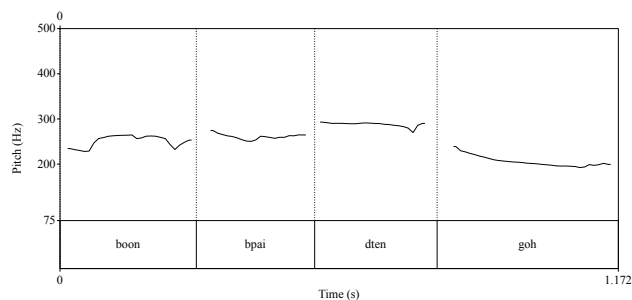


(70) boon bpai dten ma
 Boon ASP dance PST
 ‘Boon danced.’

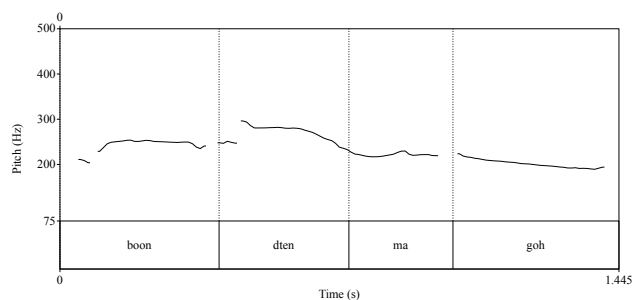


The data in (71) through (73) continues to confirm the assumption that Kham Mueang tones are unaffected by intonational effects and phonological co-articulatory processes such as tone sandhi. Focusing specifically on the *goh* particle, we see that the tone surfaces with roughly the same shape regardless of the features of adjacent tones. I consider this shape the prototypical contour of the Kham Mueang polar particle *goh*.

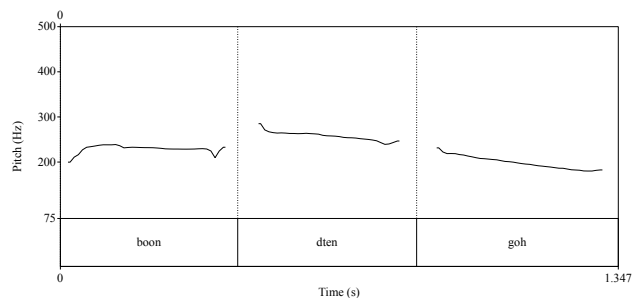
(71) boon bpai dten goh
 Boon ASP dance Q
 ‘Did Boon dance?’



(72) boon dten ma goh
 Boon dance PST Q
 ‘Did Boon dance?’

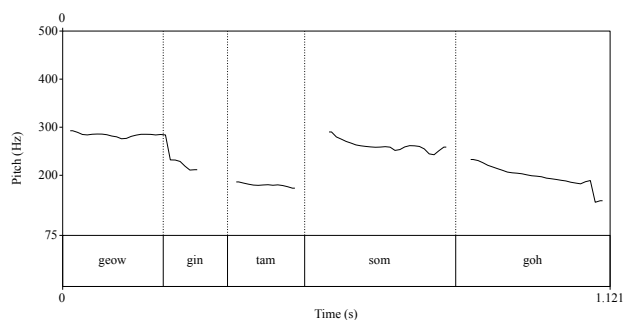


(73) boon dten goh
 Boon dance Q
 ‘Did Boon dance?’

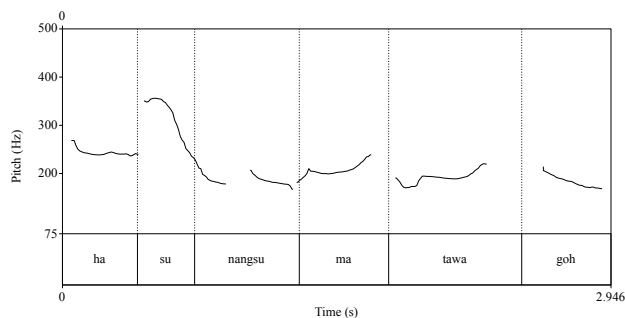


The data in (74) through (76), below, demonstrates that increasing the complexity and length of a sentence through the inclusion of additional arguments and adverbs of time has no impact on the shape or height of any element in the sentence. In other words, there is no discernible intonation pattern associated with polar questions. While Standard Thai polar questions are marked by sentential declination and a sentence-final Rise intoneme, Kham Mueang polar questions are unmarked by intonation.

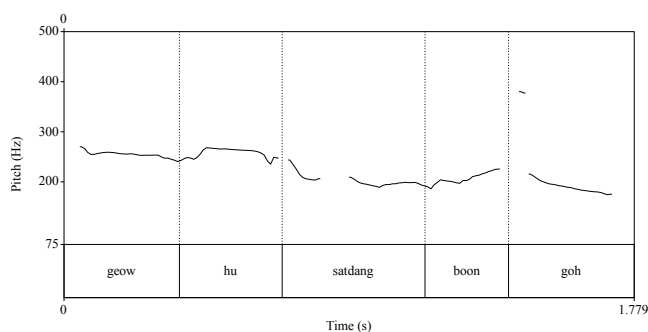
(74) geow gin taam.som goh
 Geow eat papaya salad Q
 ‘Did Geow eat papaya salad?’



(75) ha su nangsua ma tawa goh
 1SG buy book PST yesterday Q
 ‘Did I buy a book yesterday?’



(76) Geow huu sadtaang Boon goh
 geow give money boon Q
 ‘Did Geow give Boon money?’



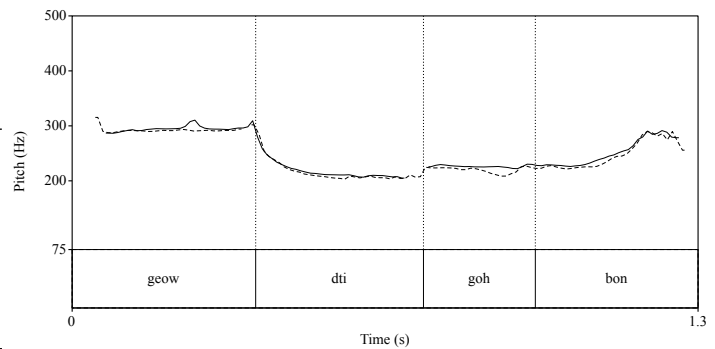
Having identified the prototypical shape of *goh* in sentence-final position, we now use this baseline to assess whether there is any variation from this shape when *goh* is located in different syntactic positions or serving different functions.

3.3.2.2 SENTENCE MEDIAL POLAR QUESTION PARTICLE

In Kham Mueang, the polar particles *goh* and *la* can both occur in sentence-medial positions. When *goh* immediately precedes the object, there are two possible interpretations. The sentence can be interpreted as a polar question, checking the validity of the proposition, or it can be understood as a statement with an ‘only’ interpretation. In sentence (77), below, *goh* is located between the subject and the object. The dotted line represents data elicited as a question, and the solid line represents data elicited as an only-statement. These recordings were collected in separate elicitations but are nearly identical. In (77a), the intended meaning of the statement is that Geow did not hit anyone other than Boon, and (77b) is a straightforward polar question.

(77) geow dti goh boon
 Geow hit Q Boon
 a. ‘Geow only hit Boon.’

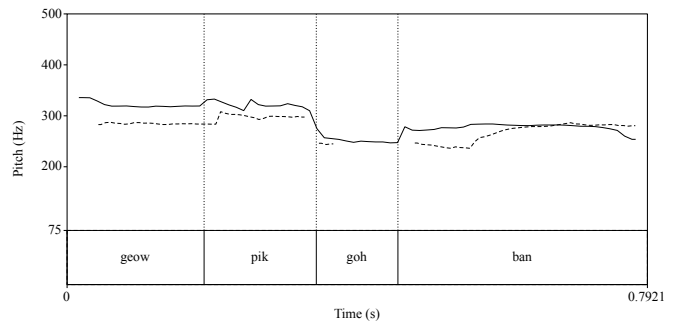
 geow dti goh boon
 Geow hit Q Boon
 b.) ‘Did Geow hit Boon?’



Based on the striking similarity of these contour lines, it is clear that the speaker produced these sentences with the same intonation. When asked to distinguish between the pronunciation of the question and the statement, the language consultant indicated that there is no phonological distinction between the two and that context is required to ascertain the intended meaning. In this position, the *goh* particle can operate as either a question particle or an adverbial element. We see confirmation of this in (78). Again, the intonation pattern is identical for polar questions and only-statements. In the only-statement, *goh* targets the object, and the intended meaning is that ‘Geow went straight home and did not stop anywhere else’.

(78) geow pik goh ban
 Geow return Q home
 a. ‘Geow only went home.’/

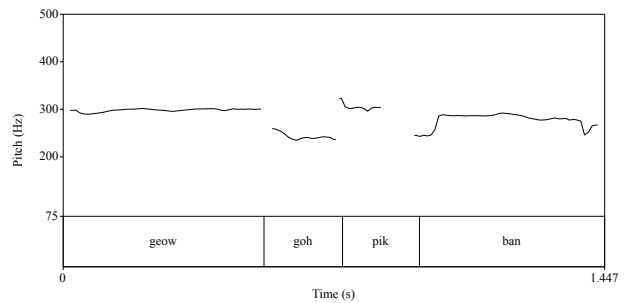
 geow pik goh ban
 Geow return Q home
 b. ‘Did Geow go home?’



All data collected for this project points to the same conclusion. When in this syntactic position, there is no tonal or intonational distinction between *goh* in polar questions or *goh* in statements. I argue that this indicates interrogative intonation is not a polar question strategy in Kham Mueang, but that word order and pragmatics are. I also assert that the observations made thus far help discount any claims of potential homophony. Both declaratives and polar questions featuring *goh* in this pre-object position share the same intonation patterns, and no phonological distinction exists which would imply they are underlying different morphemes.

Returning briefly to the importance of word order in Kham Mueang, we consider the following data in which *goh* is preceding the verb. In this position, the sentence can only be interpreted as a declarative. In (79), below, *goh* is located before the verb: *pik*, ‘return’. Here, it surfaces with the same prototypical contour seen throughout this section. As predicted by observations made up to this point, there is no distinction in intonation between this declarative and any polar question illustrated in this chapter.

- (79) geow goh pik ban
 Geow Q return home.
 ‘Geow returned home already.’



4. SUMMARY

This chapter described the key features of the Standard Thai and Kham Mueang tone and intonation systems. It focused on how these systems interact, and in particular, it looked at the impact that intonation has on the shape of tones in speech production. The major findings of this section include the following:

- (1) Standard Thai polar questions have a sentence-final Rise intoneme, i.e., interrogative intonation is a polar question strategy in the language.
- (2) In Standard Thai polar questions, interrogative intonation is restricted to question words.
- (3) There is no phonological basis to claim that the negation word *mây* is underlyingly the question word *máy* in Standard Thai.
- (4) Kham Mueang has a highly unique intonation system that does not exhibit sentential declination.

- (5) Kham Mueang does not distinguish between polar questions and declaratives, i.e., interrogative intonation is not a polar question strategy.
- (6) Polar questions in Kham Mueang are sensitive to word order, i.e., word order is a polar question strategy.
- (7) There is no phonological distinction between the production of *goh* in declaratives or interrogatives.

Later chapters will highlight the importance of these findings as they relate to the core claims of this paper. Hopefully they will also be useful to anyone interested in the study of polar questions, intonation, or tones.

In Chapter 1, I identified the key claims of this paper and identified 6 potential polar question strategies. In chapter 2, I have made several key claims about tone, intonation, and syntax in Kham Mueang and Standard Thai that helped identify which strategies were available in each language. Having established that polar particles are an essential element in polar questions, Chapters 3 and 4 will focus on discussing the key features of these particles, including their semantic and syntactic distribution.

3

Distribution of polar question particles in Standard Thai and Kham Mueang

Both Standard Thai and Kham Mueang rely on polar particles to form polar questions. This chapter reviews existing works on polar questions in order to better understand the defining characteristics of these particles in both languages. Existing works on Standard Thai have classed polar question particles in various ways based a variety of semantic and syntactic requirements that will be discussed in this chapter. The basic format of this chapter is to summarize the findings of past research on Standard Thai polar questions, and then discuss how these findings relate to polar questions in Kham Mueang. Section 1 begins this process with an introduction of the description of yes-no questions found in Iwasaki and Ingkaphirom's (2009) Standard Thai grammar. Section 2 creates an analogous account of Kham Mueang, keeping in mind that no grammar has been written for Kham Mueang. Section 3 discusses Photisorn's (1985) research on Standard Thai. Section 4 considers how their observations correspond to the properties of polar questions in Kham Mueang. Throughout these 4 sections,

I relate commentary made by Yaisomanang (2012) on the research of Iwasaki and Ingkaphirom (2009) and Photisoron (1985) in preparation for later discussion of Yaisomanang's (2012) disjunction-deletion model.

The data, observations, and claims presented in Photisoron (1985), Iwasaki and Ingkaphirom (2009), and Yaisomanang (2012) provide a solid foundation for understanding the basic attributes of polar questions in Standard Thai. However, attempting an analogous account of Kham Mueang uncovers some of the underlying problems with past models, which I argue have misidentified certain elements of Standard Thai morphology. While this chapter focuses on providing an in-depth description of polar questions in each language, ultimately, I am compelled to take a novel theoretical stance on the underlying structure of Standard Thai polar questions and propose a new typology which addresses the inadequacies of past models to accurately reflect the patterns present in the data. Chapter 4 presents a syntactic analysis of the mechanics of my approach to Standard Thai polar questions after elaborating on Yaisomanang's disjunction-deletion model, which relies heavily on several false assumptions discussed in this chapter. Subsequently, I will demonstrate how my model, not only resolves several problems with the Standard Thai typologies, but also easily accounts for Kham Mueang polar questions. Still, the main objective of this chapter is to provide a descriptive account of polar questions in Standard Thai and Kham Mueang. The following authors provide several insights, which help achieve that goal.

1. IWASAKI AND INGKAPHIROM (2009) ON STANDARD THAI

Iwasaki and Ingkaphirom (2009) provide a highly descriptive account of the semantic and syntactic properties of yes-no question in Standard Thai. Their work focuses on the contexts in which different YNQ³⁸ particles can be used. According to Iwasaki and Ingkaphirom (2009) there are three types of questions in Standard Thai. These include yes-no questions, tag questions, and question-word questions. I will first present Iwasaki and Ingkaphirom's data on YNQs and tag questions and then briefly argue that tag questions are better understood as a

³⁸ In much of the existing work on Standard Thai, the authors have used the term yes-no questions or YNQs instead of the term polar questions. I have included this term throughout this paper to reflect the terminology used in these works. However, as neither Standard Thai nor Kham Mueang have a word for 'yes' or 'no', I prefer the use of the term polar question, as it more accurately reflects what is happening in the languages.

subcategory of yes-no questions. I will not address their work on question-word questions as it is beyond the scope of this paper.

1.1 YNQ PARTICLES IN STANDARD THAI

Iwasaki and Ingkaphirom (2009) identify four supposedly ‘sentence’-final³⁹ question particles used for the formation of yes-no questions in Standard Thai. These can be seen in (80) below⁴⁰. In actual speech, several phonological variations regularly occur. Some examples of alternative pronunciations have been included in the parenthesis below.

- (80)
- | | |
|--------------|---------------------------|
| a. mǎy | (máy) |
| b. rǔu-pláaw | (rǔ-plàaw, lú-plàaw etc.) |
| c. rǔu-yaŋ | (rú-yaŋ, lu-yaŋ etc.) |
| d. rǔu | (rú, rǎ, lú, lǎ) |

The following subsections discuss Iwasaki and Ingkaphirom’s observation on the semantic and syntactic properties of these four ‘particles’. However, while later sections address this in greater detail, I disagree with the basic assumption that *ruu-plaaw* or *ruu-yang* should be treated as question particles. But for now, I attempt to present their work with minimal commentary, as their observations are useful on a descriptive level. Starting with *mǎy/máy*, each subsection addresses the attributes of one particle.

1.1.1 MAÏ/MÁY QUESTIONS

The *mǎy/máy* particle is restricted in two respects (Iwasaki & Ingkaphirom, 2009). The first restriction is a syntactic one. Typically, the *mǎy/máy* particle cannot cooccur with either a nominal or negative predicate. This prohibits the *mǎy/máy* particle from surfacing in sentences

³⁹ Their own data suggests these particles are clause-final rather than sentence-final. See (87) below.

⁴⁰ When possible, the data presented throughout this section follows the phonetic transcriptions and glosses of Iwasaki and Ingkaphirom (2009). However, adjustments have been made for continuity in transcribing and glossing.

such as ‘*Is he a student?*’ and ‘*Aren’t you going?*’ as seen in (81) and (82) (Iwasaki & Ingkaphirom, 2009, p. 280)⁴¹.

(81) *khao bpen naak-rien mǎy/máy
 he is student Q⁴²
 ‘Is he a student?’

(82) ⁴³ #mây bpai mǎy/máy
 NEG go Q
 ‘Aren’t you going?’

The second restriction is pragmatic in nature as it serves to explore information within the addressee’s territory of information, i.e., their emotion, desire, sensations, and perceptions (Kamio, 1997). The data below represents examples of this type of question.

(83) Emotion: dii-cay mǎy
 glad Q
 ‘Are/Were you glad?’

(84) Desire: yàak cà khuy tòᵛ mǎy
 want NCM⁴⁴/FUT talk continue Q
 ‘Do you want to continue talking?’

⁴¹ Iwasaki and Ingkaphirom (2009) only provided the English translations of these sentences. The Standard Thai and glosses have been added to better illustrate their claims.

⁴² The original gloss was QP. I have changed it and all subsequent glosses to maintain a coherent gloss system throughout this paper.

⁴³ Note, I have not marked this as ungrammatical, as my language consultant disagreed with this assessment. In their view, this sentence can be spoken, but would not typically be written. I have # marked it as odd.

⁴⁴ NCM appears in Iwasaki and Ingkaphirom (2009: 280) without explanation. Yaisomanang assumes it might instead be CM for ‘challengeable marker’. Iwasaki and Ingkaphirom (2009: 123) introduce the concept of ‘CM’ as an indicator of the ‘challengeability’ of the proposition in a sentence. They provide the sentences ‘I was born in April’ and ‘John will go to Vietnam next year’ as examples of non-challengeable and challengeable propositions, respectively. In other works, the morpheme *cà* is often recorded as a future tense marker.

(85) Sensation: cèp máy
 hurt Q
 ‘Does/Did it hurt?’

(86) Perceptions: khun hěn máy wâa pây à hâam líaw khwăa
 2 see Q say/COMP sign PP forbid turn right
 ‘Didn’t you see that the sign prohibits a right turn?’

The YNQs above represent the prototypical use of the *mây/máy* question particle. The particle can also be used to form questions which ask about an addressee’s possessions, as seen in (87), or abilities, as seen in (88). It can also be used to ask permission, as in (89).

(87) Possession: mii yaa sây phěe máy khàp
 have medicine put wound Q SLP⁴⁵
 (The security guard said,) ‘Do you have some medicine for cuts?’

(88) Ability: nũu klàp bân eej dâp máy cá
 mouse.²⁴⁶ return home oneself POT Q SLP
 ‘Can you go home by yourself?’

(89) Permission: liak phii dii máy khá
 call OS⁴⁷ good Q SLP
 ‘Shall I call you (elder) sister?’

Additionally, the speaker might employ the *mây/máy* particle to question an addressee’s personal intentions or seek information concerning their desires in relation to a future time-period. Below, we see an invitation type question.

⁴⁵ SLP is an abbreviation for ‘speech level particle’. An SLP indicates politeness and is used when affecting a respectful register.

⁴⁶ This is Iwasaki and Ingkaphirom’s original gloss for the second-person pronoun, *nũu*. While it literally means ‘mouse’, as a pronoun it conveys the inferior social ranking of the addressee in an endearing manner. *Nũu* can also be used as a first person-pronoun with similarly endearing qualities (Yaisomanang, 2012).

⁴⁷ OS is the original gloss for ‘older sibling’. This is a term of respect in both Standard Thai and Kham Mueang.

- (90) pay duu nǎŋ kan máy
 go look movie REC⁴⁸ Q
 ‘Do (you want to) go to see the movies together?’

However, the *mǎy/máy* particle is not typically the natural YNQ particle in questions which reference an actual occurrence in the past time frame.

- (91) *mûa-waan-nîi pay duu nǎŋ máy
 yesterday go look movie Q
 ‘Did you see a movie yesterday?’

Yet, YNQs about the past can be formed with the *mǎy/máy* particle if there is an element which requires the addressee’s evaluation of an event. The presence of certain adverbs (e.g., *bòy* ‘often’, *mâak* ‘a lot’, and *yá* ‘a lot’) and aspectual auxiliaries (e.g., *kəəy* ‘ever’) provide the appropriate conditions to permit the speaker the use of the *mǎy/máy* question particle in past time period YNQ constructions.

- (92) tɔɔn yùu chianmày cəə daa bɔy máy
 when stay (place name) see (name) often Q/NEG
 ‘When you were in Chiang Mai, did you see Daa often?’

1.1.2 RUU-PLAAW QUESTIONS

According to Iwasaki and Ingkaphirom (2009) the question particle ‘*rǎu-pláaw*’ is a conjunction of the word *ruu*⁴⁹ (*rǎu*) ‘or’ and *pláaw* ‘empty, blank, void’. Within the conjunction, *pláaw* acts as a negative morpheme roughly equivalent to ‘not’, giving us the ‘or not?’ reading seen in (93). Whereas *mǎy/máy* questions pertain to matters within the

⁴⁸ REC is the original gloss for ‘reciprocal’. No explanation is given. This is often glossed as together.

⁴⁹ Due to the inconsistency in the literature in how this word is written, I prefer the use of *ruu* over *rǎu*. This morpheme is pronounced a variety of ways, the least common of which is *rǎu*.

addressee’s territory, the ‘*rǎu-pláaw*⁵⁰’ particle is used to urge an addressee to make a choice, e.g., between ‘going’ and ‘not going’. Note the contrast between the two otherwise identical sentences below.

(93) pay dûay-kan máy
 go together Q
 ‘Do you want to go with me?’

(94) pay dûay-kan rǎu-pláaw
 go together Q/ or-NEG⁵¹
 ‘Do you want to go with me, or not?’

Questions involving a nominal predicate also call for the ‘*rǎu-plaaw*’ particle. Recall the restriction against using *mǎy/máy* in similar environments.

(95) kháw pen fɛɛn khun-àphíchâat rú-pláaw
 3 COP girlfriend TL-(name) Q/ or-NEG
 ‘Is she Mr. Apichart’s girlfriend?’

Questions with verbal predicates in the past time frame can also use ‘*rǎu-plaaw*’ if the facts pertaining to the answer are generally accessible to anyone. In other words, the ‘*rǎu-plaaw*’ YNQ particle does not have the same restrictions as the *mǎy/máy* particle in terms of past time frame verbal predicates and the addressee’s territory of information.

(96) mûa-waan pay kin khâaw kâp níramon rú-pláaw
 yesterday go eat rice with (name) Q/or-NEG
 ‘Did you go to have dinner with Niramom yesterday?’

⁵⁰ I enclose ‘*rǎu-pláaw*’ in quotations, as I disagree with both the spelling and the classification of the two elements as a single particle. However, I do agree with Iwasaki and Ingkaphirom’s analysis concerning distribution of these elements.

⁵¹ The gloss ‘or-NEG’ belongs to Yaisomanang (2012). While I agree with Yaisomanang’s gloss of the individual elements, I contend that this is not a compound word and contest the presence of the spurious hyphen. My analysis in Chapter 4 provides strong evidence in support of this claim.

As mentioned above, negative questions do not use the *măy/máy* particle even when the information is within the addressee’s territory. For this type of question, ‘*rǎu-plaaw*’ must be used. In the example below, the speaker suspects the addressee is unwell. As such, the requested information would certainly be within the addressee’s territory⁵².

- (97) *mây* *sabaay* *rú-plàaw*
 NEG comfortable Q/ or-NEG
 ‘You are not feeling well, right?’

1.1.3 *RUU-YANG* QUESTIONS

Iwasaki & Ingkaphirom (2009) identify the ‘*rǎu-yang*’ particle as a perfect/anterior counterpart to ‘*rǎu-plaaw*’ which requires the addressee select from two alternatives: ‘have done’ and ‘have not done’. They also note that in informal conversation ‘yang’ may appear by itself, though they provide no supporting data⁵³.

- (98) *kít* *pay* *duu* *lûaŋ* *nán* *lɯ-yəŋ*
 name.2 go look story that Q/ or-yet⁵⁴
 ‘Have you seen that movie, or not?’

The ‘*rǎu-plaaw*’ particle can also indicate the immediate future instead of the perfect/anterior. In these instances, the addressee is faced with two potential interpretations: ‘will or will not be done now’ or ‘have or have not done’. In (99) below, this ambiguity is represented by the inclusion of two possible English translations for the same Standard Thai utterance. In this

⁵² Again, the language consultant for this project has asserted that this ban on negative predicates is restricted to written language in Standard Thai and that *máy* can appear in this question type.

⁵³ The pervasive omission of data on the particle *yang* throughout the background literature of Standard Thai is problematic in many ways. For example, basic facts about the particle *yang* present challenges to the central claims of Photisorn (1985) and Yaisomanang (2012). However, as Ingkaphirom’s work is relatively theory neutral, the omission or inclusion of data on the particle *yang* does not greatly impact any of their core claims.

⁵⁴ The gloss ‘or-yet’ comes from Yaisomanang (2012). Again, I will challenge their affixation hypothesis, though I agree with this gloss.

morphologically poor environment, the intended meaning must be extrapolated from contextual clues.

- (99) kin lǘ-yaŋ
eat Q/ or-yet
'Have you eaten yet?' / 'Are you ready to eat now?'

To clarify the intended meaning and avoid ambiguity, the speaker can include the future marker *cà*⁵⁵ as evidenced by the single translative option in (100) below.

- (100) cà kin ruu-yaŋ
CM/will⁵⁶ eat Q/ or-yet
'Are you ready to eat now?'

1.1.4 RUU QUESTIONS

The most common pronunciation of the question particle *ruu* is [lǎ]. Alternatively, it can surface as *rǎ* and *lǘ*. This question particle is used when a speaker has intense curiosity regarding information that is immediately relevant. In the following two examples the speaker is surprised to discover two pieces of information: first, that the addressee had lived on the fifth floor of a building during an earthquake and second that the addressee had no prior earthquake experience.

- (101) ôo chán hâa løy lǎ
EXC floor five PP Q
'Oh, the fifth floor?'

- (102) nîl khaŋ lêek lǎ
this time first Q
'Is this your first time (experience of an earthquake)?'

⁵⁵ The transcription *cà* comes from the original Iwasaki & Ingkaphirom (2009). This is often transcribed as *ja*.

⁵⁶ CM refers to the challengeable marker identified in Iwasaki and Ingkaphirom (2009). I follow Yaisomanang (2012) and gloss this as 'will'.

The *ruu* particle can also be used to form a ‘You mean X?’ type question. In this context, the question particle is attached after a noun phrase. The example below has speaker 2 checking the intended addressee of speaker 1’s question.

- (103) Speaker 1: léw khǒŋ khun |⁵⁷ èek alay khá
 LINK of 2. | major what SLP
 ‘And what is your major?’
- Speaker 2: phǒm lǎ hà |⁵⁸ àə khǒmphiwtâə sayên
 1M Q/or SLP| HES computer science
 ‘Me? Uhm. Computer science.’

1.2 ‘TAG’ QUESTIONS IN STANDARD THAI

Iwasaki and Ingkaphirom (2009) identify three unique ‘tag’ questions, seen in (122) below⁵⁹, which they claim are different from yes-no questions.

- (104) a. chây-máy (chây-măy)
 b. chây-rú-plàaw
 c. mây-chây-rú

While this paper adopts an alternative hypothesis concerning the classification of these question particles, the observations made in Iwasaki and Ingkaphirom’s paper concerning the semantic environments in which they are used are still valuable and worth exploring.

⁵⁷ In Iwasaki and Ingkaphirom’s original data, they use a verticle broken like to indicate the boundaries within a clause. The broken line ‘often seperates a topic noun phrase from the rest of the sentence or a phrase with a quoting verb from the rest’. (Iwasaki & Ingkaphirom, 2009, p. xviii)

⁵⁸ The unbroken vertical line ‘indicates clause boundaries, roughly corresponding to a comma or period in English’ (Iwasaki & Ingkaphirom, 2009, p. xviii)

⁵⁹ Note, they only include the phonological variation for chây-máy. However, the alternative phonological realizations of the *ruu* element described earlier in this section apply to the particles *chây-rú-plàaw* and *mây-chây-rú*, i.e. *rú* can be replaced by *râ*, *lú*, or *lǎ*.

1.2.1 CHÂY-MÁY/ CHÂY-MAÏ AND CHÂY-RÚ-PLÀAW QUESTIONS

Both the *chây-măy* and the *chây-rú-plàaw* ‘tag questions’ are used when a speaker requires confirmation about a proposition of which they are reasonably confident. Of the two, *chây-rú-plàaw* conveys a higher level of confidence on the part of the speaker concerning their assumptions about the proposition. In the example below, speaker 1 seeks confirmation that a previously used medicine was effective. Speaker 2 supplies the requested confirmation.

(105) Speaker 1:

tèe khǎŋ-thîi-lɛɛw kin sǐi-khǎaw | dii khun chây-máy
 but last.time eat color green |good ascend/ASP Q/right-NEG⁶⁰
 ‘But, the last time, you took the green (medicine), and you got better, right?’

Speaker 2:

sǐi-khǎaw | dii khun
 color green |good ascend/ASP
 ‘(I took) the green (medicine), and got better.’

The data in (124) represents the only evidence Iwasaki & Ingkaphirom (2009) provide of the ‘*chây-rú-plàaw*’ question particle. In this instance the speaker has employed the phonologically reduced form of ‘*chây-rú-plàaw*’: ‘*chây-pà*’⁶¹. Here ‘*chây-pà*’ appears in the second question as the speaker hastily rewords their original interrogative sentence when their confidence in the proposition increases.

(106) kit pay duu lǎaŋ nán lǎ-yaj | duu lɛɛw chây-pà
 Kit go look story that Q/or-yet | see ASP Q/right-NEG
 ‘Have you (=Kit) seen that movie, or not? You’ve seen it, right?’

⁶⁰ ‘right-NEG’ is Yaisomanang’s (2012) gloss.

⁶¹ It is unclear what motivated Iwasaki and Ingkaphirom’s choice of examples. It could be that their selection reflects the rarity of the fully realized phonological form. I look forward, someday, to the development of a spoken word Thai corpus to investigate this type of question.

1.2.2 MÂY-CHÂY-RŪ QUESTIONS

The ‘*mây-chây-rŭ*’ question is often used when there is a strong sense of surprise. It is comparable to English rhetorical questions.

(107) kháw bòok mây-chây-rŭ
he tell Q/NEG-right-or
‘Didn’t he tell you?’

(108) kháw pen khon ameerikan mây-chây-rŭ
3 COP person American QP/NEG-right-or⁶²
‘Isn’t he an American?’

2. UNDERSTANDING KHAM MUEANG VIA IWASAKI AND INGKAPHIROM (2009)

This section attempts to identify the pragmatic and syntactic conditions which guide the Kham Mueang speaker when selecting a polar question particle. To accomplish this goal, this section provides a set of Kham Mueang data that parallels the Standard Thai YNQs and ‘tag’ questions⁶³ presented in Iwasaki and Ingkaphirom (2009). All Kham Mueang data is original and has been collected through elicitations with a single native speaker of Kham Mueang. The work done in this section represents the first attempt of any author to describe the distribution of polar question particles in Kham Mueang.

2.1 KHAM MUEANG POLAR QUESTIONS

This section identifies the distributional properties of Kham Mueang polar particles through a comparison with Iwasaki and Ingkaphirom’s four Standard Thai YNQ particles: *măy*, *rŭu-pláaw*, *rŭu-yan*, and *rŭu*. In this section, we find that while Iwasaki and Ingkaphirom’s

⁶² The gloss ‘Neg-right-or’ comes from Yaisomanang (2012).

⁶³ As with Standard Thai, ‘tag’ questions in Kham Mueang will be considered a subcategory of yes-no questions and not a unique category.

descriptive work grants several insights into both languages, their classification system cannot be transposed onto Kham Mueang due to problems which arise from a false assumption about Standard Thai particles. Namely, Iwasaki and Ingkaphirom follow the convention of classifying multielement strings in sentence-final position of polar questions as compound particles, e.g., they consider *ruu plaaw* ‘or NEG’ in sentence-final position to be one particle and transcribe it as such: ‘*QP*’. My work challenges this assumption and demonstrates the advantages of a model which does not arbitrarily compound elements. In anticipation of this discussion, I transcribe multielement strings with a space instead of a hyphen, e.g., *ruu plaaw* ‘or NEG’ versus *ruu-plaaw* ‘or NEG’. While this chapter accomplishes its primary objective of identifying the distributional properties of Kham Mueang particles, it also calls into question the convention of researchers of Standard Thai to compound elements of polar questions.

As a preliminary sketch, I present Iwasaki and Ingkaphirom’s four Standard YNQ particles along with their apparent Kham Mueang correlates which surfaced in translation. These can be seen in table 3.0, below. The ensuing subsections will tease these particles apart and describe the unique distributional properties of each question type.

Table 3

Iwasaki and Ingkaphirom’s YNQ particles in Standard Thai	Potential Kham Mueang equivalents
a. ‘ <i>mǎy</i> ’	<i>goh</i>
b. ‘ <i>rǎu-pláaw</i> ’	<i>goh/ga/men goh</i>
c. ‘ <i>rǎu-yan</i> ’	<i>la/ga wa yang</i>
d. ‘ <i>rǎu</i> ’	<i>ga/men goh</i>

2.1.1 *Mǎy/Máy*⁶⁴ EQUIVALENT QUESTIONS

In elicitations, the language consultant consistently produced the *goh* particle when prompted to translate Standard Thai *máy*-type questions. This indicates that *goh* and *máy* perform similar linguistic tasks and are subject to similar restrictions. For example, both *máy* and *goh* share the

⁶⁴ This section often omits the transcription which includes the rising tone: *mǎy*. This transcription is based on orthographic information. Other authors have suggested, and my speaker confirms, that *máy* more accurately reflects the tone used in actual speech.

pragmatic requirement that the question pertain specifically to the addressee’s territory of information. As with Standard Thai, this territory includes emotions, desires, sensations, and perceptions. See (109) through (112).

(109) Emotions: di-jai goh
 glad Q
 ‘Are/Were you glad?’

(110) Desires: khai yak u ham goh
 want FUT speak CONT Q
 ‘Do you want to continue talking?’

(111) Sensations: jep goh
 hurt Q
 ‘Does/ Did it hurt?’

(112) Perceptions: hong bi dai goh jiao
 call OS can Q SLP
 ‘Shall I call you (elder) sister?’

Iwasaki & Ingkaphirom (2009) inform their readers that the above question types represent the most common use of the *máy* in Standard Thai. Unfortunately, there is not enough naturalistic data available to conclude the same for Kham Mueang *goh*. So, until such data exists, we must rely on the language consultant’s native speaker intuition that these examples reflect natural and highly prototypical *goh*-type questions.

As with Standard Thai *máy*, we find Kham Mueang *goh* in polar questions which concern the addressee’s possessions or abilities, as in (113) and (114), and, in questions which request permission, as in (115).

(113) Possession: mii yaa say phe goh khap
 have medicine put wound Q/NEG SLP
 (the security guard said,) ‘Do you have some medicine for cuts?’

(114) Abilities: nuu bpik baan kon.diao day goh já
 mouse.2 return home oneself POT Q/NE SLP
 ‘Can you go home by yourself?’

(115) Permission: hong bi/ai di goh jiao
 call OS good Q/NEG SLP
 ‘Shall I call you (elder) sister?’

Again, similar to Standard Thai *máy*, Kham Mueang *goh* can be used to discuss an addressee’s intentions for the future. This will be discussed in greater detail when elaborating on the distributive properties of *ga*.

(116) bpai poh nang gan goh
 go look movie REC Q
 ‘Do (you want to) go to see the movies tonight?’

One minor way in which these two particles differ can be seen in the following data. According to Iwasaki and Ingkaphirom (2009) and Yaisomanang (2012), there is a constraint against using *máy* in most sentences pertaining to the past time frame. However, Kham Mueang *goh* is unrestricted by a similar constraint. Compare Iwasaki and Ingkaphirom’s example of Standard Thai *máy* in (117), below, with its Kham Mueang equivalent, in (118), below.

ST:

(117) **mûa-waan-nîi*⁶⁵ pay duu nǎŋ máy
 yesterday go look movie Q
 ‘Did you see a movie yesterday?’

KM:

(118) tawa bai pə nang goh
 yesterday TAM watch movie Q
 ‘Did you see a movie yesterday?’

⁶⁵ It has been suggested that one explanation for the restriction in Standard Thai could be that the underlying form of *mûa-waan-nîi* is in fact *mâi-waan-nîi* or literally ‘not-day-this’. In this case, the ungrammaticality would be caused by the negative marker, which supposedly cannot surface with the *mǎy/máy* particle.

According to Iwasaki and Ingkaphirom (2009), Standard Thai *máy* questions can only refer to the past time frame if they pertain to the addressee’s territory, e.g., if they use certain adverbs of frequency requiring an evaluation such as *boi* ‘often’. As Kham Mueang does not share this constraint, *goh*-type questions are formed freely with or without the adverb of frequency. This can be seen in (122), below.

- (119) *tɔn* *yu* *jiang.may* *pa* *da* (*mun*) *goh*
 when stay Chiang Mai see Daa (often) Q
 ‘When you were in Chiang Mai, did you see Daa (often)?’

2.1.2 RUU PLAAW EQUIVALENT QUESTIONS

The goal of this subsection is to identify the Kham Mueang equivalent of Standard Thai ‘*rǔu-plàaw*’ questions. However, this comparison encounters some challenges as Kham Mueang has only one negative marker while Standard Thai has two: *plaaw* and *mây*. The Standard Thai negation markers can be seen in Iwasaki and Ingkaphirom’s data on YNQ ‘particles’ reproduced in (120) and (121).

ST:

- (120) *khun* *hěn-dûay* *rǔu-plàaw*
 you agree Q/or-NEG
 ‘Do you agree (with me)?’

- (121) *king* *hěn-dûay* *rǔu-mây*
 you agree Q/or-NEG
 ‘Do you agree (with me)?’

While there is reportedly a slight semantic distinction between the two Standard Thai particles,⁶⁶ these examples share the same Kham Mueang translation, represented below in (122).

⁶⁶ The language consultant for this project maintains that these two sentences are semantically equivalent as they share the same possible answers.

KM:

- (122) king han-tuai goh
you agree Q
'Do you agree (with me)?'

Similarly, the Standard Thai sentences represented in (123) and (124) express different semantic meanings, but share a common Kham Mueang translation, seen in (125). According to the language consultant the invitation-type polar question represents a highly typical use of the *goh* particle in Kham Mueang.

ST:

- (123) pay dûay-kan máy
go together Q/NEG
'Do you want to go with me?'

- (124) pay dûay-kan rǔu-pláaw
go together Q/ or-NEG
'Do you want to go with me, or not?'

KM:

- (125) bai duay-gan goh
go together Q
'Do you want to go with me, or not?'/ 'Do you want to go with me?'

In Standard Thai, polar questions with nominal predicates require the speaker to use *ruu plaaw*, as there is the constraint against using *máy* in this environment. In Kham Mueang, this question can be formed with the evaluative predicate *men* 'right' and the question particle *goh*, i.e. *men goh* 'right Q'.

KM:

- (126) khaw pèn fen aphichat⁶⁷ men goh
 3SG COP girlfriend (name) right Q
 ‘Is she Mr. Apichart’s girlfriend?’

In Kham Mueang, *men goh* ‘right Q’ is also available in questions with verbal predicates in the past time frame. Here it replaces *ruu plaaw* in the translation of the Standard Thai sentence.

KM:

- (127) tawa bai gin khaw gap niramom men goh
 yesterday go eat rice with (name) right Q
 ‘Did you go to have dinner with Niramom yesterday?’

Generalizing the data presented thus far, we find that Standard Thai *ruu plaaw* ‘or NEG’ type questions are typically translated as either *goh* ‘Q’ or *men goh* ‘right Q’ type questions. If we attempt a direct translation of the individual components *ruu* and *plaaw* from Standard Thai into Kham Mueang, we find the following results. Consider the Standard Thai data in (128), below.

ST:

- (128) mây sabaay ruu plaaw
 NEG well or NEG
 ‘Are you not unwell?’

A word-for-word translation renders the following ungrammatical sentence.

KM:

- (129) *ba sabay ga ba
 NEG comfortable or NEG
 ‘You are not feeling well, right?’

⁶⁷ The original Standard Thai sentence uses the title *khun* or ‘Mister’. However, the language consultant advised that the use of such titles is not a common practice in Kham Mueang and sounds unnatural in this context. Therefore, it was omitted in the translation.

In Kham Mueang, *ga ba* ‘or NEG’ in sentence-final position is ungrammatical due to an overt complementizer requirement. The complementizer *wa* must appear between the disjunction *ga* and the negative word *ba*, as seen in (130) below.

KM:

- (130) ba sabay ga wa ba
 NEG comfortable or COMP NEG
 ‘Are you feeling uwell, or not?’

While a *goh*-type question would be preferred to this construction, it is nevertheless grammatical. The language consultant suggested that (131) would be a more common way of asking the question.

KM:

- (131) ba sabay goh
 NEG comfortable Q
 ‘Are you not feeling well?’

Either way, the data in this section suggests that there is no syntactic restriction on negative predicates in Kham Mueang polar questions.

2.1.3 RUU YANG EQUIVALENT QUESTIONS

In Kham Mueang, *ruu yang* ‘or yet’ type questions can be formed in one of two ways. First, a polar particle question (PPQ) can be formed with the particle *lá*, as seen in example (132) below. According to the language consultant, this is the more common way to form these types of questions.

KM

- (132) gin lá
 eat Q
 ‘Have you eaten yet?’ / ‘Are you ready to eat now?’

The second option is to create a polar alternative question (or PAQ), as seen in (133).

- (137)
- | | |
|--|------------------------|
| a. (*ja) gin
will eat
'Yes.' | b. ùh
AFF
'Yes.' |
| c. yang ba gin
yet NEG eat
'No.' | d. ùh
NEG
'No.' |

2.1.4 RUU EQUIVALENT QUESTIONS.

In Kham Mueang, the particle *ga* shares several qualities with the Standard Thai particle *ruu*. In sentence-final position it can be used when a speaker is intensely curious about information that is immediately pertinent in some way. In (138), we see the speaker expressing intense curiosity about the fact the addressee had not experienced an earthquake before.

- (138) ni bpen kang lek ga
this COP time first Q
'Is this your first time (experience of an earthquake)?'

However, in Kham Mueang a speaker can also form this question with *men goh* 'right Q'. The expression of intense curiosity will then be a function of intonation and body language.

- (139) ni bpen kang lek men goh
this COP time first right Q
'Is this your first time (experience of an earthquake)?'

As with the Standard Thai particle *ruu*, Kham Mueang *ga* is used to create 'you mean X?'-type questions. In (140), below, the speaker is unsure if their teacher has addressed them or another student. They signal their request for clarification with a *ga*-type question.

- (140) ha ga⁶⁸ | èə hian⁶⁹ khômphiwtêə sayên
 1M Q HES study computer science
 ‘Me? Uhm. Computer science.’

2.2 KHAM MUEANG ‘TAG QUESTION’ EQUIVALENTS

The following section considers Iwasaki and Ingkaphirom’s (2009) description of Standard Thai ‘tag questions’ and reflects on the possible implications their analysis might have in relation to Kham Mueang polar question particles. Again, I do not subscribe to their analysis which differentiates between tag questions and YNQs as their criteria for dividing these into separate classes is unclear. The murky line between tag-questions and YNQs becomes increasingly problematic when analyzing Kham Mueang translations. While ‘tag questions’ in Standard Thai utilize a diversity of question particles, Kham Mueang equivalent sentences generally make use of a limited set. Still, Iwasaki and Ingkaphirom’s observations of ‘tag questions’ provide several relevant insights into the semantic and syntactic distribution of question particles in Standard Thai. As such, a comparable investigating into Kham Mueang equivalents should yield useful results. Preliminary observations suggest the following correlations:

Table 3.1

Iwasaki and Ingkaphirom’s tag question particles in Standard Thai	potential Kham Mueang equivalents
<i>a. chây-máy/ chây-mǎy</i>	<i>goh</i>
<i>b. chây-máy/ chây-mǎy</i>	<i>men goh</i>
<i>c. chây-rú-plàaw</i>	<i>là lay</i>
<i>d. mây-chây-rú</i>	<i>lá</i>

⁶⁸ In the original (Iwasaki & Ingkaphirom, 2009) Standard Thai data, this is followed by an SLP. The language consultant advised me that Kham Mueang cannot have an SLP here. However, this does not change the significance of the question.

⁶⁹ In the original (Iwasaki & Ingkaphirom, 2009) Standard Thai data this verb is omitted. The language consultant suggested this would not work in Kham Mueang. However, this does not change the meaning or significance of the data.

The following subsections explore the relation between these question types.

2.2.1 CHÂY-MÁY/ CHÂY-MAÏ EQUIVALENTS

Recall, Iwasaki and Ingkaphirom (2009) provide a Standard Thai example in which the speaker seeks confirmation that the addressee had experienced the successful remittance of an ailment by using a particular medicine. This data has been reproduced in (141) for the convenience of the reader. Compare this source data with the Kham Mueang translation in (142). Here, the Kham Mueang speaker has selected a *men goh*-type question. This seems natural considering which elements are employed in each example. In Standard Thai we see the verb *chây* ‘right’ followed by the question particle *máy*. The identical pattern holds in the Kham Mueang example, i.e. the verb, *men* ‘right’, is followed by the question particle, *goh*.

ST:

(141) Speaker 1:

tèe kháp-thîi-læw kin sǐi-khǐaw | dii khun chây-máy
 but last.time eat color-green |good ascend/ASP Q

‘But, the last time, you took the green (medicine), and you got better, right?’

KM:

(142) tɛ khao-læw gin ya⁷⁰ si-khiaw | dii khun gwa gao men goh
 but last.time eat medicine color-green |good TAM more health right Q

‘But, the last time, you took the green medicine, and you got better, right?’

2.2.2 CHÂY-RÚ-PLÀAW EQUIVALENTS

Next, we revisit the Standard Thai tag question ‘chây-rú-plàaw’ and its phonetically reduced form ‘chây-pà’. The Standard Thai data has been reproduced in (143) for the reader’s convenience.

⁷⁰ Unlike the Standard Thai sentence above, in Kham Mueang the word *ya* (‘medicine’) is obligatory for the sentence to be grammatical.

ST:

- (143) kit pay duu lûaŋ nán lû-yaŋ | duu léew chây-pà
Kit go look story that Q/or-yet | see ASP Q/right-NEG
'Have you (=Kit) seen that movie, or not? You've seen it, right?'

The Kham Mueang translation, shown in (144), provides the first recorded example of the *là* *lay* question type. Here, this question type has the same semantic effect as the Standard Thai *chây-pà*. Both convey a sense of increased confidence in the proposition of the first question.

KM:

- (144) kit bai pɔ luang nan lá | pɔ là lay
Kit go look story that Q | see Q TAM
'Have you (=Kit) seen that movie, or not? You've seen it, right?'

The typical affirmative answer to the first question, '*kit bai pɔ luang nan lá*', is a combination of the verb *pɔ* 'see' and the tense aspect marker *lew*. While the affirmative answer to the second question, '*pɔ là lay*', is a combination of the verb *pɔ* and the particle *là* with a low tone. The underlying structure of this question type will be discussed in greater detail in chapter 4.

- (136) Answer 1: pɔ lew>(*lew) Answer 2: pɔ là
see TAM see already
'Yes.' 'Yes'

Both questions can be answered negatively with *yang*.

- (137) yang
(not)yet
'No'

2.2.3 MÂY-CHÂÏ-RŪ EQUIVALENTS

Iwasaki and Ingkaphirom's example of a '*mây-chây-rŭ*' type 'tag question' has been reproduced in (145) below, along with the most typical answers. In (146), I provide the Kham

Mueang equivalent of this data in which the language consultant selected the *lá* particle as the appropriate translation.

(145) Question: kháw bòk mây-chây-rǎu
 he tell Q/NEG-right-or
 ‘Didn’t he tell you?’

Answers: a) chây right ‘Yes.’ b) mây-chây NEG-right ‘No.’

(146) Question: khao bək king lá
 he tell you Q
 ‘Didn’t he tell you?’

Answers: a) bək lɛw/(*lɛw) tell TAM ‘Yes.’ b) yang yet ‘No.’

While these questions may serve similar purposes, syntactically they are distinct. Consider the possible polar replies. In (145), the Standard Thai response targets the verb *chây*, ‘right’. This indicates the question is checking the veracity of the proposition. In (146), the Kham Mueang responses indicate that speaker is actually asking something more akin to: ‘Didn’t he tell you, yet?’. This is expected as Kham Mueang *la* questions are semantically and syntactically similar to the Standard Thai *yang* questions.

2.3 SUMMARY

To sum up, this section presented Iwasaki and Ingkaphirom’s data on Standard Thai YNQs and tag-questions. It asserted that there were no clear criteria for subdividing these two question types and proposed all questions discussed in this section are YNQs, or as I prefer, polar questions. This section took the observations made by Iwasaki and Ingkaphirom and attempted

a crosslinguistic comparison with polar questions in Kham Mueang. The general finding of this comparison was that there is a general mismatch that occurs when trying to directly align the individual components of Iwasaki and Ingkaphirom's Standard Thai question 'particles' with Kham Mueang equivalents. While Kham Mueang translations trended towards the use of *men goh* 'right Q' type questions, Standard Thai has a wider range of possible question types but seems to prefer 'or NEG' type questions, e.g., *ruu plaaw*, *ruu mây*, and *chay ruu mây*. One major point at which my analysis departs from Iwasaki and Ingkaphirom is in our treatment of particles. Iwasaki and Ingkaphirom consider *ruu plaaw* and *ruu mây* to be compound particles, whereas I see these as separate words. The next section offers some possible insights into the origins of their assumption, as Photisoron (1985) builds an entire typology on this premise.

3. PHOTISORN (1985)

Photisoron (1985) conducted a research project comparing the semantics and syntax of YNQs in Bangkok Thai and the Udanthani dialect. The study was written in Thai script and would have been inaccessible to me if not for the translation work done by Yaisomanang (2012). This section presents Photisoron's data and discusses their system of classification which divides YNQs into three types: one-element question particles, two-element question particles, and three element question particles. I argue that there are only one-element question particles, and the supposed 'multi-elemental' question particles are in fact complete clauses which do not involve any affixation. This section provides the necessary background to understand how I arrive at this conclusion.

3.1 MULTI-ELEMENTAL QUESTION PARTICLES IN STANDARD THAI

According to Photisoron (1985), multi-elemental YNQ particles are those which are not restricted to a single morpheme. They are compounds of affirmative, negative, interrogative, and alternative markers. Different configurations and combinations carry unique semantic meanings and require different syntactic structures. The following section provides background on these multi-elemental question particles as laid out in Photisoron (1985) with some additional commentary and observations which will be essential to later arguments.

One striking difference between Iwasaki and Ingkaphirom (2009) and Photisoron (1985) lies in the disparity in how many question particles each work has chosen to include in their

research. Table 3.2 (taken from Yaisomanang, 2012, p 15) juxtaposes the limited scope of Iwasaki and Ingkaphirom's work with the comprehensive investigation conducted by Photisor⁷¹.

⁷¹ Note, the conspicuous absence of *yang* and its associated forms from Photisor's discussion. One of the strengths of my typology of Standard Thai and Kham Mueang polar questions is its ability to account for all of these question types without omitting undesirable patterns.

Table 3.2

Entries of question particles (phonological variations)	Iwasaki and Ingkaphirom's YNQ particles	Iwasaki and Ingkaphirom's TQ particles	Phothisorn's YNQ particles
1. mǎy (máy)	✓		✓
2. rǔu (rú, rǎ, lú, lǎ, rǎ, lǎ)	✓		✓
3. rǔu-mây			✓
4. rǔu-plàaw	✓		✓
5. chây-mǎy		✓	✓
6. thùuk-mǎy			✓
7. ciη-mǎy			✓
8. nêε-mǎy			✓
9. chây-rǔu			✓
10. thùuk-rǔu (thùuk-tôη-rǔu)			✓
11. ciη-rǔu			✓
12. nêε-rǔu			✓
13. chây-rǔu-mây (chây-rǔu-mây-chây)			✓
14. thùuk-rǔu-mây (thùuk-rǔu-mây-thùuk, thùuk-tôη-rǔu-mây, thùuk-tôη-rǔu-mây-thùuk-tôη)			✓
15. ciη-rǔu-mây (ciη-rǔu-mây-ciη)			✓
16. nêε-rǔu-mây (nêε-rǔu-mây-nêε)			✓
17. chây-rǔu-plàaw		✓	✓
18. thùuk-rǔu-plàaw (thùuk-tôη-rǔu-plàaw)			✓
19. ciη-rǔu-plàaw			✓
20. nêε-rǔu-plàaw			✓
21. mây-chây-rǔu		✓	✓
22. mây-thùuk-rǔu (mây-thùuk-tôη-rǔu)			✓
23. mây-ciη-rǔu			✓
24. mây-nêε-rǔu			✓
25. rǔu-yaη (léεw-rǔu-yaη, yaη)	✓		

With this comprehensive list of YNQ particles in mind, we begin our introduction of Photisorn’s observations.

3.1.1 ONE-ELEMENT QUESTION PARTICLES

Photisorn (1985) describes one-element question particles as single words which can be attached to the end of a sentence to form a question. In Thai, these particles are *mǎy* ‘Q’, which resembles the negative particle *may*, and *rǎu* ‘Q’, which resembles the conjunction *ruu*. As stated in earlier sections, both have alternative pronunciations; *mǎy* ‘Q’ can be pronounced *máy*, and *rǎu* can be pronounced *rǎ*, *lǎ*, *ró*, and *ló*.

(147) *khun cà pay rooŋ-rian mǎy/máy*
 you will go school Q/NEG⁷²
 ‘Will you go to school?’

(148) *khun pay ta-làat rǎu/rǎ/ró*
 you go market Q/or⁷³
 ‘Will you go to the market?’

3.1.2 TWO-ELEMENT QUESTION PARTICLES

A two-element question particle consists of two words which form yes-no questions when attached to the end of a sentence. There are two types of two-element question particles: those which are formed by combining a conjunction with a negative word and those which are formed by combining a negative word with a one-element question particle. The examples, below, are of the first type.

⁷² Note, the data in this section was taken from Photisorn (1985) but the glosses and translations were provided by Yaisomanang (2012). In the gloss for the question particles, the left-most gloss ‘Q’ represents Photisorn’s analysis, while the right-most ‘NEG’ represents Yaisomanang’s. I firmly disagree with Yaisomanang’s ‘NEG’ gloss.

⁷³ ‘Q’ represents Photisorn’s analysis, and ‘or’ represents Yaisomanang’s analysis of this particle.

(149) thân hễn-dûay rǎu-mây
 you agree Q/or-NEG
 ‘Do you agree (with me)?’

(150) khun hễn-dûay rǎu-plàaw
 you agree Q/or-NEG
 ‘Do you agree (with me)?’

Two-element question particles which consist of a verb and a one-element particle are restricted to a set of four possible verbs which can be used in place of one another depending on the speaker’s intentions (Photisorn 1985, p 32). These verbs include *chây* ‘right’, *thiuk* ‘true/correct’, *ciŋ* ‘real’, and *nêe* ‘sure’. Yaisomanang notes that these lexical items can act as verbs depending on their position within a sentence. While they are often translated as adjectives in English, they are adjectival predicates in Thai. The analysis of these words as adjectival predicates has been widely accepted by researchers in Standard Thai. These four verbs combine with either of the one-element question particles identified above. See the examples below.

(151) pàak-kaa nîi dâam la sǎam baat chây-mǎy
 pen this CLS each three Thai.currency Q/right-NEG
 ‘Is the pen three baht each?’

(152) thîi kháw lǎu kan nà ciŋ-rǎ
 COMP they spread the rumour REC PP Q/real-or
 ‘Is the rumour they spread true?’

(153) khun pay ta-làat nêe-máy
 you go market Q/sure-NEG
 ‘Are you sure to go to the market?’

3.1.3 THREE-ELEMENT QUESTION PARTICLES

Three-element question particles are formed by combining a verb, conjunction, and a negative word or combining a negative word, a verb, and a conjunction. The four verbs available to this question type are the same as those available for two-element question particles: *chây*, *thiuk*, *ciŋ*, and *nêɛ*. The conjunction is always ‘*rǎu*’, though, once again, the pronunciation varies. Example (154), below, represents a typical use of the first type of three-element question particle: the ‘verb-or-NEG’ pattern.

- (154) king *dây-rap* *ŋən léɛw* *chây-rǎu-mây/* *chây-rǎu-plàaw*
 you receive money already Q/right-or-NEG/ Q/right-or-NEG
 ‘You have already received money, right?’

In (155), we see the three-element question particle which combines a negative word, a verb, and a conjunction. The negative word in type-2 particles can only be *mây* ‘NEG’; *plàaw* is not permitted, see (156) below⁷⁴.

- (155) *khàp àan cot-mǎay léɛw mây-chây-rǎu*
 you read letter already Q/NEG-right-or
 ‘You have read a letter already; was it not right?’

- (156) *khàp àan cot-mǎay léɛw *plàaw chây ruu*
 you read letter already NEG right Q
 ‘You have read a letter already; was it not right?’

4. UNDERSTANDING KHAM MUEANG VIA PHOTISORN (1985)

The following section looks at the one, two, and three-element question particles of Standard Thai, as identified by Photisorn (1985), and determines if such an analysis is relevant to Kham Mueang. It ultimately finds that not only is this analysis problematic in Kham Mueang, but it

⁷⁴ This data was not included in the original but has been included as evidence that this pattern is in fact impossible. As it is my own data, I have opted to remove the dash marks to indicate that I do not agree with this compound head analysis.

is unmotivated in Standard Thai, as well. Chapter 4 demonstrates the complications which arise when attempting a syntactic analysis based on this model.

4.1 ONE-ELEMENT PARTICLES IN KHAM MUEANG

It is one of the fundamental claims of this paper that Kham Mueang has one-element particles which operate in a similar manner as those in Standard Thai. Considering first the relationship between Standard Thai *máy* and Kham Mueang *goh*, we see that both languages can form polar questions by employing these one-element question particles in sentence-final position. See (157) and (158) below.

ST:

- (157) boon gin som.taam máy
 Boon eat papaya.salad INT
 ‘Do you (Boon) eat papaya salad?’

KM:

- (158) boon gin tam.som goh
 boon eat papaya.salad Q
 ‘Do you (Boon) eat papaya salad?’

However, as mentioned earlier, Kham Mueang has more flexibility as to where these elements can be located. In (159), we see that the Standard Thai question particle is restricted to the sentence-final position. In (160), we see that Kham Mueang *goh* can form a polar question in two positions.

ST:

- (159) a.) boon gin som.taam máy
 Boon eat papay.salad Q
 ‘Do you (Boon) eat papaya salad?’
 b.) *boon gin máy som.taam
 b.) *boon máy gin som.taam
 c.) *máy boon gin som.taam

KM:

- (160) a.) boon gin tam.som goh
boon eat papaya.salad Q
'Do you (Boon) eat papaya salad?'
- b.) boon gin goh tam.som
- c.) *⁷⁵boon goh gin tam.som
- d.) *goh boon gin tam.som

4.2 TWO-ELEMENT PARTICLES IN KHAM MUEANG

Photisorin (1985) identifies two classes of two-element YNQ particles in Standard Thai which pattern as either a conjunction attached to a negative word, or a verb attached to a one-element question particle. Translations of these two question types yield the following results.

4.2.1 STANDARD THAI CONJUNCTION + NEGATIVE WORD CORRELATES IN KHAM MUEANG

While this section is discussing Photisorin's model, Standard Thai examples in this section were taken from Yaisomanang (2012). Correlating Kham Mueang translations were collected for this paper during elicitations with the language consultant. In (161) and (162), the conjunction *ruu* attaches to either the negative marker *mây* or the negative marker *plàaw*.

ST:

- (161) nát khàp ròt ruu-mây
Nath drive car Q/or-NEG
'Does Nath drive?'

⁷⁵ This is only ungrammatical as a polar question. This can be a declarative, which indicates some level of uncertainty about the proposition: 'Boon probably eats papaya salad.'

(162) nát khàp ròt rǎu-plàaw
 Nath drive car Q/or-NEG
 ‘Does Nath drive?’

While these two particles fulfill different semantic needs in Standard Thai, they only have one correlating question type in Kham Mueang. Example (163), below, represents the Kham Mueang polar question type which most closely resembles the semantic and syntactic characteristics of (161) and (162), above.

KM:

(163) nát khap rot ga wa ba
 Nath drive car or COMP NEG
 ‘Does Nath drive?’

Recall, in this question type, there is an obligatory overt complementizer: *wa*. When this complementizer is absent, the sentence is ungrammatical, as seen in (164), below.

KM:

(164) *nát khap rot ga ba
 Nath drive car or NEG
 ‘Does Nath drive?’

While Photisorn connects each element with a dash and claims each combination of elements makes a unique particle, I propose that a more straightforward analysis would see these ‘multi-element particles’ as subordinate clauses. In Kham Mueang, the existence of the complementizer *wa* suggests my analysis is worth considering, and while later chapters address this in depth, for now I point to the fact that in no other context do Standard Thai or Kham Mueang complementizers form compound words. Furthermore, both languages are largely monosyllabic and compound words are typically limited to two elements, e.g. *lot-deng* ‘red-car’ in Standard Thai and *tam-som* ‘smash-sour’ (papaya salad) in Kham Mueang. Therefore, *ga-wa-ba* would be a highly irregular word in Kham Mueang.

Additionally, if compound question particles do exist in Kham Mueang, we might expect them to exhibit similar flexibility in distribution as one-element question particles. However,

while *goh* can appear sentence-medially in a monocausal sentence, *ga wa ba* must appear to the right of the proposition. See (165), below.

KM:

- (165) a.) nat khap rot ga wa ba
 Nath drive car or COMP NEG
 ‘Does Nath drive?’
 b.) *nat khap ga wa ba rot

Further evidence against a compound particle analysis can be seen in the examples, below. While we would expect a compound particle to be inseparable and the examples in (166) to be ungrammatical, we would not expect the grammaticality of (167), in which there is an interceding TAM marker between two elements of the supposed ‘particle’.

KM:

- (166) a.) *nat **ga wa** khap rot **ba**
 Nath or COMP drive car not
 ‘Does Nath drive?’
 b.) *nat **ga** khap **wa** rot **ba**
 c.) *nat khap **ga wa** rot **ba**

- (167) nat ja khap rot **ga wa ja ba** khap rot
 Nath will drive car or COMP will NEG drive car
 ‘Will Nath drive?’

4.2.2 VERB + ONE-ELEMENT PARTICLE IN KHAM MUEANG

According to Photisoron (1985), the available verbs for this type of particle are *chây* ‘right’, *thiùuk* ‘true/correct’, *ciŋ* ‘real’, and *nêɛ* ‘sure’ in Standard Thai. In Kham Mueang, the verbs *men* ‘right’, *dte* ‘true/correct/real’, and *ne* ‘sure’ fulfill these same roles.

KM:

(168) dte goh
real/true Q
‘Really?’/‘Is it true’

(169) men goh
right Q
‘Is that right?’

(170) ne goh
sure Q
‘Sure?’

Again, note that my transcription of these questions omits the dash between elements found in Photisoron’s work. This is to indicate my stance that these are not compound words.

Additionally, I disagree with Photisoron’s claim that a special class of verbs can be used to form polar particles. While these evaluative verbs might directly address the veracity of the statement, I see no syntactic difference between (168) through (170), above, and (171) below.

KM:

(171) bai goh
go Q
‘Is it going?’

4.2.2.1 VERB + *măy* VS VERB + *goh*

The examples below compare ‘*chây-măy*’ ‘right Q’ with *men goh* ‘right Q’. Semantically and syntactically these examples are roughly equivalent, as they can be used in the same contexts and convey the same message.

ST:

- (172) nát khàp rôt chây-măy⁷⁶
 Nath drive car right-Q
 ‘Does Nath drive?’

KM:

- (173) nát khap rot men goh
 Nath drive car right Q
 ‘Does Nath drive?’

4.2.2.2 VERB + *ruu* VS *VERB + *ga* VS VERB + *ga* + *wa*

Photisoron’s two-element question particles combine an evaluative verb with the disjunctive particle, *ruu*. For a prototypical example, see (174), below.

ST:

- (174) arroy chai ruu
 delicious right Q
 ‘It is delicious, right?’

⁷⁶ This data comes from Yaisomanang (2012), hence the spurious apostrophe.

In Kham Mueang, this same pattern is ungrammatical. See (175), below.

KM:

- (175) *lam men ga
delicious right or
'It is delicious, right?'

While a direct translation of the individual components of (174) results in an ungrammatical sentence, I have provided the following alternatives which result in grammatical translations of this question. The speaker can (i) select a different final element as in (176); (ii) omit the second verb, as in (177); or (iii) include an overt complementizer, as in (178). Starting with (176), we see this results in the *men goh* question type.

- (176) lam men goh
delicious right Q
'It is delicious, right?'

Looking at (177), we see the semantic meaning of the Kham Mueang translation is slightly different than the original Standard Thai sentence. This is because the question particle in (177) is targeting the evaluative verb *lam*, 'delicious', whereas, in (184), the question particle is targeting the evaluative verb *chây*, 'right'.

- (177) lam ga
delicious or
'Is it delicious?'

In (178), the Kham Mueang question has an obligatory complementizer but conveys the same meaning as the original Standard Thai.

- (178) lam men ga wa
delicious right or COMP
'It is delicious, right?'

The data above disqualifies Kham Mueang from fitting into the two-element question particle system devised by Photisorn (1985), as the verb + or construction is ungrammatical in Kham Mueang. It also calls into question whether Standard Thai has an elided or null complementizer, or if this complementizer position is unique to Kham Mueang. Interestingly, when asked to identify which translation was closest to the Standard Thai in (174), the language consultant selected the *men goh* sentence in (176). They suggested that *men ga wa* is a suitable form for this question but would rarely be used in this context. For a more prototypical use of *men ga wa*, they offered the following example.

- (179) king ja su nangsū men ga wa
 you will buy book yes or COMP
 ‘Will you buy a book?’

The language consultant suggested that the *men ga wa* question-type implies an elided second proposition. The full form can be seen in (180), below, where ‘proposition A’ equals any proposition which can be questioned as being correct or incorrect.

- (180) [proposition A] men ga wa ba (men)
 right or COMP NEG (right)
 ‘Is that right or not right?’

4.2.3 CONJUNCTION PLUS *YANG* EQUIVALENTS IN KHAM MUEANG

The following subsection extends Photisorn’s analysis to probe the semantic and syntactic properties of a ‘two-element particle’ omitted from their work: *ruu yang* ‘or yet?’.

This question type is highly typical in Standard Thai. Take the common greeting represented in (181), below.

ST:

- (181) giin khaao rǔu yaŋ
 eat food or yet
 ‘Have you eaten?’

Based on the frequency of this question in regular conversation, it would make sense to include *ruu yang* in Photisoron's original paradigm. As it pertains to my work on Kham Mueang, inclusion of this question type generates some interesting results. Take, for instance, example (182). In the Standard Thai question, there is no overt complementizer.

ST:

- (182) nat khap rot ruu yang
Nath drive car or not.yet
'Did Nath drive the car, yet?'

However, in Kham Mueang, the complementizer *wa* must appear between the disjunctive *ga* and the TAM marker, *yang*; see (183) and (184), below.

KM:

- (183) nat khap rot la ga wa yang
Nath drive car INT or COMP yet
'Did Nath drive the car, yet?'

- (184) *nat khap rot la ga yang
Nath drive car INT or yet
'Did Nath drive the car, yet?'

And, more importantly, Kham Mueang requires an additional morphological component to form *ga wa yang* questions: the question particle *la*. Above, in (184), *la* is located before the disjunction particle *ga* in what appears to be a separate clause. Absence of the morpheme *la* results in an ungrammatical sentence; see (185), below.

KM:

- (185) *nat khap rot ga wa yang
Nath drive car or COMP yet
'Did Boon drive the car yet?'

The discovery of the Kham Mueang element *la* has wide ramifications on the underlying syntax of polar questions in Kham Mueang and Standard Thai. Perhaps most importantly, it suggests the existence of a third one-element question particle in both languages. This possibility is validated by example (211), below⁷⁷.

KM:

- (186) nat khap rot la
 Nath drive car INT
 ‘Did Nath drive the car yet?’

4.3 THREE-ELEMENT PARTICLES IN KHAM MUEANG

In previous sections, I have suggested that Photisoron’s (1985) multi-element particle system is based on the false assumption that individual components of Standard Thai polar questions form compound words. This assumption becomes increasingly untenable as the number of elements in a ‘particle’ increase. This section explores what happens when we attempt to extend Photisoron’s (1985) analysis of three-element particles into Kham Mueang. The data in this section was collected for this project and the glosses reflect my own theoretical stance that the elements which form these questions are distinct words.

Based on Photisoron’s analysis, the Standard Thai three-element question particle ‘chây-rǎu-mây’ follows the verb-disjunction-negation pattern. This question can occur in sentence-final position as seen in (187).

ST:

- (187) bpai wai.nam chây rǎu mây
 go swim right or NEG
 ‘Did you go swimming, or not?’

⁷⁷ Yaisomanang (2012) suggests an alternative analysis of rǎu-yaŋ. They contend that this particle is comprised of three elements: leaw-rǎu-yaŋ. The first element is optional and frequently omitted. They do not address the fact that the first two elements can be omitted and *yang/yaŋ* can be used as a question particle by itself.

In Kham Mueang, the same sentence is ungrammatical. See (188).

KM:

- (188) *bai wai.nam men ga ba
 go swim right or neg
 ‘Did you go swimming, or not?’

This question type must include the overt complementizer *wa* and, typically, includes a sentence-final verb. So, while the Standard Thai question has three-elements, the Kham Mueang equivalent typically requires five, as seen in (189) and (190) below. Again, I point to the fact that while two-word compound words are a relatively common feature of Standard Thai and Kham Mueang, both languages are largely monosyllabic. While, *wai.nam* ‘swim’ and *ab.nam* ‘bathe’ are regular compound words in both languages, five-word compounds do not exist. I argue the lack of multi-element compound words in Kham Mueang and Standard Thai provides a serious challenge to Photisorn (1985), Iwasaki and Ingkaphirom (2009), and Yaisomanang (2012). If, however, we interpret these question types as alternative questions that presents two polar alternatives, then there is no need to view them as highly irregular lexicalized compound question particles. The following examples demonstrate the advantages of this approach. In (189), the polar alternatives presented are: (i) *men* ‘right’ and (ii) *ba men* ‘not right’. In (190), the polar alternatives are: (i) *bai* ‘go’ and (ii) *ba bai* ‘not go’.

KM:⁷⁸

- (189) bai wai.nam men ga wa ba (men)
 go swim right or COMP NEG (right)
- (190) bai wai.nam men ga wa ba bai
 go swim right or COMP NEG go
 ‘Did you go swimming, or not?’

⁷⁸ In both of these examples, the complementizer *wa* is obligatory.

As a note for future researchers, the language consultant indicated that, in Kham Mueang, this type of question usually requires a verb in final position; (191) is considered ‘odd’, though it is understandable. Standard Thai does not have this same requirement and sentences regularly end in negation. While other examples were collected in which the sentence could end with *men ga ba* without any sort of oddness reported, further research will be required to pick apart when *ba* is permitted sentence-finally.

KM:

(191) #bai wai.nam men ga wa ba
 go swim right or COMP NEG
 ‘Did you go swimming, or not?’

In an effort to salvage Photisorn's one-, two-, and three-element model, it is possible to arrive at a three-element question if we reorder the components. In (192) the three elements *ba*, *men*, and *ga* (NEG, right, and Q) form a grammatical question.

KM:

(192) bai wai.nam ba men ga
 go swim NEG right INT
 ‘You are going swimming, aren’t you?’

However, I argue that ‘*ba men ga*’ is not a particle, but rather each element is part of a clause that follows the expected word order based on the known hierarchy of elements in the language. In other words, *ba men ga* ‘NEG verb Q’ in (192), above, follows the same pattern as *ba lam ga* ‘NEG verb Q’ in (193), below.

(193) ba lam ga
 NEG delicious Q
 ‘Is that not delicious?’

As with all of the supposed multi-elemental ‘particles’ of both Standard Thai, these three elements can form a question without additional morphology.

KM:

- (194) ba men ga
NEG right Q
'Is that not right?'

Contrast this with one-element question particles in Kham Mueang and Standard Thai. In the examples below, we see these cannot stand alone but must be part of a sentence.

- | | | | | |
|-------|-----|----------|----------|-----------|
| (195) | KM: | a.) *goh | b.) *ga | c.) *la |
| | | Q | Q | Q |
| | | 'Yes?' | 'Yes?' | 'Yes?' |
| | ST: | d.) *máy | e.) ruu* | f.) *yang |
| | | Q | Q | Q |
| | | 'Yes?' | 'Yes?' | 'Yes?' |

5. GENERALIZATIONS AND IMPLICATIONS

This chapter has relayed the observations of Iwasaki and Ingkaphirom (2009) and Photisoron (1985) on the semantic and syntactic properties of Standard Thai polar questions, and it attempted to create an analogous account of polar questions in Kham Mueang. The primary finding of this chapter is that previous works on Standard Thai polar questions have built their typologies on a faulty assumption, that multiple elements of a polar question form one particle (e.g., 'chây-rǔu-mây-chây' = Q). I argue that there are only three polar question particles in each language. These are *máy*, *ruu*, and *yang* in Standard Thai and *goh*, *ga*, and *la* in Kham Mueang. Additionally, I propose that multiple element question particles should be reevaluated as subordinate clauses. In chapter 4, I provide my analysis which supports these claims. Below I have provided a list of generalizations that can be drawn from this chapter.

Table 3.3

Generalization one:	Standard Thai has three clause-final polar question particles: <i>máy</i> , <i>ruu</i> , and <i>yang</i> .
Generalization two:	The disjunctive particle <i>ruu</i> is used to create alternative questions. It never requires an overt complementizer.
Generalization three:	The Kham Mueang polar question particles include: <i>goh</i> , <i>ga</i> , and <i>la</i>
Generalization four:	The polar question particles in Kham Mueang are not restricted to sentence-final position.
Generalization five:	The disjunctive particle <i>ga</i> is used to create alternative questions. It requires the overt complementizer <i>wa</i> .

Table 3.4 illustrates the key claims made in the background literature and provides a set of my proposed revisions. Column A provides a complete list of question types discussed in Iwasaki and Ingkaphirom (2009), Photisoron (1985), and Yaisomanang (2012)⁷⁹. Column B identifies the number of elements in each question type. This column highlights how Photisoron’s one-, two-, three-element model fails capture the question types which have 4 and 6 elements. Column C provides the glosses based on Iwasaki and Ingkaphirom’s QP analysis. Note, the lack of coverage this analysis provides, compared to other typologies. Column D provides Yaisomanang’s proposed glosses. Note the major difference between their glossing and my own, seen in Column E, is their analysis requires that the individual elements be adjoined to one another through head movement. This analysis will be discussed, and ultimately dismissed, in Chapter 4. Column F provides rough equivalents to the Standard Thai questions from Column A. Column G provides my proposed glosses for the Kham Mueang in Column F. Column G identifies the question types based on my proposal that Standard Thai and Kham

⁷⁹ This list has been revised to reflect my own transcription style, which elects to omit use of IPA and tone notation unless necessary. Again, this is done to diminish future confusion, as I have not done a phonological analysis of each word. I believe that marking *ruu* as *ruu* instead *rǔu*, more accurately conveys the fact that *ruu* has multiple pronunciations, e.g. rǔ, rǔ̌, lǔ, lǔ̌, rǔ̌, lǔ̌, least common of which is *rǔu*. I mention this one last time to reassure the reader this choice was made in a conscious effort to provide accurate data, and not out of laziness. For me, the easier choice would have been to continue to use *rǔu*, as it gives the appearance that I have analysed data which I have not.

Mueang have two polar question types: Polar Particle Questions and Polar Alternative Questions. This proposal will be discussed in Chapter 4.

**Table
3.4**

A	B	C	D	E	F	G	H
Standard Thai Questions	# of elements	glosses from I&I ⁸⁰ (2009)	glosses from Yaisomanang (2012)	proposed revisions to glosses	Kham Mueang equivalents	Kham Mueang glosses	Q type
1. <i>máy</i>	1	QP	NEG	Q	goh	Q	PPQ
2. <i>ruu</i>	1	QP	or	Q	ga	Q	PPQ
3. <i>ruu máy</i>	2		or-NEG	or NEG	ga wa ba	or COMP NEG	PAQ
4. <i>ruu plaaw</i>	2	QP	or-NEG	or NEG	ga wa ba	or COMP NEG	PAQ
5. <i>chay máy</i>	2	QP	right-NEG	right Q	men goh	right Q	PPQ
6. <i>thuuk máy</i>	2		true/correct-NEG	true/correct Q	dte goh	true Q	PPQ
7. <i>jing máy</i>	2		real-NEG	real Q	dte goh	true Q	PPQ
8. <i>nee máy</i>	2		sure-NEG	sure Q	dte goh	true Q	PPQ
9. <i>chay ruu</i>	2		right-or	right Q	men ga	right Q	PPQ
10. <i>thuuk ruu (thuuk tong ruu)</i>	2 (4)		true/correct-or	true/correct Q	dte ga	true Q	PPQ
11. <i>jing ruu</i>	2		real-or	real Q	dte ga	true Q	PPQ
12. <i>nee ruu</i>	2		sure-or	sure Q	dte ga	true Q	PPQ
13. <i>chay ruu máy (chây ruu máy chay)</i>	3 (4)		right-or-NEG (right-or-NEG-right)	right or NEG (right or not right)	men ga wa ba (men ga wa men)	right or COMP NEG (right or COMP NEG right)	PAQ

⁸⁰ Iwasaki and Ingkaphirom (2009)

14. <i>thuuk ruu mây (thuuk ruu may thuuk, thuuk tong ruu mây, thuuk tong ruu mây thuuk tong)</i>	3 (4, 4, 6)		true/correct-or-NEG (true/correct-or-NEG-true/correct, true/correct-ure-or-NEG, true/correct-or-NEG-true/correct-true)	true/correct or NEG (True or not true)	dte ga wa ba (dte ga wa ba dte)	true or COMP NEG (true or COMP NEG true)	PAQ
15. <i>jing ruu mây (jing ruu mây jing)</i>	3 (4)		real-or-NEG (real-or-NEG-real)	real or NEG (real or NEG real)	dte ga wa ba (dte ga ba dte)	true or COMP NEG (true or COMP NEG true)	PAQ
16. <i>nee ruu mây (nee ruu mây nee)</i>	3 (4)		sure-or-NEG (sure-or-NEG-sure)	sure or NEG (sure or NEG sure)	dte ga wa ba (dte ga wa ba dte)	true or COMP NEG (true or COMP NEG true)	PAQ
17. <i>chay ruu plaaw</i>	3	QP	right-or-NEG	right or NEG	men ga wa ba	right or COMP NEG	PAQ
18. <i>thuuk ruu plaaw (thuuk tong ruu plaaw)</i>	3 (4)		true/correct-or-NEG (true/correct-true-or-NEG)	true/correct or NEG (true/correct true or NEG)	dte ga wa ba	true or COMP NEG	PAQ
19. <i>jing ruu plaaw</i>	3		real-or-NEG	real or NEG	dte ga wa ba	true or COMP NEG	PAQ
20. <i>nee ruu plaaw</i>	3		sure-or-NEG	sure or NEG	dte ga wa ba	true or COMP NEG	PAQ
21. <i>mây chay ruu</i>	3	QP	NEG-right-or	NEG right Q	ba men ga	NEG right Q	PPQ

22. <i>mây thuuk ruu (mây thuuk tong ruu)</i>	3		NEG- true/correct- or (NEG- true/correct- ? ⁸¹ -or	NEG true/correct Q (NEG true/correct true Q)	ba dte ga	NEG true Q	PPQ
23. <i>mây jing ruu</i>	3		NEG-real-or	NEG real Q	ba dte ga	NEG true Q	PPQ
24. <i>mây nee ruu</i>	3		NEG-sure-or	NEG sure Q	ba dte ga	NEG true Q	PPQ
25. <i>ruu yang (leew ruu yang, yang)</i>	2 (3, 1)	QP	or-yet (already-or- yet, yet)	or yet (already or yet, Q)	la, la lay, lew la	Q, ?	PPQ

Table 3.5 schematizes the distributive properties of Kham Mueang polar particles *goh* and *ga*, as described in Chapters 2 and 3. The distributive properties of *la* have not been included, as further research will be required to fully describe this seemingly irregular particle.

Table 3.5

Kham Mueang			
a.) <i>goh</i> type PPQ	(S) V (O) <i>goh</i>	S V <i>goh</i> O	S NEG V O <i>goh</i>
	(S) NEG V (O) <i>goh</i>	NEG Adj/V <i>goh</i>	S V O <i>ga</i> – wa SVO <i>goh</i>
b.) <i>ga</i> type PPQ	(S) V (O) <i>ga</i>	S (V O) <i>ga</i>	(S V) O <i>ga</i>
	(S) NEG V (O) <i>ga</i>	NEG Adj/V <i>ga</i>	S V O <i>ga</i> wa S V O <i>ga</i>
c.) PropositionA + AFFverb + Q = PPQ	(S V O) AFFverb <i>goh/ga</i>	(S) NEG V (O) AFFverb <i>goh/ga</i>	
	(S) V (O) AFFverb <i>goh/ga</i>	(S) V (O) NEG AFFverb <i>goh/ga</i>	
	NEG AFFverb <i>goh/ga</i>		
‘AFFverb’ is an affirmative/evaluative verb			

⁸¹ I could not locate a gloss for this element in Yaisomanang’s work. I believe it might be a reduplicant of *thuuk*.

Table 3.6 schematizes the distributive properties of the Standard Thai polar particles *máy*, *ruu*, and *yang*, as described in Chapters 2 and 3.

Table 3.6

Standard Thai		
a.) Proposition + Q = PPQ	(S) V (O) Q	(S) NEG V (O) Q
b.) Propoposition + AFFverb + Q = PPQ	(S V O) AFF Q	(S) NEG V (O)verb Q
	(S) V (O) AFFverb Q	(S) V (O) NEG AFFverb Q
	NEG AFFverb Q	
AFFverb = affirmative/evaluative verb Q = <i>máy</i> , <i>ruu</i> , and <i>yang</i>		

While the above tables report my findings for typical PPQs, table 3.7 presents the basic premise behind my PAQ analysis.

Table 3.7

<u>Standard Thai:</u> Proposition + <i>ruu</i> + NEG Proposition = PAQ
<u>Kham Mueng:</u> Proposition + <i>ga</i> + <i>wa</i> + NEG Proposition = PAQ

The following chapters will expand on these observations and discuss the underpinnings of my PPQ-PAQ analysis. In Chapter 4, I begin by introducing Yaisomanang (2012) which argues that all polar question particles are underlyingly multi-element compounds, because, in their view, all polar questions are underlyingly alternative questions. As Yaisomanang relies heavily

on the works of Photisorn (1985) and Iwasaki and Ingkaphirom (2009), the utility of Chapter 3 will become increasingly clear. After presenting Yaisomanang's disjunction-deletion model, I offer my own analysis which resolves many of the unanswered questions raised in this chapter concerning the differences between Standard Thai and Kham Mueang. Ultimately, my analysis leads to typology that can easily account for all question types in both languages.

4

Analysis

Until now, this paper has focused on identifying the primary characteristics of polar questions in Standard Thai and Kham Mueang. Chapter 1 introduced seven strategies used crosslinguistically in the formation of polar questions and identified which strategies are available in Standard Thai and Kham Mueang. Chapter 2 presented background on the tone and intonation systems of both languages and answered some key research questions regarding interrogative intonation. Chapter 3 detailed the core semantic, pragmatic, and syntactic characteristics of polar particles in Standard Thai and Kham Mueang. It also claimed that previous researchers inaccurately classified entire phrases as distinct compound-particles without justification. This mistreatment of polar question particles in Standard Thai resulted in typologies which identified over twenty distinct particles⁸², some of which were comprised of up to six different words. In my own work, I recognize only three distinct particles in Standard Thai and Kham Mueang. The main advantage of my three-particle model is its ability to account for all polar question types in both Standard Thai and Kham Mueang without having to explain why these largely monosyllabic languages allow for so many multi-elemental particles in polar question formation. Having established the descriptive groundwork in these earlier chapters, Chapter 4 reinforces the theoretical claims of this paper with an in-depth

⁸² The number of supposed particles increases significantly if you include all ‘phonological variations.’

analysis of the underlying syntactic structure of polar questions in Standard Thai and Kham Mueang.

As of now, there are currently two competing approaches to analyzing the underlying structure of polar questions in South and East Asian languages: the disjunction-deletion model (e.g., Yaisomanang's (2012) work on Standard Thai) and the polar particle model (e.g., Bhatt and Dayal's (2014, 2020) work on Hindi/Urdu or Syed and Dash's work (2017) on Hindi, Bangla, and Odia). The major contribution of this chapter is the addition it makes to the current debate surrounding these two approaches. This chapter also fills in large gaps of knowledge pertaining to polar questions in Standard Thai and Kham Mueang. This contribution is significant as there is little work on polar questions in Standard Thai and, to my knowledge, no research on polar questions in Kham Mueang. To the best of my knowledge, Yaisomanang's (2012) analysis of Yes-No questions (YNQs) and Yes-No replies (YNRs) in Standard Thai represents the most extensive writing on polar questions in Standard Thai and serves as the only available theoretical background on the subject⁸³.

The following section introduces Yaisomanang's work and addresses the key strengths and weaknesses of their disjunction-deletion model. A comprehensive review of this research finds several internal inconsistencies which cannot be resolved, and therefore imply the need for a different approach. Analysis of novel data on Kham Mueang further challenges the implementation of a disjunction-deletion model in either language. From there, Section 2 introduces my Polar Particle Question (PPQ) and Polar Alternative Question (PAQ) approach and details the underlying structure of each. Section 3 summarizes the findings of this chapter and addresses potential questions raised by these findings.

1 EXISTING ANALYSIS

Yaisomanang (2012) contends that all Standard Thai YNQs⁸⁴ underlyingly contain a disjunction between two polarity-carrying constituents that are negative and positive alternatives of the same category. They further suggest that these constituents are always connected, either overtly or covertly, by the conjunction *ruu*. However, their description of the

⁸³ Though other researchers of Standard Thai discuss YNQ particles (e.g., Photisorn (1985) and Iwasaki and Ingkaphirom (2009)), they do not analyze the syntactic structure of the YNQs in the language.

⁸⁴ This chapter often refers to polar questions and replies as YNQs and YNRs to reflect Yaisomanang's terminology.

underlying syntactic structure of YNQs relies on some questionable assumptions which require the author, along with the reader, to ignore certain inconsistencies within the data. This section provides an overview of Yaisomanang’s research and discusses some of the challenges to their theory.

1.1 YNQs IN STANDARD THAI

Yaisomanang defines YNQs as polarity questions which evoke YNRs. YNRs typically mean ‘yes’ or ‘no’. For any given YNQ, there are a variety of possible YNRs, as seen below in (196) taken from Yaisomanang (2012, pg 2).

(196) Q: nát cà súu nǎŋ-sǔu rǔu
 Nath will buy book Q/or
 ‘Will Nath buy a book?’

A1: súu/ khâ/ khráp/ chây/ uu-hú/ uum
 buy/ HON⁸⁵/ HON/ right/ EXC/ EXC
 ‘Yes.’

A2: mây súu/ mây khâ/ mây khráp/ mây chây/ plàaw/ mây
 NEG buy/ NEG HON/ NEG HON/ NEG right/ NEG/ NEG
 ‘No.’

Yaisomanang hypothesizes that YNRs are derived by the ellipsis of a sentential constituent under identity with the content and sentential structure of the YNQ. Through an analysis of the correlation between YNQs and YNRs, Yaisomanang identifies two types of question particles in Standard Thai:

Type 1: mǎy, rǔu, rǔu-mây, rǔu-plàaw and rǔu-yang

Type 2: chây-mǎy, chây-rǔu-mây, chây-rǔu-plàaw, chây-rǔu and mây-chây-rǔu

⁸⁵ HON is Yaisomanang’s gloss for honorific. Recall, Iwasaki and Ingkaphirom (2009) use the gloss SLP.

In this model, Type-1 questions evoke primary YNRs based on a verb or a ‘verb complex’ contained within the YNQ and Type-2 questions evoke primary YNRs which directly correspond to the question particle itself⁸⁶.

1.1.1 TYPE-1 QUESTIONS

Type-1 question particles are comprised of two elements: the conjunction *rǎu* and a negative element. The negative elements available are *mây*, *plàaw*, and *yang*. Each element can be either covert or overt so that all particles in this category have the same underlying structure: or-NEG. This claim is schematized in table 4.1, below⁸⁷. Note, parenthetical elements are covert.

Table 4

Type-1 question particles:	Yaisomanang’s gloss
a. (rǎu-) mǎy	(or-) NEG
b. rǎu (-mây)	or (-NEG)
c. rǎu-mây	or-NEG
d. rǎu-plàaw	or-NEG
e. rǎu-yaŋ	or-NEG

⁸⁶ Note, Yaisomanang subdivides YNRs into primary and secondary (or alternative) responses. Primary responses are derived from the material contained in the corresponding YNQ. Whereas Secondary responses do not contain overt material from their corresponding questions, but instead rely on externally merging the Pol head with an affirmative or negative value, as exemplified in the case of the honorific *khâ* or *kháp*, seen above in (196). This poses a problem, as Primary and Secondary responses are both permitted in regular speech for both question types. In other words, though the basis for classifying questions as either Type-1 or Type-2 is the identification of which responses they can elicit, questions classified as Type-1 or Type-2 regularly elicit responses which should be unavailable to their type.

⁸⁷ Later sections refer to these as Type-1a, Type-1b, Type-1c, Type-1d, and Type-1e. While this subcategorization is not used in the original work, it is adopted here for ease of reading.

This system of categorization relies on the assumption that the element *măy*⁸⁸, spoken with the high or rising tone, is underlyingly a NEG marker. However, only the word *mây*, spoken with a falling tone, can be used as a negative marker, and only the particle *măy*, spoken with the high/rising tone, can be used as a polar question particle. See (197) through (199), below, where (a.) represents a well-formed sentence and (b.) represents an ill-formed sentence.

- (197) a. *nát* **mây** *khàp* *ròt* b. **nát* **măy** *khàp* *ròt*
 Nath **NEG** drive car Nath **Q** drive car
 ‘Nath doesn’t drive.’ *‘Nath doesn’t drive.’
- (198) a. *nát* *khàp* *ròt* **rừu-mây** b. **nát* *khàp* *ròt* **rừu-măy**
 Nath drive car or-**NEG** Nath drive car or-**Q**
 ‘Does Nath drive, or not?’ *‘Nath drives, right?’
- (199) a. *nát* *khàp* *ròt* **măy** b. *nát* *khàp* *ròt* ***mây**
 Nath drive car **Q** Nath drive car **NEG**
 ‘Does Nath drive?’ *‘Does Nath drive?’

To address this problem, Yaisomanang creates the following morphological rule:

(200)

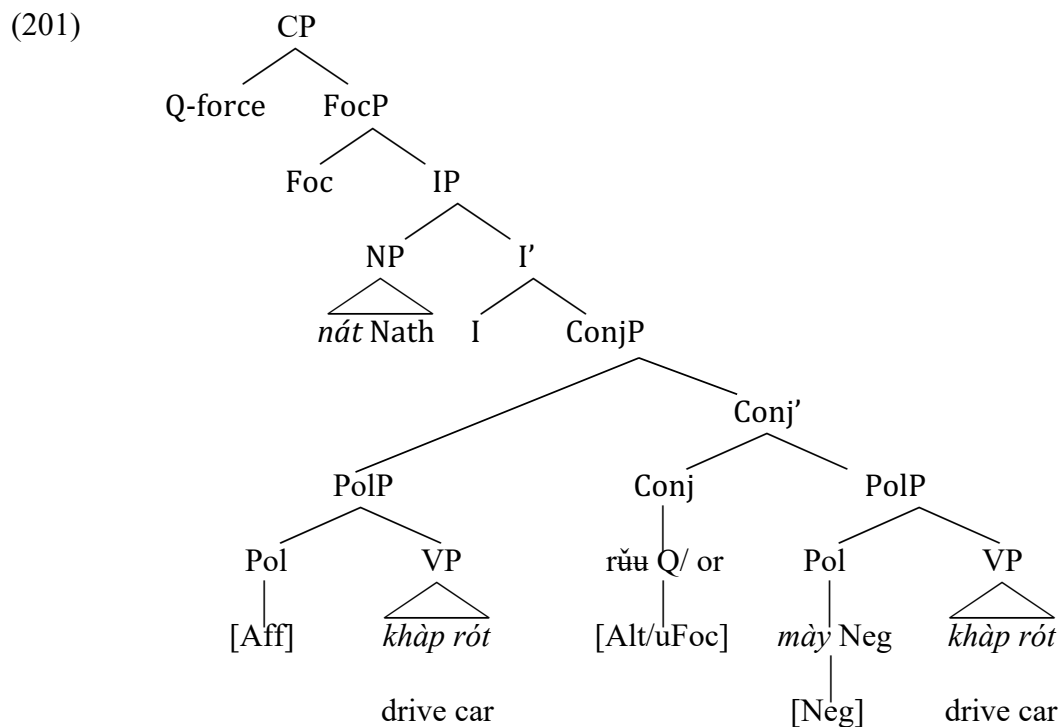
<i>rừu</i> + <i>mây</i> “ <i>măy</i> / <i>máy</i> .

As discussed in Chapter 2, this rule states that the Q-particle *măy/máy* is an alternative spell-out of the compound *rừu-mây*. Assuming this is true, (210) would then represent an alternative spell-out of (211), whereby, through the application of this morphological rule, ‘*nát khàp ròt rừu-mây*’ becomes ‘*nát khàp ròt măy/máy*’. In other words, *mây* copies the tonal features of

⁸⁸ As mentioned before, the transcription of *măy* with the rising tone is based on the orthographic representation. I typically record this as *máy* with the high tone, as this more accurately reflects how this is typically spoken. In this chapter, I write this particle as *măy* to reflect the data as it is presented in Yaisomanang’s analysis.

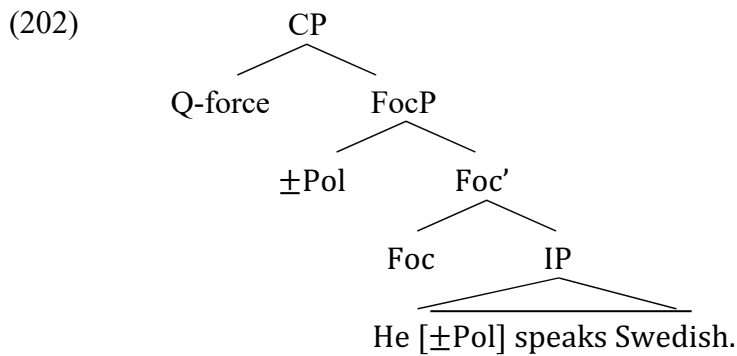
‘*rǎu*’, then ‘*rǎu*’ is deleted resulting in the question word *mǎy/máy*. However, Chapter 2 demonstrated, this type of assimilation does not occur in Standard Thai, and there is no phonological basis for the creation of this rule. In the absence of any supporting argumentation, it seems the primary motivation for this rule is to maintain a disjunction-deletion model of polar questions. One advantage to my PPQ-PAQ proposal, which I will expand upon in later sections, is that it eliminates the need for such an ad hoc rule. This is because my claims are in harmony with the phonological evidence presented in Chapter 2, as well as the intuitions of native Standard Thai speakers, both of which suggest *mây* is a negative marker, and *mǎy/máy* is a question particle.

Setting aside this issue for the time being, I present Yaisomanang’s analysis of the underlying structure of question Type-1 in (201), below.

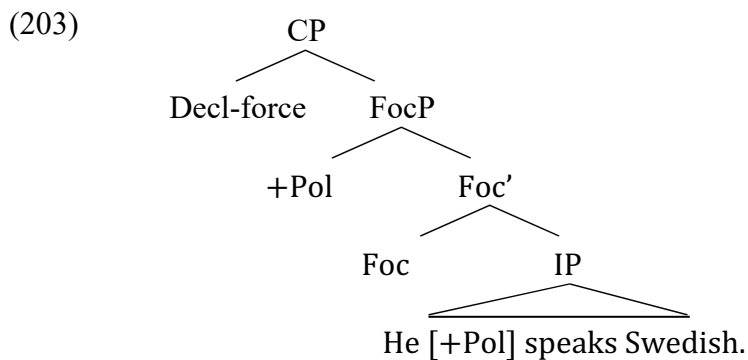


(tree from Yaisomanang 2012, pg 88, ex 16)

Yaisomanang asserts that every direct question must have a Q-force and a focussed \pm polarity feature. This concept is represented in the tree below; see in (214).



Q-force in the CP-domain instructs the addressee to assign value to the $[\pm\text{Pol}]$, which would result in a truthful sentence. The answer assigns value to the polarity of the sentence, as is structurally represented below.



Yaisomanang argues that when the conjunction *rñu* ('or') heads the ConjP, it operates as a YNQ particle with an [Alt] feature that requires the addressee to answer by selecting one of two PolPs. These PolPs are polarity features, one affirmative and one negative, merged exclusively with verbal constituents. The Q-force of the sentence signals a request to the addressee that they select the most truthful option from the two possible propositions '[Affirmative [Nath drives]]' and [Negative [Nath drives]]'.

To satisfy the theoretical requirement that the questioned constituents are essentially focussed, Yaisomanang assigns *rñu* 'Q/ or' an unvalued focus feature [uFoc], which is probed by the head of Focus and moved covertly to the Spec of FocP. In this model, the polarity becomes the focused variable of the sentence which is inherently bound by the Q-force. Important to Yaisomanang's theory is the claim that without Q-force binding [Alt, uFoc] the

expression cannot be interpreted as a question and must be interpreted as a statement. Yaisomanang (2012, p. 89) provides the following data in support of this claim:

- (204) *nát* *khàp* *rót* *rũu* *mây* *khàp* *rót*
 Nath drive car or NEG drive car
 ‘Nath drives or doesn’t drive.’

It is important to note that Yaisomanang personally provided the data⁸⁹, gloss, interpretation, and grammaticality judgment in (204), above. This data reflects Yaisomanang’s own native speaker intuitions on this type of sentence, which they insist could be theoretically interpreted as a statement, albeit a semantically vacuous one. However, the language consultant for this project strongly disagreed with this assessment, insisting that the word *ruu* ‘or’ always requires the addressee to select one of the two propositions, i.e. (204) must be interpreted as a question. The language consultant provided the following counterevidence to Yaisomang’s claim.

- (205) Speaker 1: *khun* *gin* *nua* *arai*
 you eat meat what
 ‘What meat do you eat?’

- Speaker 2: *Phom* *gin* *muu* *ruu* *plaa*
 I eat pork or fish
 *‘I eat pork or fish’ / ‘Do I eat pork or fish?’

In this example, Speaker 2 absolutely cannot use the conjunction *ruu* to form a declarative statement when responding to the question ‘What kind of meat do you eat?’. The use of the conjunction *ruu* forces a question interpretation in which Speaker 2 is asking for clarification about the nature of the initial question. To create a declarative sentence with the ‘or’

⁸⁹ Their example, *nát khàp rót rũu mây khàp rót* ‘Nath drives a car or doesn’t drive a car’ is purely theoretical. It was fabricated in support of their theory, but there is no context in which it could be said and understood as a declarative. Contrast this with the examples provided by my language consultant, below, which can easily be found in natural language.

interpretation, the speaker would need to select the conjunction *gaap* ('with/and'), as seen in (206).

- (206) Speaker 2: Phom gin muu gaap plaa
 I eat pork with/and fish
 'I eat pork and/or fish.'

In (207), Speaker 1 asks if Speaker 2 would like to go somewhere. In (208), Speaker 2 responds that both propositions are equally acceptable. If Speaker 2 wishes to convey this 'either/or'-type meaning they must use the conjunction *gaap*. When Speaker 2 uses the conjunction *ruu*, as seen in (221), the interpretation must be that the speaker is asking Speaker 1 to decide. It cannot be a statement.

- (207) Speaker 1: yaak bpai may
 want go Q
 'Do you want to go?'

- (208) Speaker 2: bpai gaap may bpai | arai ga.dai
 go with/and not go | whatever can
 'Go or don't go.'/*'Do you want to go?' 'Anything works for me.'

- (209) Speaker 2: bpai ruu may bpai | arai ga.dai
 go or not go | whatever can
 *'Go or don't go.'/'Do you want to go?' 'Anything works for me.'

Based on this evidence, I argue that when *ruu* is located in the conjunction positions, the sentence must be interpreted as an alternative question. One of the fundamental claims of this paper is that positive and negative polarity phrases qualify as constituents of different types, and by definition, all sentences in which *ruu* is not in sentence-final position are alternative questions.

For the purposes of continuing our discussion of Yaisomanang's theory, allow us to momentarily accept their judgment of the grammaticality of *ruu*-declaratives and return to their analysis of the syntax of Type-1 YNQs. Assuming that in a YNQ the Q-force targets the

polarity of the sentence, if there is no Q-force then the sentence must be interpreted as a statement. To generate Q-force, Yaisomanang argues that the ellipsis is required to signal focus. Take the example of Yaisomanang’s semantically vacuous declarative sentence, reproduced, in (210), below, and compare it with the YNQ represented in (211).

(210) ⁹⁰nát khàp rôt rǔu mây khàp rôt
 Nath drive car or NEG drive car
 ‘Nath drives or doesn’t drive.’

(211) nát khàp rôt rǔu-mây
 Nath drive car Q/or-NEG
 ‘Does Nath drive?’

Yaisomanang argues that while the first sentence is a statement and the second is a question, the only distinction between these two sentences can be detected in the syntax. This claim is dependent on the assumption that there are no prosodic or intonational cues. Both my own findings and those of Luksaneeyanawin (1998) suggest that interrogative intonation is a measurable feature of Standard Thai. In question (211), when the conjunct of the question is deleted, the focus is drawn to the variable polarity feature assigned to the conjunction. The Q-force then instructs the addressee to assign a value to the focused polarity encoded by *ruu*.

The different particles, which Yaisomanang classifies as Type-1, are then derived by optional incorporation of the negative Pol head of the second conjunct into the Alt-conjunction *ruu*. I present these once more in the table below, for ease of reading

Table 4.1

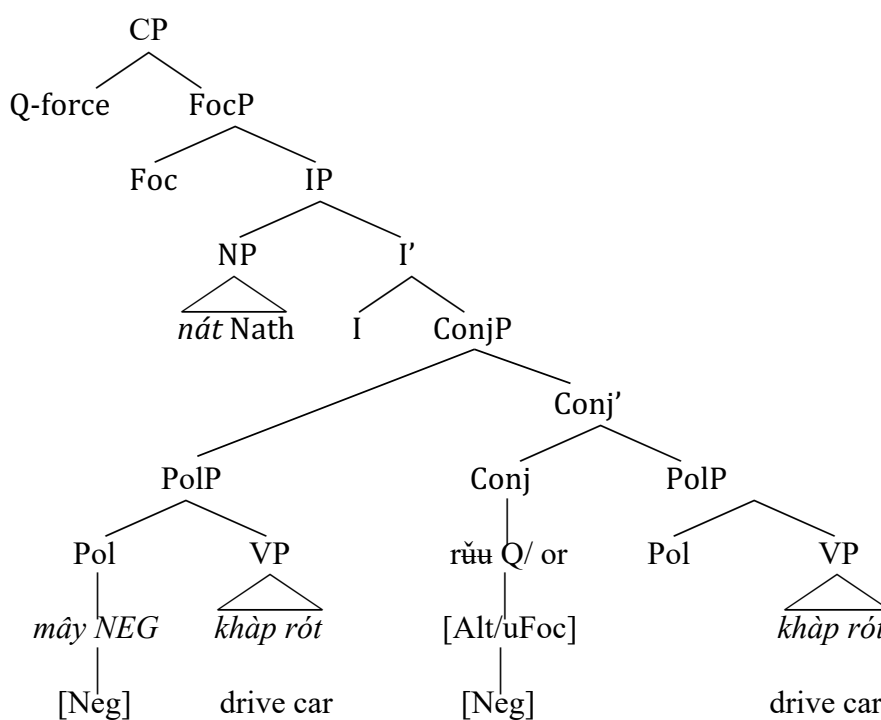
Type-1 question particles:	Yaisomanang’s gloss
a. (rǔu-) mǎy	(or-) NEG
b. rǔu (-mây)	or (-NEG)
c. rǔu-mây	or-NEG
d. rǔu-plàaw	or-NEG
e. rǔu-yaŋ	or-NEG

⁹⁰ Again, there is no evidence that this is a viable grammatical declarative.

Beginning with Type-1b, Yaisomanang (2012) claims that, after a movement of the head of Pol to the head of Conj, the PolP is deleted entirely leaving the compound-head *ruu-máy* in sentence-final position. When the *máy* particle is elided, Yaisomanang classifies this as a covert incorporation/head-movement of Pol. Contrastively, in Type-1c and Type-1d incorporation is overt as the negative marker surfaces though the rest of the PolP has been elided. In Type-1a questions, the head of Pol undergoes the same movement followed by the application of the morphological rule: *rũu + máy* → *mãy/máy*.

Additionally, in negative questions, *ruu* does not require any movement since the affirmative Pol head does not have an overt marker. This question type is represented in (255), below⁹¹.

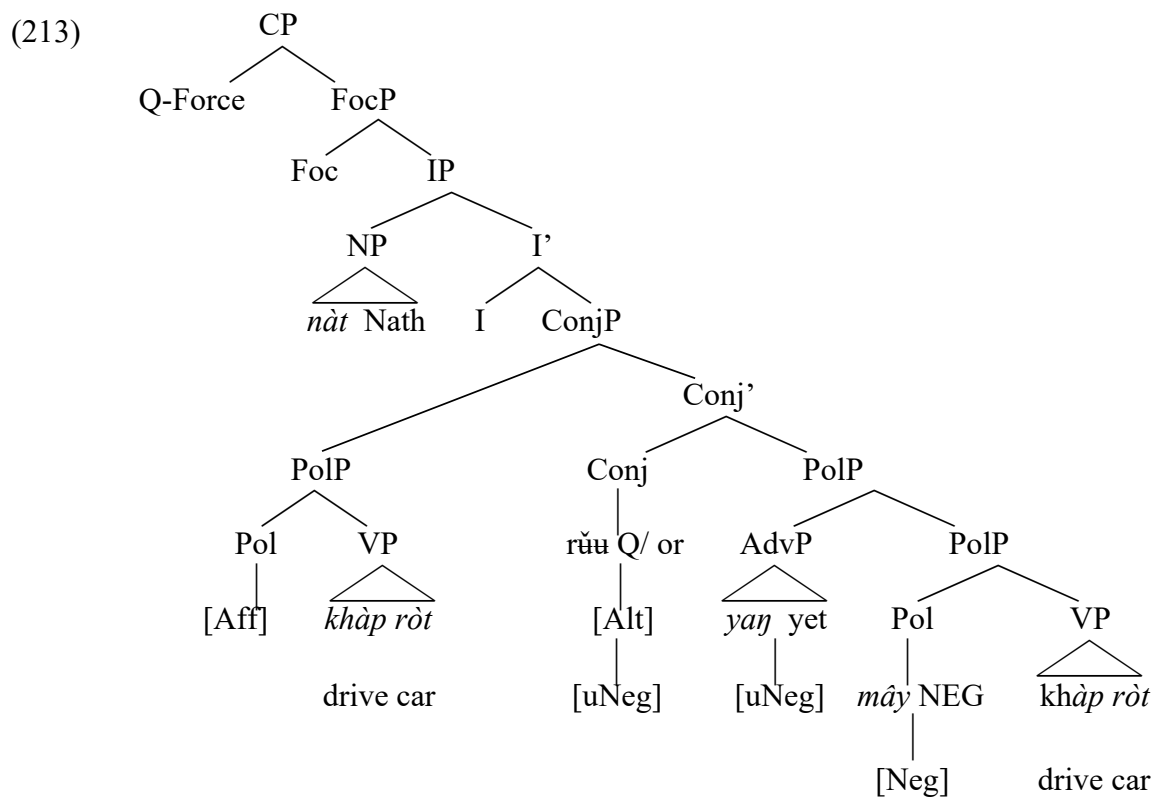
(212)



The negative constituent is conjoined to an affirmative constituent of the same kind, so deletion of second the PolP would result in a negative proposition with a sentence-final conjunction *ruu*. The implication is an underlying form not included in Yaisomanang's original typology: bare *ruu* 'or'.

⁹¹ This tree was not included in Yaisomanang's original work but appears here as a visual representation of this additional theoretical question type.

Finally, Yaisomanang provides an alternative analysis for Type-1e questions. In this question type, the AdvP, *yaŋ* ‘yet’, merges with the PolP. In (226)⁹² the two PolPs are conjoined by the [Alt] feature of the particle *ruu*. According to Yaisomanang, the AdvP *yaŋ* always requires a negative phrase as its complement and, therefore, must be adjoined as a sister to a PolP. The head of AdvP *yaŋ* is incorporated with the [Alt] feature at LF resulting in the *rũu-yaŋ* form at PF. Because *yaŋ* has the [uNeg] feature, it gets assigned value by the negative Pol head so that *rũu-yaŋ* can be roughly translated as ‘or not yet’. This means that *rũu-yaŋ* is derived by overt incorporation of the conjunction *rũu-* and the AdvP *yaŋ* with subsequent PolP-ellipsis.

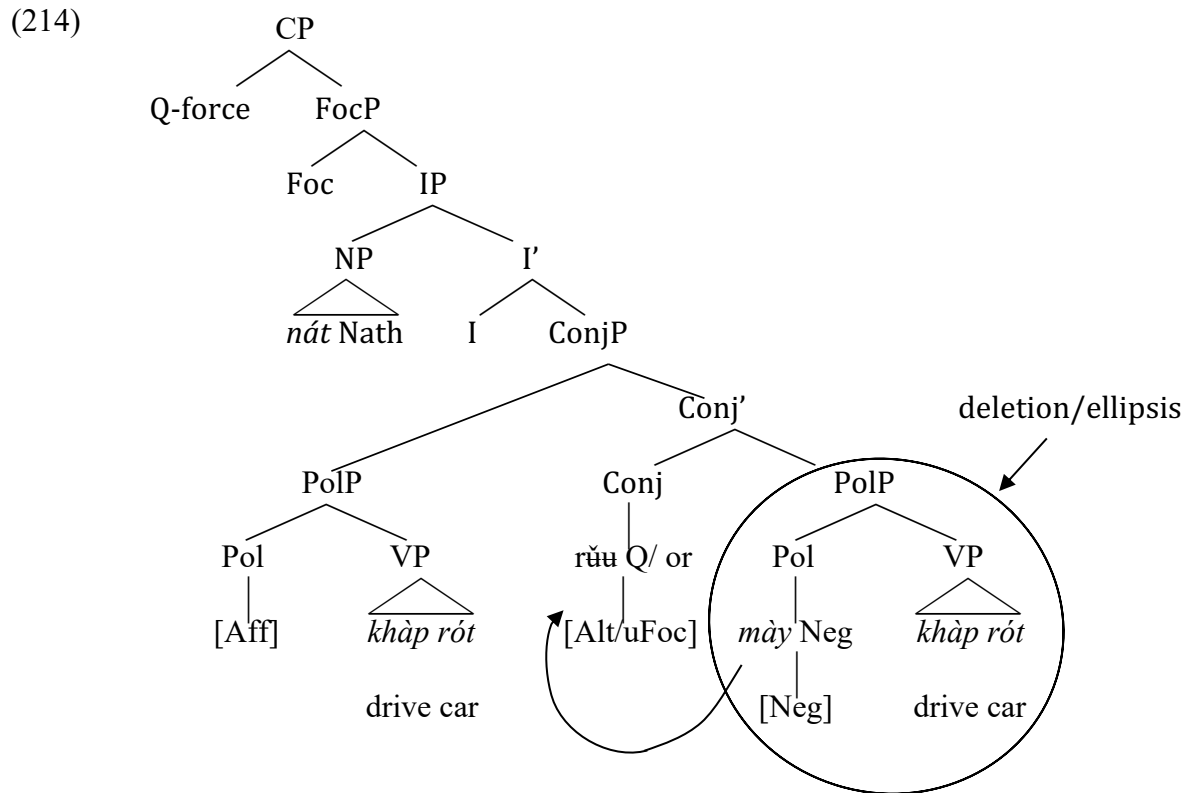


1.1.2 CHALLENGES TO TYPE-1 QUESTIONS

While the previous section introduced Yaisomanang’s core claims concerning Type-1 questions with some commentary on the factual accuracy of their data, the following addresses theoretical challenges to their model. Perhaps the most problematic quality of their analysis is that, despite relying heavily on the concepts of head-movement, incorporation, and deletion,

⁹² Yaisomanang does not illustrate their proposed transformations on this tree. In the coming discussion, I argue these transformations are not permitted using movements that are commonly accepted within the field of syntax.

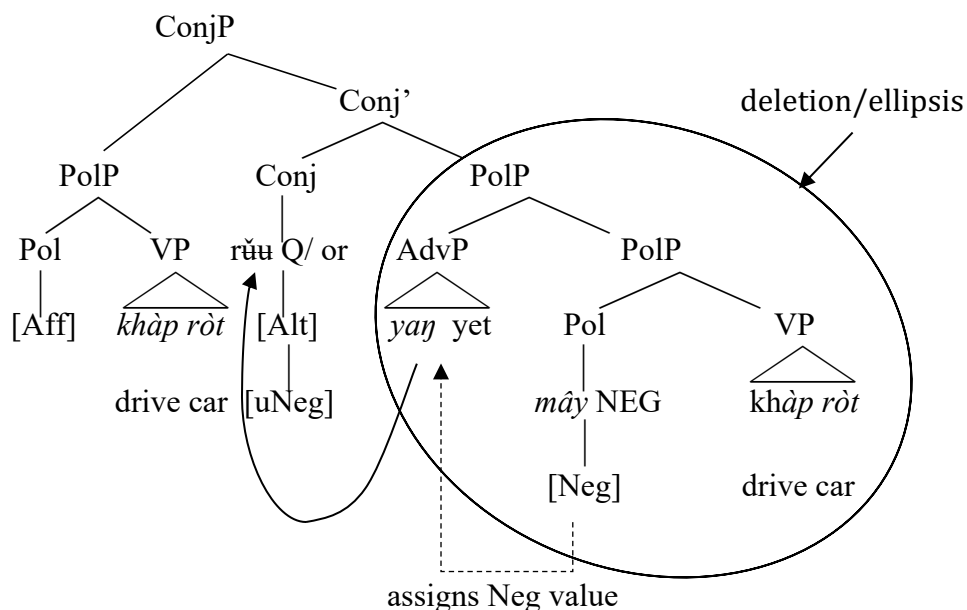
Yaisomanang never defines these terms or explains how they work in Type-1 questions. Unfortunately, while we might seek clarification in their schematizations and illustrations, all visual representations of Type-1 questions are drawn without marking head-movement, incorporation, or deletion. Below represents an attempt to depict Yaisomanang’s proposed analysis by marking one of their trees with the transformations described in their work.



Assuming the generally accepted views on Head Movement (Travis, 1984) and the Mirror Principle (Baker, 1985), this movement, and the subsequent incorporation of the Neg element *mây* and the conjunction *rừu*, would result in the wrong surface order, *mây-rừu*, for Type-1a through Type-1d questions.

Type-1e questions would have a similar problem with the added step of *yang* getting its negative value from *mây* before movement and deletion occur. This is represented in (215), below.

(215)



This proposed movement results in a compound-head with the wrong surface order, *yang-ruu*.

Finally, perhaps the most serious challenge to the disjunction-deletion model proposed in Yaisomanang (2012) is the claim that Q-force is not a feature of the particles but is generated by the deletion of the second constituent. Yaisomanang mentions this briefly in a footnote (see Yaisomanang 2012 pg 100, footnote number 33), but all Type-2 questions serve as counter examples to this argument. In the next subsection we will look at their analysis of Type-2 questions and discuss the implications of on their core claim that the conjunction *rừu* is present in all YNQs.

1.1.3 TYPE-2 QUESTIONS

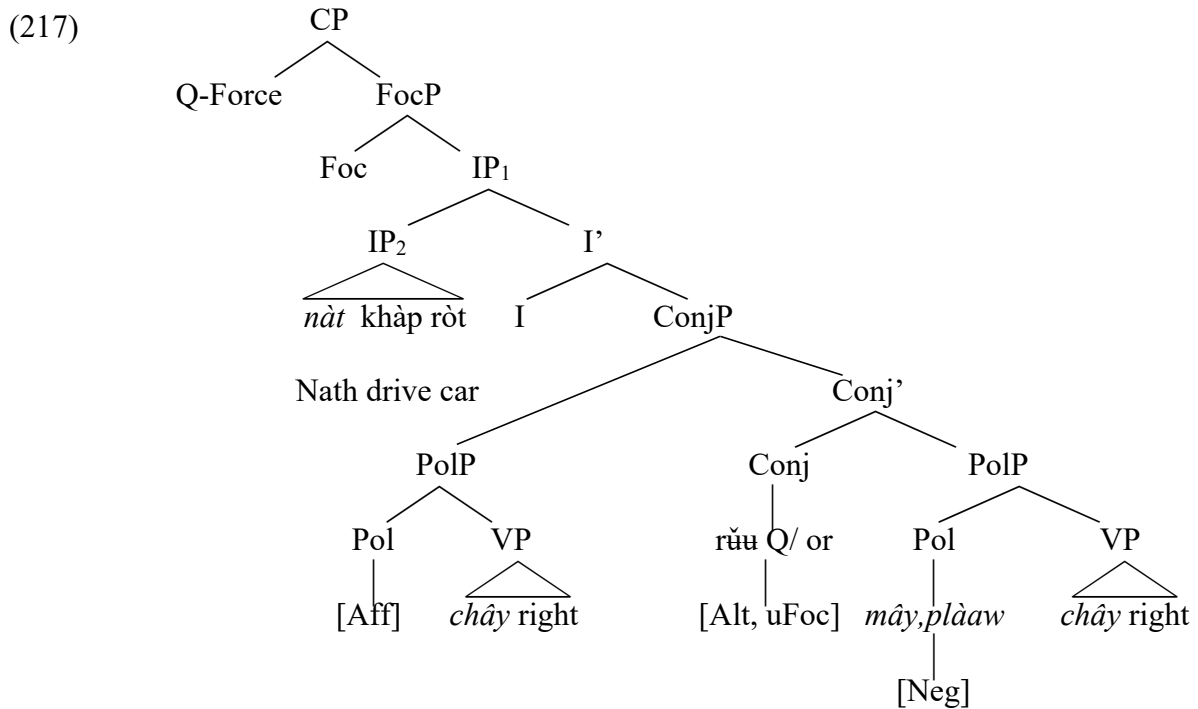
According to Yaisomanang, Type-2 questions consist of three components. These are the conjunction *rừu*, and the two conjuncts, *chây* ‘right’, and *mây chây* ‘NEG right’. As with Type-1 questions, the conjunction *rừu* is still the base component which conjoins two alternative polarity constituents. Though it can either be covert or overt, presence of the conjunction *rừu* is obligatory. Its function is to signal a set of possible primary YNRs. The basic assumption is that every Type-2 question has the same underlying syntax because every Type-2 question underlyingly has the three components: *rừu* ‘or’, *chây* ‘right’, and *mây chây* ‘NEG right’. The possible Type-2 questions are presented in table 4.3, below.

Table 4.2

Type-2 question particles:	Yaisomanang's gloss
a. <i>chây-(rũu-)măy(-chây)</i>	right-(or-) NEG(-right)
b. <i>chây-rũu-mây(-chây)</i>	right-or-NEG(-right)
c. <i>chây-rũu-plàaw(-chây)</i>	right-or-NEG(-right)
d. <i>chây-rũu(-mây-chây)</i>	right-or(-NEG-right)
e. <i>mây-chây-rũu(-chây)</i> ⁹³	NEG-right-or-NEG

For a prototypical example of a Type-2 question, Yaisomanang provides the following data and corresponding tree.

- (216) *nát khàp rôt chây-măy*
 Nath drive car Q/ right-NEG
 'Does Nath drive?/ 'Nath drives, right?'



⁹³ While *mây chay ruu* is common, *mây chay ruu chay* is unattested in any dataset I have reviewed. My language consultant suggested this would not be an acceptable question type. Deletion, therefore, seems to be obligatory and not optional, as Yaisomanang indicated.

In this analysis, the ConjP headed by *rǎu* ('or') acts a predicate with an [Alt] feature taking two PolPs as its arguments, *chây* ('right') and NEG *chây* ('not right'). According to Yaisomanang, Type-2 question particles are then derived by various deletions and morphological mergers. The structure of the sentence provides a focused variable for Q-force to bind. That is, the [Alt]-marked conjunction is bound to two conjuncts which provide a set of polar alternatives representing two possible YNRs.

1.1.2 CHALLENGES TO TYPE-2 QUESTIONS

Towards the end of their discussion of Type-2 questions, Yaisomanang briefly concedes that deletion of the conjunct in Type-2 questions is not obligatory, and therefore it is unclear how 'questionhood' is assigned in this question type. Though they brush this aside as a problem for another day, this simple observation unravels their entire theory. Recall, they claim that the following two sentences are underlyingly the same.

(218) *nát* *khàp* *rót* *rǎu* *mây* *khàp* *rót*
 Nath drive car or NEG drive car
 'Nath drives or doesn't drive.'

(219) *nát* *khàp* *rót* *rǎu-mây*
 Nath drive car Q/or-NEG
 'Does Nath drive?'

And deletion of the second conjunct seen in (218) is required to indicate that (219) is a question. However, their entire Type-2 question subcategory is counterevidence to this claim. Following the logic which was applied to the sentences in (218) and (219), the Type-2 question below, in (220a), should be underlyingly the same as the Type-1 question in (220c). And, the Type-2 question in (220a) should be unmarked as an interrogative, so that it could be understandable as a semantically vacuous declarative, represented in (220b). The problem here is that Yaisomanang's disjunction-deletion model proposes that Type-1 YNQs, e.g., (220c) below, are formed through the deletion of a constituent in a construction that would otherwise be

interpreted as a declarative, e.g., (220b) below. But, constructions such as (220b) are never interpreted as declaratives, but always interpreted as polar question.

(220) Type-2 Question:

- a) nat khap rot chay ruu may chay
Nath drive car right or NEG right
'Nath drove, is that right or not?'

Declarative *ruu*-construction:

- b) nat khap rot chay ruu may chay
Nath drive car right or NEG right
*'That Nath drove the car is right or not right.'

Type-1 Question:

- c) nat khap rot máy
Nath drives car Q
'Did you (Nath) drive?'

Of course, we could suggest that Standard Thai has no distinction between polar question and interrogatives but, rather, relies on polar question strategy 6 (the use of semantic or pragmatic triggers). However, this is clearly false. Polar questions are overtly marked and easily identified in Standard Thai. As such, the disjunction-deletion model falls apart, and we are left in search of a new approach. As we shall see in the following section, attempting to understand Kham Mueang polar questions based on a disjunction-deletion model further complicates matters and reinforces the need for an alternative analysis.

1.2 KHAM MUEANG IN RELATION TO YAISOMANANG

In this subsection I look at the ramifications of plugging Kham Mueang data into Yaisomanang's analysis. To do this, I mirror Standard Thai Type-1 and Type-2 questions with corresponding morphology in Kham Mueang. The purpose of this exercise is to further my claim that a disjunction-deletion model is not the appropriate choice for dealing with these two closely related languages. To do this, I focus on Yaisomanang's fundamental claim that the conjunction *ruu* 'or' is present in all question types. By drawing a comparison between the two

languages, I show that the disjunction-deletion model fails to account for Kham Mueang patterns and, subsequently, suggest how adopting a PPQ-PAQ approach resolves the issues discussed in this section.

The table below represents Yaisomanang’s Type-1 and Type-2 questions in Standard Thai, as well as their hypothetical correlates in Kham Mueang. The dash marks between elements (e.g., *ga-wa-ba* in Kham Mueang and *ruu-mây* in Standard Thai) represent the generally accepted assumption that question particles in Standard Thai are compound words. For the purposes of this section, I have extended this assumption to my analysis of Kham Mueang. In this way I demonstrate the need to reevaluate this form of transcription. The glosses in the table, below, also reflect Yaisomanang’s theoretical assumptions rather than my own. I do not believe the data in this chart reflects the actual structure of either language. In later sections I will provide my proposed revisions to this table.

(234)

Table 4.3

	Standard Thai		Kham Mueang	
Type-1a	(ruu-) máy	(or-) NEG	(ga-wa-)*ba	or-COMP-NEG
Type-1b	ruu (-mây)	or (-NEG)	ga(-wa-ba)	or-COMP-NEG
Type-1c	ruu-mây	or-NEG	ga-wa-ba	or-COMP-NEG
Type-1d	ruu-plàaw	or-NEG	ga-wa-ba	or-COMP-NEG
Type-1e	ruu-yang	or-NEG	la...ga-wa- yang	or-COMP-NEG
Type-2a	chay-(ruu-) mây(-chay)	AFF-(ConjP-) NEG(-AFF)	*men-(ga-wa-) ba(-men)	AFF-ConjP- COMP-NEG- AFF
Type-2b	chay-ruu- mây(-chay)	right-ConjP- NEG(-right)	*men-ga-wa- ba(-men)	right-ConjP- COMP-NEG- right
Type-2c	chay-ruu- plaaw(-chay)	right-ConjP- NEG(-right)	*men-ga-wa- ba(-men)	right-ConjP- COMP-NEG- right
Type-2d	chay-ruu (-mây-chay)	right-ConjP (-NEG-right)	*men-ga-wa (-ba-men)	right-ConjP- COMP-NEG- right
Type-2e	mây-chay- ruu(-chay)	right-ConjP- NEG(-right)	ba-ga-wa (-men)	right-ConjP- COMP-NEG- right

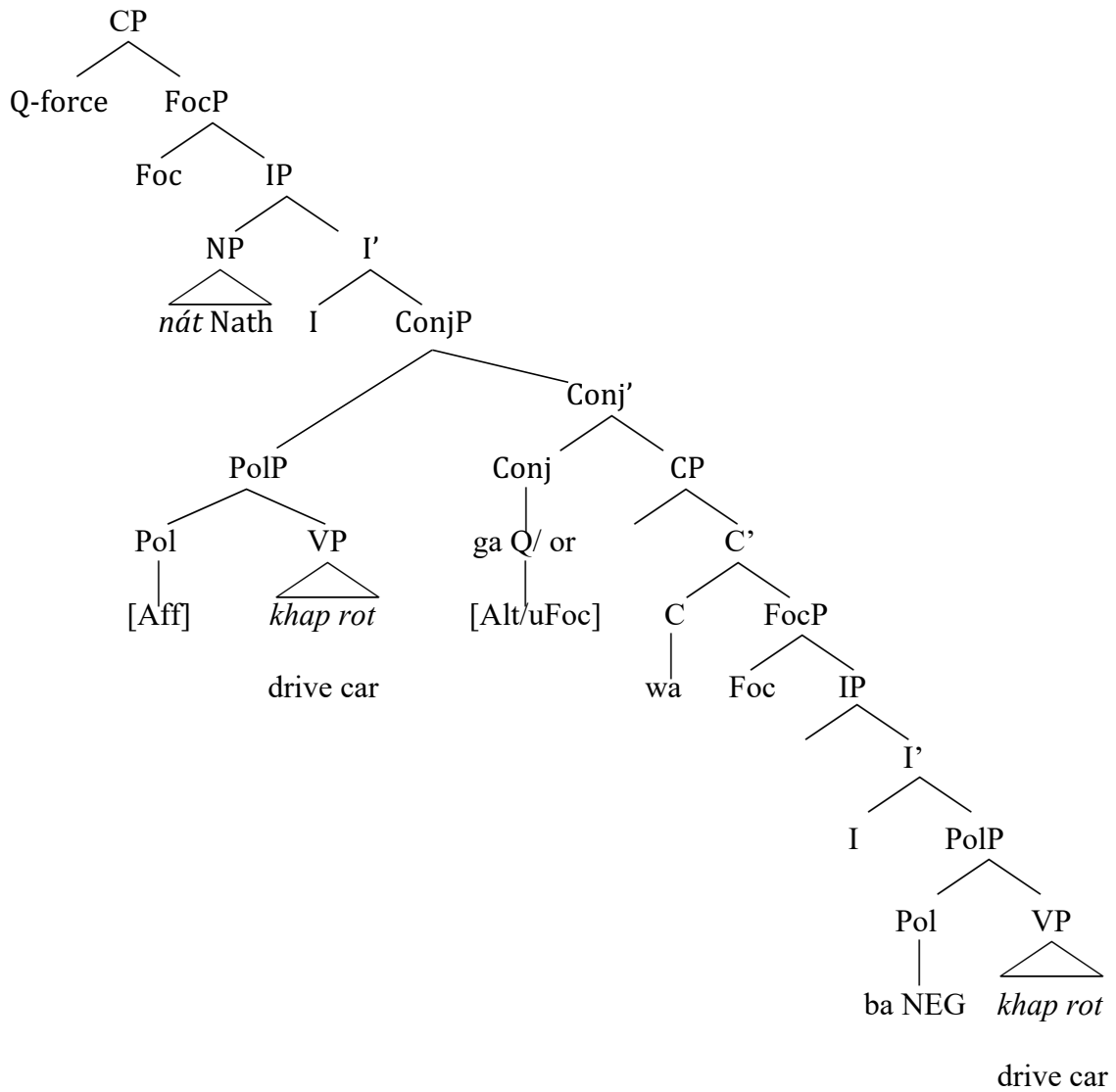
The data in the table, above, reflects three empirical facts:

- (i) While certain YNQ types in Kham Mueang require an overt complementizer, a comparable complementizer is either non-existent or only covertly represented in Standard Thai.
- (ii) Kham Mueang has a less diverse inventory of negation words. We find *ba*, in Kham Mueang, and *mây* and *plaaw*, in Standard Thai.
- (iii) Though the Standard Thai question particle, *máy*, has some level of homophony with the negation particle, *mây*, the Kham Mueang question particles, *goh* and *ga*, are clearly distinct from the negation particle, *ba*.

1.2.1 TYPE-1 QUESTIONS

Yaisomanang (2012) defines Type-1 questions in Standard Thai as a combination of the conjunction *rǎu* ‘Q/ -or’ and a negative component, either *mây* ‘NEG’, *plàaw* ‘NEG’, or *yan* ‘yet’. In Kham Mueang, this question type additionally contains an obligatory complementizer resulting, theoretically, in an or-COMP-NEG particle. The tree below represents my best attempt at inserting a complementizer phrase into Yaisomanang’s analysis so that it can accommodate the Kham Mueang patterns for Type-1a through Type-1d. Recall, Type-1e questions require an alternative analysis.

(221)



1.2.1.1 TYPE-1A QUESTIONS

In Kham Mueang, Type-1a questions are grammatical if their entire structure is represented in the surface form. In (222), below, we see that (ga-wa-)ba or-COMP-NEG is grammatical, as all elements of the underlying structure are present.

- (222) nat khap ga-wa-ba khap rot
 Nath drive or-COMP-NEG drive car
 ‘Does Nath drive?’

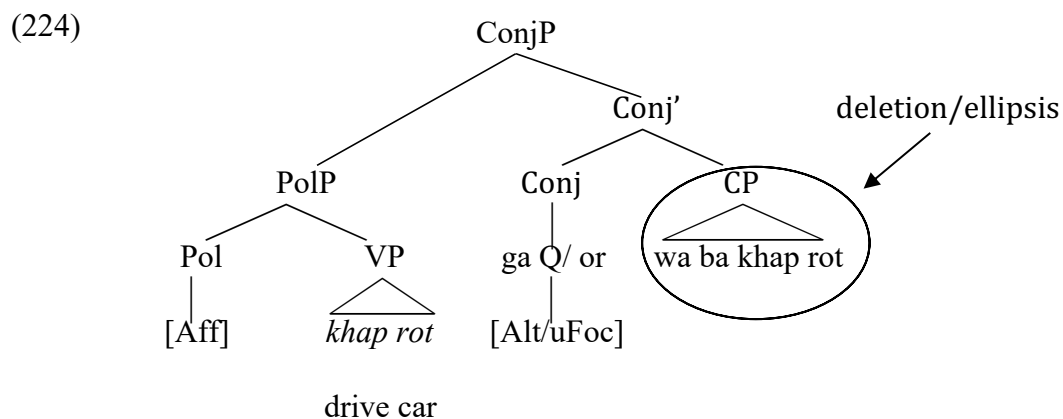
However, Yaisomanang’s model predicts that, after ellipsis, we should expect the sentence-final negation particle *ba*. In (237), below, we see this is not the case. When the bare negation particle is in sentence-final position, the question is ungrammatical.

- (223) *nat khap ba
 Nath drive car
 *‘Does Nath Drive?’

Interestingly, this is exactly where Yaisomanang’s model encounters trouble in Standard Thai. In Standard Thai, Type-1a questions are supposedly underlyingly *rǎu-mây*, but surface as *mǎy/máy*. To salvage their theory, Yaisomanang relies on the morphological rule *rǎu + mây* → *mǎy/máy*. If we extend Yaiamosnang’s model to account for the Kham Mueang patterns, the underlying form of Type-1a question would be *ga-wa-ba* and the surface form would be *goh*. This analysis would require an hoc morphological rule that states *ga + wa + ba* → *goh*. As predicted by Yaisomanang’s analysis of Standard Thai, application of this morphological rule and deletion of the lower VP would give use the desired surface order, i.e. *Nath Khap rot ga-wa-ba khap rot* → *Nath khap goh* ‘Does Nath Drive?’. As with the Standard Thai morphological rule, this ad hoc rule derives the desired form, but there is no phonological basis for these transformations in either language. While accepting the morphological rule in Standard Thai might be plausible if no other explanation is available, it becomes increasingly challenging to accept that both languages have ad hoc morphological rules in this same exact context, but nowhere else in the language. And, recall that Chapter 3 showed that *goh* has different semantic properties than *ga wa ba* and is clearly its own lexical word.

1.2.1.2 TYPE-1B QUESTIONS

In Kham Mueang Type-1b questions, deletion of the entire second clause results in the sentence-final question particle *ga*. This is reflected in the abridged tree in (224), below.



Recall in Yaisomanang’s theory of YNQs in Standard Thai, the assumption is that the deletion of the second clause is necessary to generate Q-force. However, the particle *ga* already creates Q-force in the full sentence, and therefore, no deletion is necessary, e.g.m (225) with (226), below.

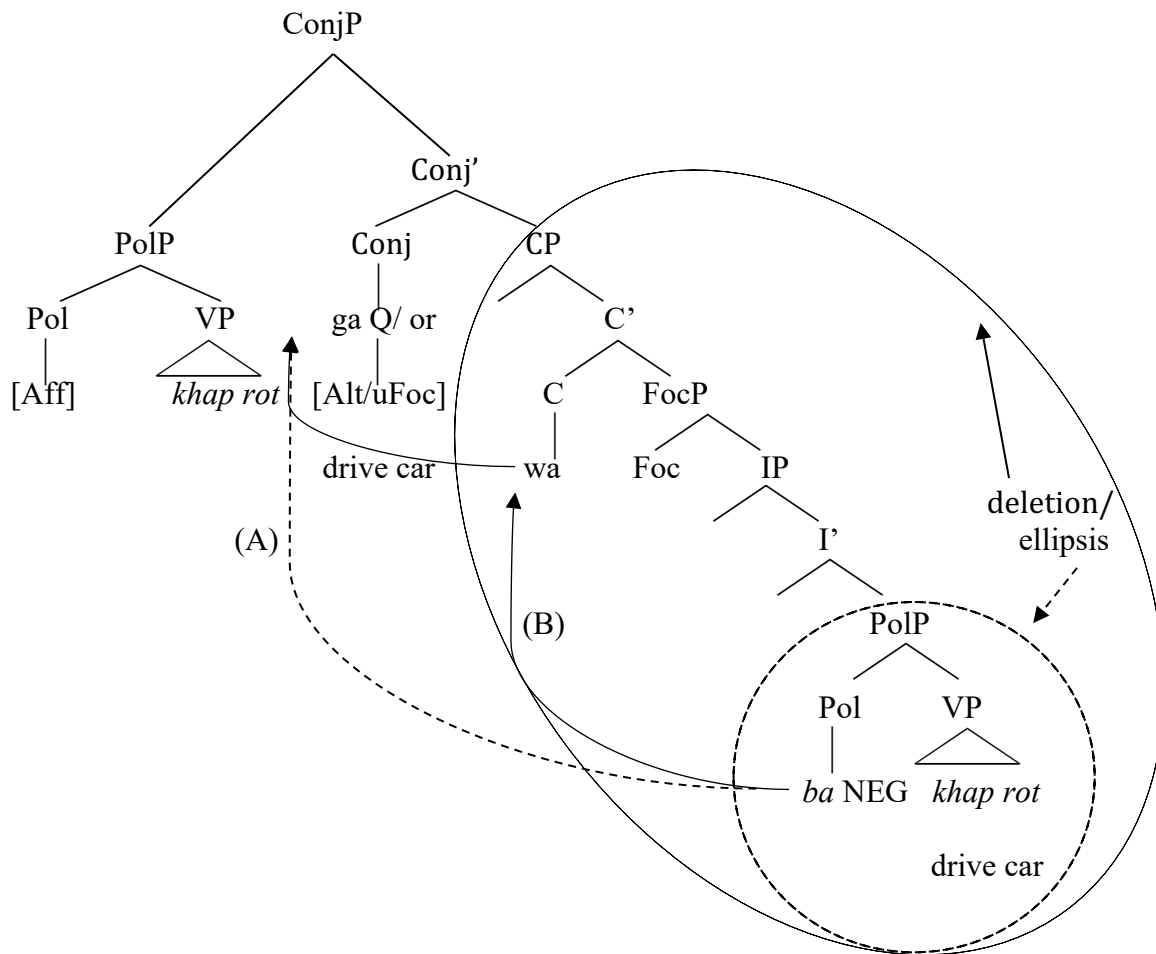
(225) nat khap rot ga wa ba khap rot
 Nath drive car Q COMP NEG drive car
 ‘Does Nath drive a car or not?’

(226) nat khap rot ga
 Nath drive car Q
 ‘Does Nath drive a car or not?’

1.2.1.3 TYPE-1C AND TYPE-1D QUESTIONS

While Standard Thai Type-1c (*rǎu-mây* ‘right-NEG’) and Type-1d (*rǎu-plàaw* ‘right-NEG’) form two distinct question types, Kham Mueang encompasses both with a single form, *ga-wa-ba* ‘right-COMP-NEG’. In Yaisomanang’s model, this form is derived through three successive transformations: head-movement, incorporation of the heads, and deletion of the lower PolP. These operations are depicted in the tree seen in (227).

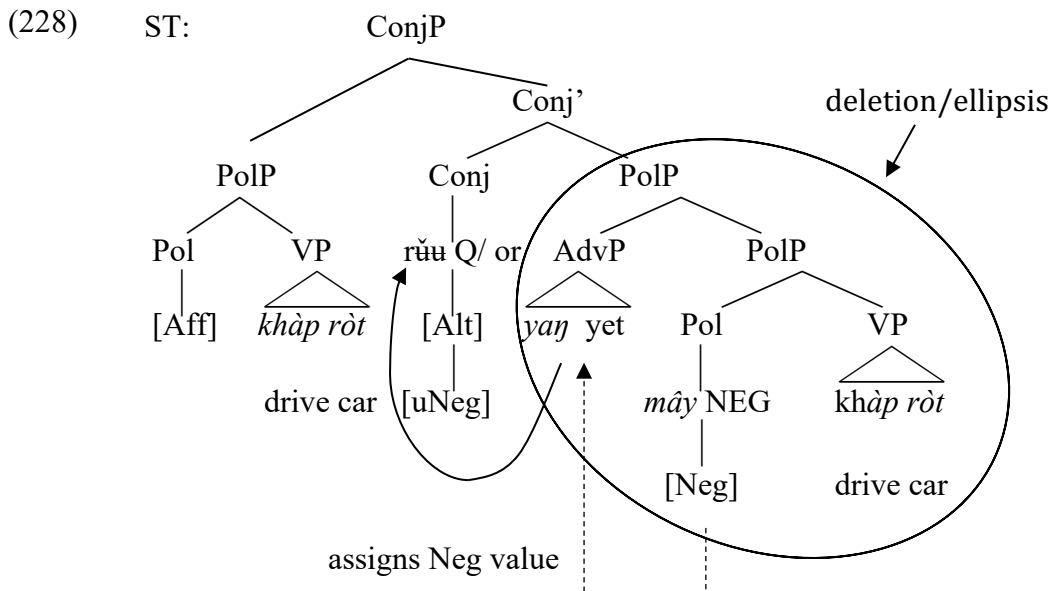
(227)



The tree above represents two possible hypotheses of what transformations are needed to arrive at the Type-1c/d word order, *ga-wa-ba* ‘or-COMP-NEG’. In (A), the dashed line indicates that only the NEG element moves and only PolP is deleted. Unfortunately, this would result in the undesired word order ‘*ba-ga-wa*’. In (B), the solid line represents movement of the head of Pol to the head of C, followed by movement of both to the head of Conj. After these movements, the entire CP is deleted. Unfortunately, these movements derive the word order *ba-wa-ga* as the elements moving up attach to the left of the words higher in the tree. Neither outcome of these possible movements correlates to any attested pattern in Kham Mueang.

1.2.1.4 TYPE-1E QUESTIONS

In Yaisomanang’s analysis, Standard Thai Type-1e questions pattern as *ruu-yang* ‘or-yet’. This word order is derived from three transformations: head movement, incorporation, and deletion. These operations can be seen in (242), below.



In Kham Mueang, we might expect this question type to translate as *ga-wa-yang* due to the language’s complementizer requirement. However, this question type also requires the element *la* in the position to the left of the particle *ga*. The example below serves as a prototypical use of this question type.

- (229) nat khap rot la ga wa yang ba khap
 Nath drive car Q or COMP yet NEG drive
 ‘Did Nath drive the car already or not yet?’

If the *la* element is absent, the question is ungrammatical. See (244).

- (230) *nat khap rot ga wa yang
 Nath drive car or COMP yet
 *‘Did Nath drive the car yet?’

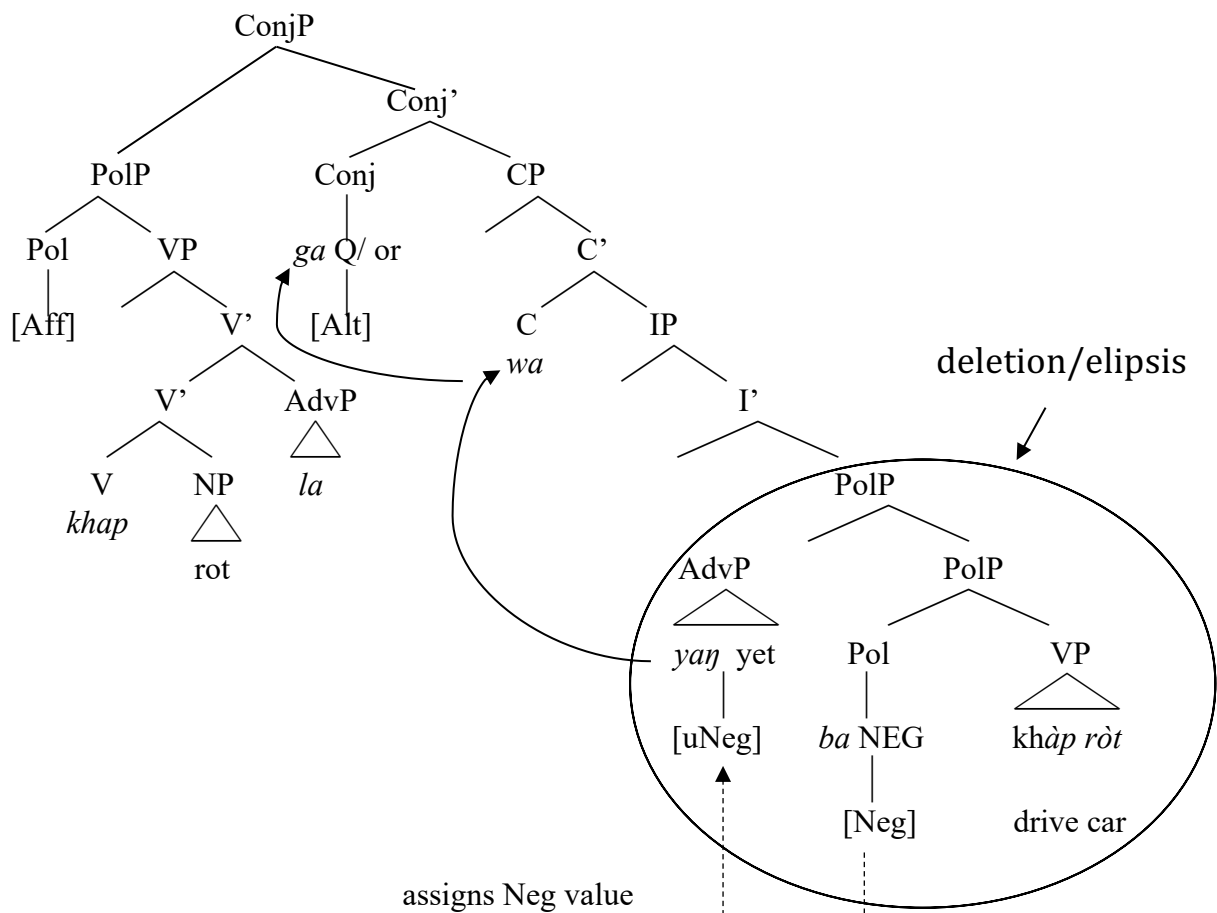
Alternatively, if we omit *ga-wa-yang* but retain the *la* element in sentence-final position, the sentence is grammatical. The sentence in (245) represents a prototypical use of the *la* particle.

(231) nat khap rot la
 Nath drive car INT
 ‘Did Nat drive the car, yet?’

In light of this data, we see that the Kham Mueang particle *la* cannot fit into Yaisomanang’s proposed framework for Standard Thai Type-1e questions, depicted in (242) above, as there is no available syntactic slot in which to posit this element.

To force Yaisomanang’s analysis through, we might assume that *la* is an adverbial element attached to the first VP. In this way, we might almost imagine a structure that accommodates Yaisomanang’s theory, at least in respect to question (229), *Nath khap rot la ga wa yang khap rot* ‘Did Nath drive the car already, or not?’. However, as with the Kham Mueang equivalent of Type-1c/d questions, the movement required pre-deletion derives the incorrect word order; in this case, yielding the word order: *la yang wa ga*. See (232).

(232)



Even if we follow Yaisomanang's lead and disregard conventions concerning Head Movement and the Mirror Principle, the only way to derive *la* in sentence-final position would be to delete the entire ConjP. Since, in this model *la* must sit in the upper PolP, deletion of ConjP would result in a sentence-final *la* particle. However, it would also yield the undesired consequence that no element of the ConjP would be evident at spell-out, an explicit requirement in Yaisomanang's analysis.

Based on the above discussion, I propose that the disjunctive marker *ga* is not underlyingly present in all polar questions in Kham Mueang. If the ConjP is deleted, and the utterance can be understood as a question, then some other element must be assigning Q-force. In the case of (231), I argue that Q-force is a feature of the *la* particle because *la* is a question particle. As such, I propose that we abandon a disjunction-deletion model in favor of a less problematic approach.

1.2.2 TYPE-2 QUESTIONS

This section will be brief, as I believe that I have sufficiently argued that a disjunction deletion model does not account for the data in either language. However, I include this section to reassure the reader that I have not omitted anything in my analysis. The summary in this section also provides a solid jumping off point for introducing the question particle model. Let us begin by reviewing the underlying structural difference between Yaisomanang's Type-1 and Type-2 questions. Below, I have reproduced Yaisomanang's trees to illustrate their analysis of YNQs in Standard Thai. See Type-1, in (233), and Type-2, in (234), below.

Note the primary difference between these two structures is that Type-1 questions have one IP while Type-2 questions have two. Yet, regardless of the quantity of IPs, both question types are essentially requests that the addressee select one of two polar propositions. In Yaisomanang’s model, deletion is required to assign Q-force. Yet, there is no deletion in Type-2 questions.

In Standard Thai, Type-2 questions pattern as right-or-NEG-right and NEG-right-or-right. In Kham Mueang, questions in which *ga* is sentence medial require a complementizer and therefore our hypothetical Type-2 questions in Kham Mueang would pattern as right-or-COMP-NEG-right and right-NEG-or-COMP-right.

Table 4.4

	Standard Thai		Kham Mueang	
Type-2a	chay-(ruu-)măy (-chay)	right-(ConjP-) NEG(-right)	*men-(ga-wa-) ba(-men)	right-ConjP-COMP- NEG-right
Type-2b	chây-ruu-mây(- chây)	right-ConjP- NEG(-right)	*men-ga-wa-ba(- men)	right-ConjP-COMP- NEG-right
Type-2c	chây-ruu-plàaw(- chây)	right-ConjP- NEG(-right)	*men-ga-wa-ba(- men)	right-ConjP-COMP- NEG-right
Type-2d	chây-ruu(-mây- chây)	right-ConjP(- NEG-right)	men-ga-(wa-ba- men)	right-ConjP-COMP- NEG-right
Type-2e	mây-chay-ruu (-chay)	right-ConjP- NEG(-right)	ba-men-ga-(wa -men)	right-ConjP-COMP- NEG-right

The following data confirms these facts.

(235) Type-2a:

*lam men ba
delicious right NEG
‘Is it delicious?’

(236) Type-2b/2c:

*lam men ga wa ba
delicious right or COMP NEG
‘Is it delicious?’

(237) Type-2d:

lam men ga
delicious right Q
'Is it delicious?'

(238) Type-2e:

lam ba men ga
delicious NEG right Q
'Is it not delicious?'

While, in Kham Mueang, only Type-2e and Type-2d questions are grammatical, Type-2a questions can be derived using Yaisomanang's approach of applying a morphological transformation rule. Operating under Yaisomanang's (2012) assumption that the same PF rules apply to Type-2 questions as Type-1 questions, we derive the surface order of Type-2a questions (*men-goh* 'right-NEG') from the following transformations. The lower PolP (*ba* NEG) moves to the head of the CP, thus forming the compound head *wa-ba* NEG-COMP, which subsequently moves up to the head of ConjP yielding the compound *ga-wa-ba*. Once more, this word order is only derived if we follow Yaisomanang's analysis and ignore several commonly accepted conventions. Applying the ad hoc morphological rule $ga + wa + ba \rightarrow goh$, we arrive at the question form *men goh*.

(239) lam men goh
delicious right Q
'Is it delicious?'

As such, all grammatical "Type-2" questions have sentence-final *goh* or *ga* particles, rendering the disjunction-deletion model useless in describing this question type.

In the coming sections I put forth my PPQ-PAQ (polar particle question and polar alternative question) model, which resolves many of the issues born of the false assumption that question words are compounds in Standard Thai. This model has the following advantages: (i) it produces a clear typology that accounts for all polar question patterns in both Standard Thai and Kham Mueang, an improvement on past typologies discussed in chapters 3 and 4; (ii) it eliminates the need for ad hoc morphological rules in both languages; (iii) it eliminates the

need to violate any conventions of Head Movement or the Mirror Principle; and (iv) it provides a clear explanation of where Q-force is generated in both languages.

2. MY PROPOSAL: Q-PARTICLES AND ALTERNATIVE QUESTIONS

Having thoroughly described Standard Thai and Kham Mueang polar questions and having identified the problems with past typologies, the following section provides an argument in favor of a PPQ-PAQ analysis. More specifically, the following section attempts to distinguish between two types of polar questions: (i) Q-particle questions which warrant YNRs and (ii) alternative questions which warrant YNRs.

Literature on Standard Thai assumes that all polar questions end in a compound question particle. I argue that while there are a limited set of true polar question particles, the majority of the supposed polar question particles are in fact alternative questions with polar constituents that warrant YNRs. Within the works of Photisoron (1985), Iwasaki and Ingkaphirom (2009), and Yaisomanang (2012) we find a minimum of 25 polar question particles. This number increases significantly when phonetic variations are included in the count. Each author has provided a different system of classification for these particles to explain their semantic and syntactic properties. Until this point, I have relied heavily on their observations to build an analogous account of Kham Mueang polar questions. I will now discuss why such a comparison has been so challenging and offer a possible solution to the problems that Yaisomanang faced when outlining the syntactic underpinnings of their typology.

2.1 UNDERSTANDING THE PROBLEM

I propose that Kham Mueang and Standard Thai each have three question words which are regularly used in the formation of polar questions. In Kham Mueng these are *goh*, *ga*, and *la*. In Standard Thai, these are *may*, *ruu*, and *yan*. Past researchers have all faced the same challenge in identifying these three Q-particles in Standard Thai, namely a distracting level of homophony. The benefit of a cross-linguistic analysis with Kham Mueang is that there is less homophony, and therefore the distinct polar question particles are more clearly visible. This section addresses the issue of homophony, the problem with ignoring it, and the utility of using Kham Mueang morphology to explore Standard Thai polar questions.

Homophony between Q-particles and other function words is a cross-linguistically attested phenomena. In Standard Thai, it has been noted that each question particle has at least one

homophone which may or may not play a similar role in other sentence types. In Kham Mueang, this is only true of the word *ga* which can be either *ga* ‘Q’ or *ga* ‘or’⁹⁴. The table below represents the polar Q particles in each language and the potential homophones.

Table 4.5

	polar Q particle	NEG	or	‘yet’/TAM	Homophonous
Standard Thai	<i>máy/mǎy</i>	<i>mây</i>			?☺?
	<i>ruu</i>		<i>ruu</i>		☺
	<i>yang</i>			<i>yang</i>	☺
Kham Mueang	<i>goh</i>	<i>ba</i>			X
	<i>ga</i>		<i>ga</i>		☺
	<i>la</i>			<i>yang</i>	X

I have argued repeatedly throughout this paper that, *ruu* ‘or’ plus *máy/mǎy* ‘Q’ does not equal *mây* ‘NEG’. However, while such an argument requires a more complex discussion of the nature of lexical tones and incorporation, the stark contrast between the Kham Mueang particles *goh* ‘Q’ and *ba* ‘NEG’ allows an easier path to maintaining they are distinct morphemes. Remember that for Yaisomanang to push through a disjunction-deletion model, they were forced to rely on the morphological rule: $r\ddot{u} + m\ddot{a}y \rightarrow m\check{a}y/m\acute{a}y$. And, for us to be able to extend their disjunction-deletion model to Kham Mueang, we were forced to adopt the morphological rule $ga + wa + ba \rightarrow goh$. While this accounts for the data in some ways, this rule does little to explain where Q-force is generated or why such an unmotivated transformation would be necessary in the first place. If we continue to extend this model and conflate the Q-words with other homophonous elements, then it becomes necessary to imagine an analysis in which *la* ‘Q’ and *yang* ‘yet’/‘TAM’ are the same word. The distinct pronunciations and distributional properties make such an approach untenable. Considering these observations, I argue that maintaining a disjunction-deletion model of polar questions in Standard Thai and Kham Mueang is impossible.

If, however, we take the route of assuming that polar question particles are different from their homophonous counterparts, an explanation of polar questions in Standard Thai and Kham

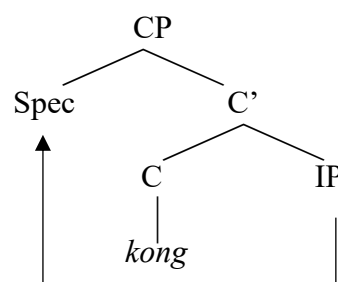
⁹⁴ I will discuss in Chapter 5, why I find this distinction relatively arbitrary. My model relies on *ga* and *ruu* as question particles, and I fail to see the need to distinguish between a polar Q particle and an alternative Q particle in these two languages.

Mueang becomes increasingly straightforward. There are three polar question particles words in Standard Thai and three polar question particles in Kham Mueang. All other polar questions are alternative questions with overt representations of two polar constituents. The following sections introduce the underlying mechanisms of my core claims and supporting evidence that a polar particle approach is more suited to describing polar questions in Standard Thai and Kham Mueang.

2.2 POLAR PARTICLE QUESTIONS OR PPQS

This section discusses the underlying structure of Polar Particle Questions (or PPQs), which I define as polar questions which feature a polar question particle, i.e., *máy*, *ruu*, or *yang* in Standard Thai and *goh*, *ga* and *la* in Kham Mueang. If these polar question particles were always sentence-final, analysis of the underlying structure would be fairly straightforward. In fact, Simpson and Wu (2002a) provide a relevant account of the sentence-final particle *kong* in Taiwanese which could easily be adopted for such an analysis. In their work they argue that the particle *kong* is not expected in the final position as other C-elements in the language are typically sentence-initial. However, due to the clitic-like properties this particle has developed, it requires material to its left. This triggers IP/TP¹ movement to the SpecCP. While Simpson and Wu (2002a) focus on the particle *kong*, Syed and Dash (2017) suggest that this analysis might extend to all-sentence-final particles in Taiwanese, including *bo*, the polar particle. Simpson and Wu’s core claim is represented below.

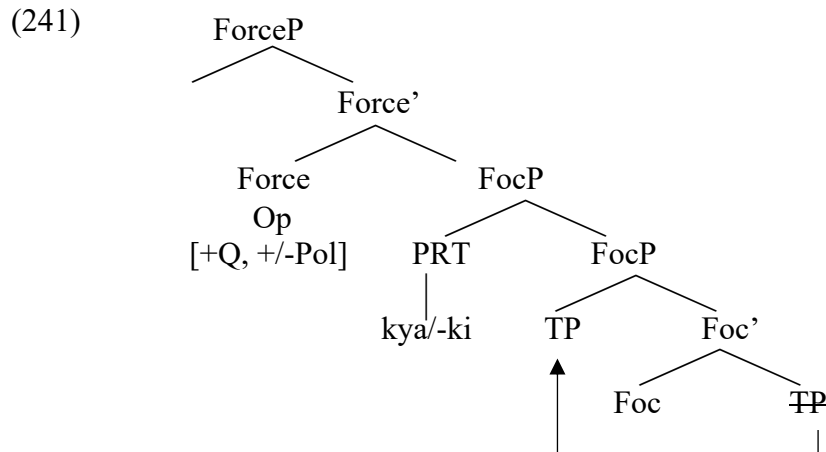
(240)



Though this elegant solution might account for sentence-final particles in Kham Mueang and Standard Thai, it does not account for sentence-medial *goh* in Kham Mueang.

For further insights into how we might account for polar question particles in both sentence-medial and sentence-final position, we turn to Syed and Dash’s (2017) research on the Hindi, Bangla, and Odia polar particle *kya/ki*. Syed and Dash posit this particle in the specifier of

FocP. In neutral polar questions, the particle is generated in the higher FocP, while in contrastive focus questions, this particle is in the lower FocP. As a focus sensitive operator, the polar question particle requires that a focused constituent be locally configured to the right. In neutral polar question, the entire TP is the focussed constituent, which moves to SpecFocP and generates focused alternatives.



As seen in (242), this analysis derives the clause-initial position of the Hindi particle without the need for further movements.

- (242) Hindi: (kya) raam-ne kitab kharidi?
 PRT raam-ERG book buy
 'Did raam buy the book?'


Syed and Dash argue the initial position of the polar particle is the underlying syntactic position of the particle. Sentence-final position is derived by movement of the entire TP higher up, stranding the particle in sentence-final position. And, sentence-medial position of the particle is accounted for by generating the particle in the lower focus position. In the examples below, the Bangla particle *ki* is sentence-final in (243) and sentence-medial in (244).

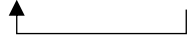
- (243) Bangla: ram ki BOI Ta kinlo?
 Ram PRT book.FOC CL buy
 'Was it a book that Raam bought?'

- (244) Bangla: ram boi Ta kinlo (ki)?
 ram book CL buy PRT
 ‘Did Raam buy the book?’

Similar to Simpson and Wu (2002a), Syed and Dash argue that post-syntactic movement of phonological material is required to satisfy the enclitic properties of the question particle. They further this proposal with the suggestion that variation in the size of the phonological material which undergoes post-syntactic movement is a language-specific feature. Therefore, the fact Hindi and Odia do not have sentence-medial polar particles can be understood as a consequence of some language specific constraint against moving smaller components out of the focussed constituent and to the left of the particle. So, while Hindi, Bangla, and Odia permit movement of the entire TP, Bangla also allows movement of an element from inside the focused constituent. These two movements are illustrated in (245) and (246), below.

Bangla:

- (245) [FOC ram boi Ta kinlo] ki [~~FOC ram boi Ta kinlo~~]


- (246) [ram] ki [FOC ~~ram~~ boi Ta kinlo]


This suggestion that different chunks of material can undergo movement to the left can also be found in Bhatt and Dayal (2020). They propose that Hindi-Urdu *kya:* is base generated in the following position:

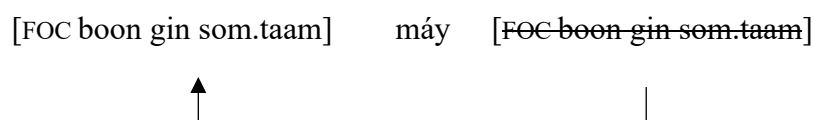
- (247) [_{ForceP} kya: [_{CP} C⁰ [+Q] [_{TP} anu-ne uma-ko kita:b di:]]]

They further suggest that “pre-*kya:* material has moved over *kya:*” (Bhatt & Dayal, 2020, pp1127) and provide the following data that suggests this leftward moving material can be of varying sizes.

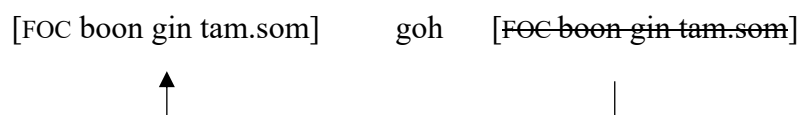
- (248) (kya:) tum (kya:) vahã: (kya:) jhak (*kya:) ma:r rahe the?
 PQP you PQP there PQP 'jhak PQP kill Prog.MP1 be.Pst.MP1
 'Did Raam buy the book?'

Adopting a similar approach, we can straightforwardly derive the sentence-final position of the question particles in Standard Thai and Kham Mueang. See (249) and (250), below.

- (249) Standard Thai: boon gin som.taam máy
 boon eat papaya.salad Q
 'Do you (Boon) eat papaya salad?'

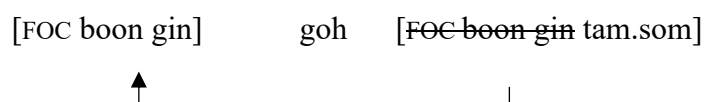


- (250) Kham Mueang: boon gin tam.som goh
 Boon eat papaya.salad INT
 'Did Boon eat papaya salad?'



In Kham Mueang, the polar particle *goh* also occurs in sentence-medial position. Following Syed and Dash, this indicates language-specific variation of what can move to the left of the particle. While Standard Thai restricts this type of movement to the entire TP, Kham Mueang also permits movement of the subject and the verb. Sentence-medial *goh* is derived in the following way.

- (251) Kham Mueang: boon gin goh tam.som
 Boon eat Q papaya.salad
 'Did Boon eat papaya salad?'

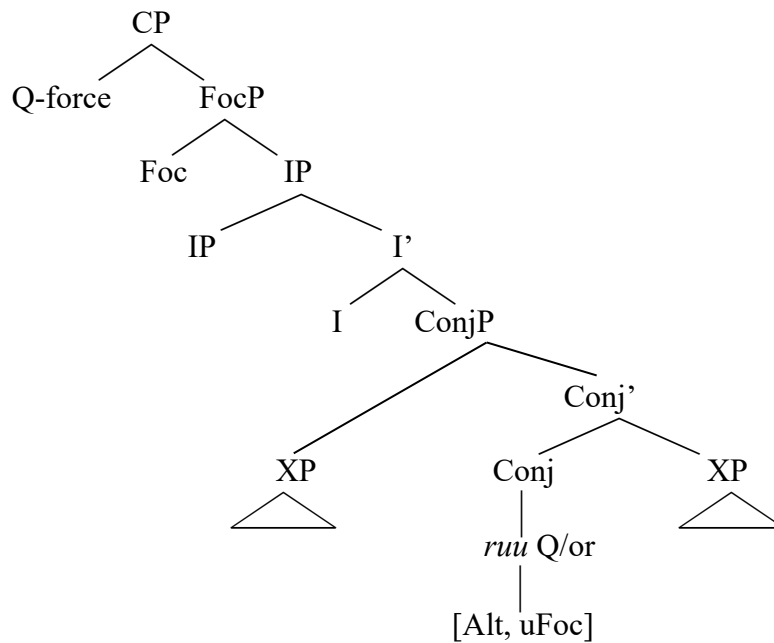


Note that Syed and Dash suggest that whether or not a language will have sentence-medial particles depends on language-specific variation of what material can be moved in PF. While their work does not identify a source of this variation in Hindi, Bangla, and Odia, my own research indicates that the variation between Kham Mueang and Standard Thai can be attributed to differences in intonation. As shown in Chapter 2, Standard Thai polar questions have a clear and predictable intonation pattern marked by sentential declination followed by a sentence-final RISE intoneme. However, Kham Mueang intonation makes no distinction between interrogatives and declaratives. Therefore, movement of the Standard Thai question particle is blocked by an intonation requirement, while Kham Mueang *goh* and *la* freely move to sentence-medial position without violating any intonation requirements as no such requirements exists. Kham Mueang *ga* on the other plays a different role in sentence-medial position and thus is blocked from such a position by syntactic requirements. The next section discusses *ga* and *ruu* in sentence-medial position.

2.3 POLAR ALTERNATIVE QUESTIONS

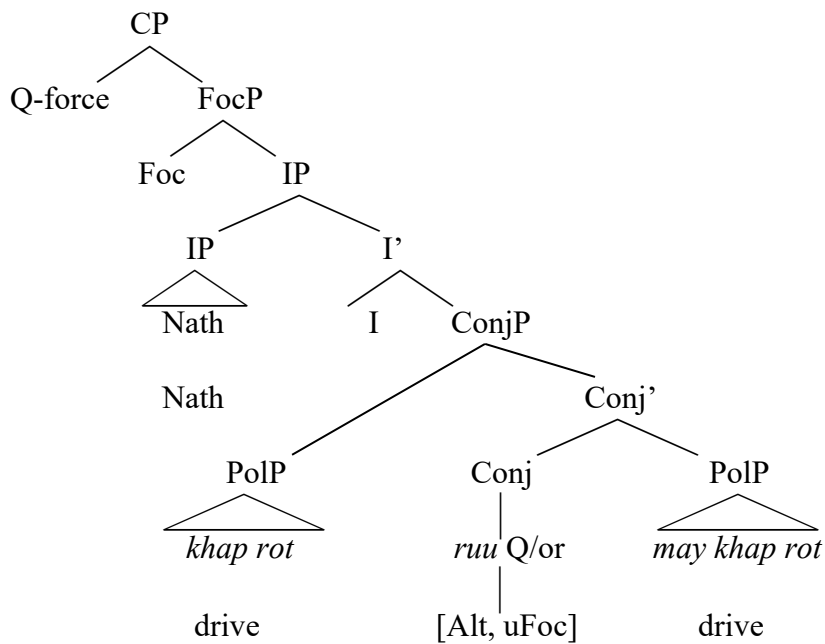
The following section lays out my analysis of polar questions which are structurally identical to alternative questions. I refer to these as Polar Alternative Questions (PAQs). I argue that if an alternative question is a disjunction between two constituents of the same kind, then a PAQ is a disjunction between two polar phrases, which are by their very nature of the same kind. In (252), I provide an illustration of how alternative questions are formed in Standard Thai. Note, this same schema can be used to describe both PAQs and non-polar alternative questions.

(252)



This model is essentially the same as Yaisomanang's proposed structure of polar questions with one key difference. In my proposal, I replace the PolPs with XPs to indicate that a variety of constituents can be used in an alternative question without changing the structure. Compare the (253) above with Yaisomanang's analysis in (254).

(253)



This distinction between our two schemas, however minor it may seem, is representative of the key difference between our core proposals. While Yaisomanang argues that all polar questions

underlying share this structure before movement and elision, I contend that this structure is only representative of PAQs. In other words, iff the disjunction particle is in sentence-medial position, then the utterance is a Polar Alternative Question. All other polar questions require a polar question particle which surfaces sentence-finally in Standard Thai and sentence-finally or sentence-medially in Kham Mueang.

These two polar question types, PPQs and PAQs, straightforwardly account for all polar questions and their phonological variations in both languages. Furthermore, this approach derives all attested word orders without relying on transformations which violate commonly accepted conventions of head-movement. For example, past researchers consider the question *chay ruu may chay* ‘right or not right?’ as a single, complex particle which they transcribe as *chay-ruu-may-chay*⁹⁵. To derive this word order, head-movements are required which would violate the Mirror Principle. However, my model analyzes this question type as a disjunction between two polar phrases: PolP₁ [*chay* ‘right’] *ruu* ‘or’ PolP₂ [*may chay* ‘Neg right’]. In this same way, my approach accounts for supposed the six-element ‘particles’ which were problematic to all past typologies, e.g. *thuuk tong ruu mây thuuk tong* ‘true correct or NEG true correct’, which I analyse as PolP₁ [*thuuk tong*] *ruu* ‘or’ PolP₂ [*mây thuuk tong*].

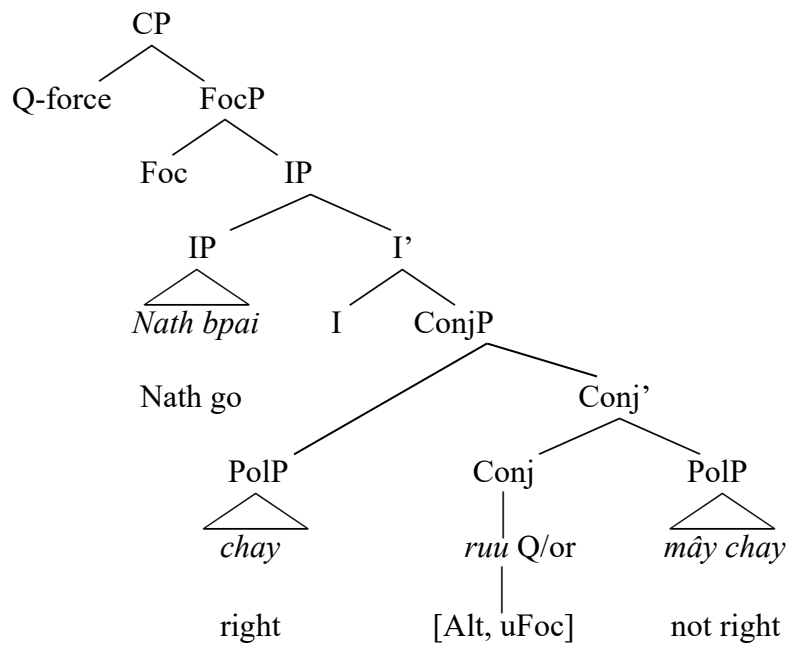
Having established the benefits of this model, I now return to a theoretical explanation to substantiate my claim that PAQs are a distinct polar question type. Remember, it is commonly accepted that *chay*, *tuk*, *jing*, and *nee* (‘right’, ‘correct’, ‘true’, and ‘sure’) are verbs in Standard Thai. And yet, past research on Standard Thai has typically analyzed the following two sentences, seen in (252) and (253), as different question types. In (256) and (257), on the following page, I present these sentences in tree-form to emphasize their structural similarity.

(254) Nath bpai chay ruu mây chay
 Nath go right or NEG right
 ‘Did Nath go or not?’

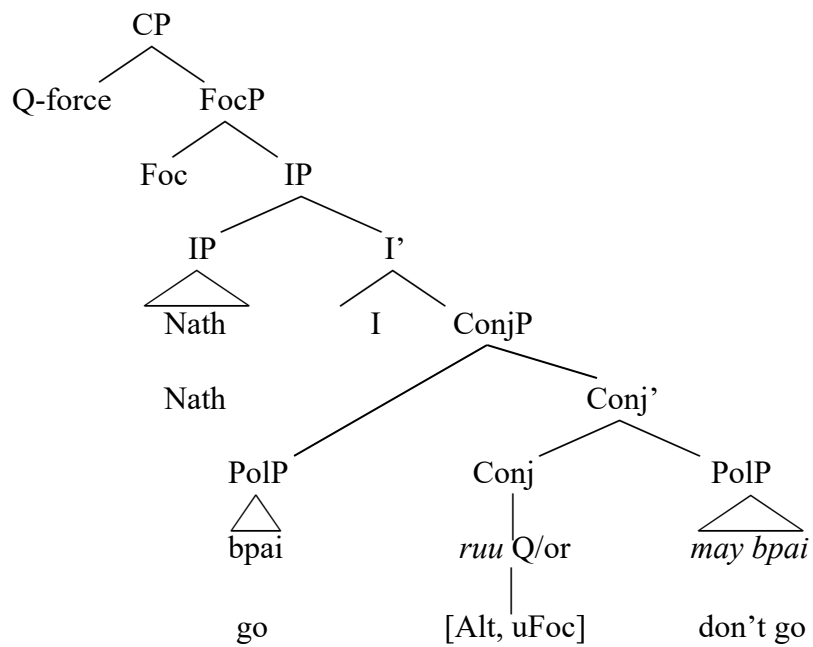
(255) Nath bpai ruu mây bpai?
 Nath go or NEG go
 ‘Did Nath go or not?’

⁹⁵ Tones vary by author, but the convention has been to connect each element with a dash to indicate they are a single particle.

(256) Polar alternative question with evaluative verb *chay* 'right':

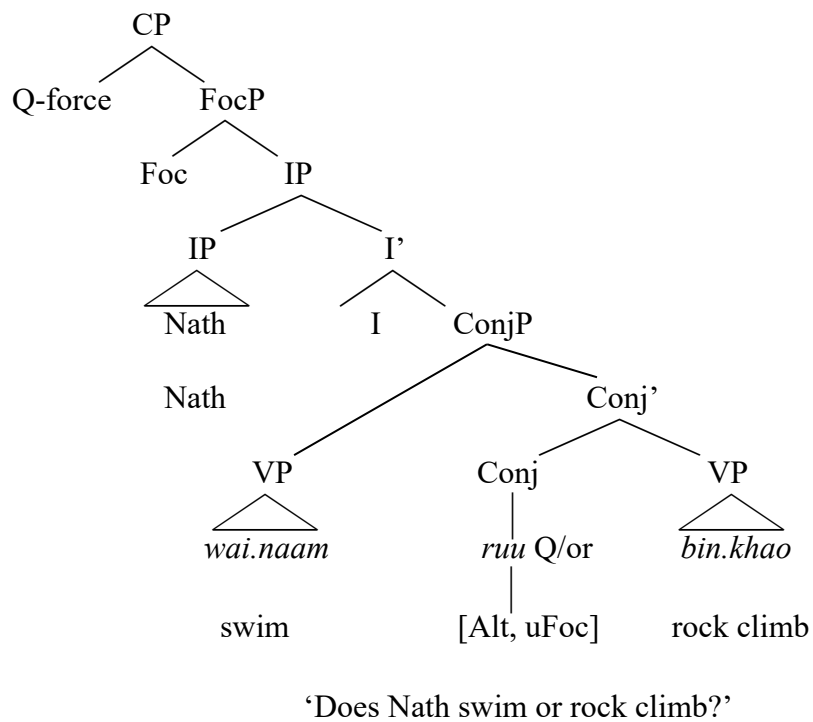


(257) Polar alternative question with the verb *bpai* 'go':



Furthering this analysis, in (258), I present an illustration of a prototypical non-polar alternative question which has a disjunction between two VPs. Note, non-polar alternative questions have the same structure as polar alternative questions, with the one exception that the alternative constituents are VPs instead of PolPs. In the sentence below, the disjunctive marker *ruu* requires the addressee select whichever VP would make a true statement.

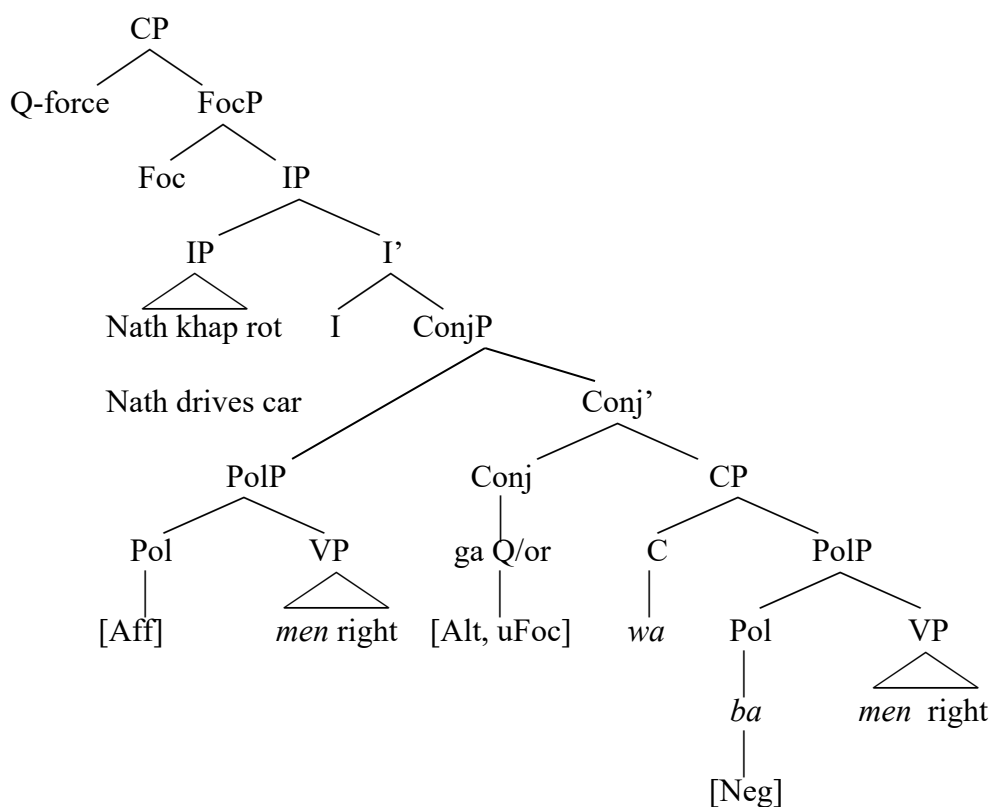
(258) Non-polar alternative question with disjunction between VP constituents:



As stated above, Kham Mueang can also be analyzed using this structure. However, Kham Mueang PAQs have an obligatory complementizer, *wa*⁹⁶, which sits in CP. The tree below represents a Kham Mueang PAQ formed with the evaluative predicate *men* ‘right’.

⁹⁶ Including a CP in Standard Thai alternative questions requires a hypothetical null-complementizer. I take no stance on this issue, as I see no benefit of postulating a null-complementizer theory over one in which Standard Thai lacks an interceding CP between the upper PolP and the lower PolP.

(259)



‘Nath Drives, right?’

3 SUMMARY

In this chapter, I reviewed Yaisomanang’s disjunction-deletion model and highlighted some of the difficulties which it faces under scrutiny. In particular, I pointed to its inability to explain how questionhood is conveyed when no deletion occurs. I then presented my own analysis in which I identified two distinct polar question types in Standard Thai and Kham Mueang. These have been schematized below.

Table 4.6

Question Type	Kham Mueang	Standard Thai
Polar Particle Questions	SVO Q; SV <i>goh/la</i> O	SVO Q
Polar Alternative Questions	PolP Conj CP PolP	PolP Conj PolP

This model has several advantages over past approaches. First, it maintains important generalizations about Standard Thai semantics and syntax made in Photisorn (1985), Iwasaki

and Ingkaphirom (2009), and Yaisomanang (2012). Second, this model is in harmony with other linguistic features of the Standard Thai and Kham Mueang, namely semantics, pragmatics, tone, and intonation. Third, this approach has a strong cross linguistic advantage in that it can account for all patterns in both Standard Thai and Kham Mueang without having to create additional rules or sub-categories.

This chapter has finalized my investigation into the individual polar question strategies of Standard Thai and Kham Mueang. Throughout this paper I have demonstrated that while these two languages are similar in many ways, Standard Thai and Kham Mueang do not share the same polar question strategies. For example, in this chapter I argued that the interface between intonation and syntax resulted in different available positions of the polar particle *goh* and *la* in Kham Mueang. In the next chapter, I look at the implications of my work on a recent crosslinguistic study of polar particles carried out in Gonzalez (2021). In this way, I take the findings from this paper, and locate them within a greater body of research which is attempting to identify universals of polar questions.

5

Classifying Polar Particles and Further Research

This paper began by developing a typology of polar question strategies which identified seven ways in which polar questions are formed: (i) use of question particles, (ii) interrogative verb morphology, (iii) interrogative word order, (iv) interrogative intonation, (v) pragmatic/semantic distinction, (vi) the absence of declarative morphemes, and (vii) the use of polar alternative questions. In describing these strategies, I provided evidence of their optionality and a crosslinguistic tendency to work in conjunction with one another. Remember, interrogative intonation was once considered a universal characteristic of interrogatives though it is often used with other strategies and could be considered optional in many languages. After providing a clear system for classifying polar question strategies, I set out to identify which polar question strategies are used in Kham Mueang and Standard Thai. I found that while these two languages share two polar question strategies, the use of polar particles and polar alternative questions, they have a unique configuration of other strategies. Standard Thai relies on interrogative intonation as a strategy, while Kham Mueang uses interrogative word order and pragmatic/semantic clues. Having identified each language's strategies, subsequent chapters expanded upon the attributes of these strategies.

One important aspect of my research has been to identify how individual strategies interact with one another. In Chapter 2, through experiment-based research, I discussed the tone and intonation systems of Standard Thai and Kham Mueang. Using pitch contour lines, I identified an interrogative intonation pattern specific to polar questions in Standard Thai. This was an important finding, as it has been asserted, based on impressionistic research, that such a pattern does not exist. Furthermore, in Chapter 2, I conducted the first ever research on Kham Mueang intonation. This research yielded quite interesting results, as I found that Kham Mueang tone is not impacted by the intonation system in ways that one might expect. Namely, there is no intonational distinction between interrogatives and declaratives, and there is no evidence of sentential declination or tone sandhi. The second finding might be of particular interest to future researchers as sentential declination has been considered an inherent feature of language due to the physiological need to breathe and the phonological requirement to set information boundaries. After having thoroughly described the intonation system in respect to polar questions in both languages, in Chapter 3, I focused on the descriptive work of detailing the semantic and syntactic environments in which various polar question types arise. This chapter highlighted some of the inadequacies of past typologies of polar questions in Standard Thai, as well as the incompatibility of these typologies with Kham Mueang data. From there, in Chapter 4, I presented Yaisomanang's disjunction-deletion model of polar questions and, through a thorough discussion of their work, arrived at the conclusion that a disjunction-deletion model fails to account for attested patterns of polar questions in Standard Thai due to internal inconsistencies within the theory. Having established a need for a new approach to polar questions in Standard Thai and Kham Mueang, I then identified two types of polar questions which can account for all attested patterns in these languages: Polar Particle Questions (PPQs) and Polar Alternative Questions (PAQs). The clear advantages of this model can be seen in its ability to straightforwardly address issues which were problematic to past approaches. First, these two question types clearly indicate how Q-force is assigned. This was an issue that the disjunction-deletion model was unequipped to handle. Second, my PPQ-PPA model identifies two simple structures which allow a high level of variation in question formation without resorting to ad hoc morphological rules or the violation of conventions of head-movement.

Having articulated a well-rounded theory of polar question strategies in Standard Thai and Kham Mueang, with a strong focus on polar particles and polar alternative questions, the current chapter will discuss implications of my findings and potentials for future research. The subsequent sections are organized in the following way. Section 1 discusses Gonzalez's (2021)

typology of polar question particles. In this section, I discuss the strengths of Gonzalez's proposal and explore how Standard Thai and Kham Mueang might fit into this typology. Ultimately, I find that Standard Thai and Kham Mueang polar particles have unique attributes which require the introduction of two new categories to Gonzalez's typology. Section 2 then looks at some of the areas of research that might benefit from the findings of this paper on Standard Thai and Kham Mueang polar questions. It also identifies the limitations of this paper, and areas which could be improved upon with future efforts.

1 GONZALEZ (2021)

Gonzalez (2021) identifies three types of interrogative particles across languages:

- (iv) particles which can occur in interrogatives and can also form disjunctions and indefinites in declaratives, e.g., Japanese *-ka* (Kuroda, 1965; Hagstrom, 1998; Uegaki, 2018);
- (v) particles which are optional and restricted to polar and alternative questions, e.g., Hindi-Urdu *kyaa* (Biezma et al., 2015; Bhatt and Dayal, 2020);
- (vi) particles which are restricted to polar and alternative questions and mandatory in both matrix and embedded questions, e.g., Finnish *-ko* (Holmberg et al., 1993; Holmberg, 2003; Holmberg, 2014) and Turkish *mi* (Kamali, 2011; Allamaz, 2015; (Kamali & Krifka, 2020)

Gonzalez's work primarily focuses on identifying the signature properties of type (iii) interrogative particles which they refer to as *polar interrogative particles* (PolQs). Gonzalez suggests that the majority of research interest has been directed towards understanding the first two types of interrogative particles but provides clear evidence that PolQs have distinct features which exclude them from being classified in the same category as other interrogative particles. As their work aims to improve the discourse around polar questions, the crossover from their research into my own is immediately apparent.

The main objective of my research was to present a wide-angle view of polar questions, so that individual polar question strategies could be explored in a way that reveals their interactive nature with one another. Gonzalez, on the other hand, took a narrower approach focusing specifically on polar interrogative particles, and identifying the key characteristics of these across three sub-types. Having established that the use of polar particles is the primary polar question strategy of both Kham Mueang and Standard Thai, it makes sense to now consider how these particles compare to other particles crosslinguistically. Below, in figure 5.1, I have represented Gonzalez’s criteria for subdividing polar particles into different categories.

Table 5

	Mandatory?	Polar Q? Alternative Q?	Wh- Q?	Embedded Q?	Q only?	Focus sensitive?
Japanese	no	yes	yes	yes	no	no
Hindi-Urdu	no	yes	no	sometimes	yes	yes
Finish	yes	yes	no	yes	yes	yes
Turkish	yes	yes	no	yes	yes	yes

While future research will benefit a great deal from an in-depth investigation into how interrogative particles of Standard Thai and Kham Mueang fit into this typology, unfortunately, such an effort is beyond the scope of this paper. However, this section offers empirical evidence that Kham Mueang *goh* requires the addition of a fourth category, and that reconsidering Gonzalez’s definition of ‘mandatory’ might be necessary, resulting in the need for a fifth category. I begin with the later issue first.

One challenge to this typology is the fact that Kham Mueang and Standard Thai have three polar particles each. Recall, for Kham Mueang the three question particles include *goh*, *ga*, and *la*. In Standard Thai, the three question particles include *máy*, *ruu*, and *yang*. The use of one of these particles is mandatory in both languages in order to form a polar question. See (273) through (276) below.

ST

(260) khao wing **máy**
he run Q
'Did he run?'

(261) khao wing
he ran
'He ran.' / *'Did he run?'

KM

(262) khao lon **goh**
he run Q
'Did he run?'

(263) khao lon
he run
'He ran.' / *'Did he run?'

And, as I have demonstrated throughout this paper, each particle has its own unique semantic and syntactic distribution. So, while the use of a polar particle is mandatory, none of the particles themselves are inherently mandatory. For example, while the above polar questions in (260) and (262) use Standard Thai *máy* and Kham Mueang *goh*, (264) and (265) below do not. Instead, in these polar questions, we find the particles *ruu* and *ga*.

ST

(264) khao wing **ruu**
he run Q
'Did he run?'

KM

(265) khao lon **ga**
he run Q
'Did he run?'

The following question arises from these examples concerning Gonzalez’s definition of the term ‘mandatory’. If multiple polar particles which occupy the same syntactic slot can be used at times to convey the same meaning, then is any individual particle mandatory? Throughout the course of research, when discussing translations and exact meaning, the language consultant specified that, in Standard Thai, either *ruu* or *máy* could be used in certain polar questions with no semantic change. The same was true of *goh* and *ga* in Kham Mueang. So, if either particle can be used, is either particle mandatory? Touching briefly on a similar problem, Gonzalez discusses the Russian particle *li*.

Gonzalez suggests that while Russian *li* is a mandatory particle, it is only mandatory when the speaker chooses the PolQ strategy. More specifically, when the speaker uses a raising intonation, the PolQ is not mandatory. When the speaker chooses the PolQ strategy, and a raising intonation is not used, *li* must be present. Gonzalez offers example (266), courtesy of a personal correspondence with Lena Borise, as evidence of a polar question which uses the raising intonation strategy.

- (266) Prishla Zoj-a↑?
 come.PST Zoe.NOM
 ‘Did Zoe come?’

Gonzalez provides examples (267) and (268), again courtesy of Lena Borise, as evidence that the particle is mandatory when the speaker chooses the PolQ strategy. In embedded interrogatives, the raising intonation is not available, therefore the sentences below require the PolQ strategy. Here, the PolQ *li* is mandatory.

- (267) Ja spros-i-l-a [prish-l-a *(li) Zoj-a].
 1sg ask-th-pst-fem come-pst-fem PolQ Zoj-nom
 ‘I asked whether Zoe came.’

- (268) Ja zna-ju [prixod-i-l-a *(li) Zoj-a].
 1sg know-prs-1sg come-th-pst-fem PolQ Zoj-nom
 ‘I know whether Zoe came (or not).’

The following analysis discuss the implications of adopting this softer definition of mandatory, wherein the PolQ is mandatory when the speaker chooses to use the PolQ strategy.

Extending this definition to Standard Thai and Kham Mueang, allows one to argue that each polar particle is mandatory when the speaker has chosen that particle as their PolQ strategy. If one choses PolQ *máy*, then absence of *máy* is ungrammatical. The descriptive work in Chapter 3 provides extensive evidence that this conditional statement is true. Recall, *máy* cannot typically cooccur with *mây*. So, in the sentence below, *ru* is mandatory.

(269) khaw pen khon mae tha mây chay ru
 he COP person Mae Tha NEG right Q
 ‘Isn’t he from Mae Tha?’

And when either *máy* or *ruu* can be used, then the assumption must be that substitution is not possible because the speaker has selected either the PolQ strategy *mây* or the PolQ strategy *ruu*. This is certainly harder to prove as the data below demonstrates.

(270) ja bpai máy/ruu
 will go Q/Q
 ‘Are you going?’

(271) ja bpai
 will go
 *‘Are you going?’

With the softer definition of mandatory, the assumption would be that (270) above represents two distinct polar question strategies that are not equivalent, even if they appear semantically identical. To maintain this argument, you would require the following analysis, based on the data below. If (272a) is not to equal (272b), then the absence of *máy* in (273a) should result in a failure to meet the PolQ *máy* strategy requirements, regardless of semantic equivalence, and consequently, it should not be understandable as a polar question. And, if (272a) is not equal to (273b), then the absence of *ruu* in (273b) should result in a failure to meet the hypothetical PolQ *ruu* strategy requirements, regardless of semantic equivalence, and consequently, we should expect that (273b) should not be understandable as a polar question.

In (274), the polar particle is absent, but the raise intonation is present resulting in a well-formed polar question.

(275) Prishla Zoj-a↑?
come.PST Zoe.NOM
'Did Zoe come?'

In (275), the polar particle is present but the raise intonation is absent resulting in an ill-formed sentence.

(276) Prishla **li** Zoj-a?
come.PST Q Zoe.NOM
*'Did Zoe come?'

In (277), both the polar particle and the raise intonation are absent, and the result is a well-formed declarative.

(277) Prishla Zoj-a.
come.PST Zoe-a
'Zoe came.'

In light of this dataset, I argue the only mandatory polar strategy is the raise intonation. The polar particle, on the other hand, cannot be used as a solitary polar strategy, and a polar question can be formed in its absence.

Now let's return to the argument that *li* is mandatory in embedded questions and that the raise intonation is not permitted. I respond to this claim with by suggesting that a raise intonation is crosslinguistically not allowed in this environment, because this is not a polar question but, rather, a polar statement. Consider the following English examples. In (278) we have a declarative, with neither rise intonation nor sub-aux inversion. In (279), the sentence has both a rise intonation and sub-aux inversion. In (280), the question is embedded in a that-clause. Here, absence of the intonation polar question and the sub-aux inversion question strategy results in a declarative, as predicted by my definition of a 'mandatory' strategy. However, this statement can be turned into a question using a raise intonation. In (281), the

speaker checks for verification that they are discussing the subject of the embedded clause. In (282), the speaker checks for verification that they are discussing the object of the embedded clause. Interestingly, sub-aux inversion is not allowed in the embedded question if the entire sentence is to be interpreted as a polar question, as seen in (283). Note, in the chart below, the available yes-no replies indicate whether or not the sentence is a polar question.

Table 5.1

	Possible Replies
(278) You are a good dancer.	thanks, *yes, *no
(279) Are you a good dancer↑?	*thanks, yes, no
(280) I believe that you are a good dancer.	thanks, *yes, *no
(281) I believe that you↑ are a good dancer? (not Fred or Wilma)	*thanks, yes, no
(282) I believe that you a good dancer↑? (not a good singer or teacher)	*thanks, yes, no
(283) *I believe that are you a good dancer(↑)?	***

According to my Russian language consultant, the same holds for Russian. The sentence below is a polar question in which the raise intonation places focus on Zoe. In this question *li* is prohibited, and it can be answered with yes or no.

- (284) Ja spros-i-l-a [prish-l-a *li Zoj-a↑.
 1sg ask-th-pst-fem come-pst-fem PolQ Zoj-nom
 ‘I asked whether **Zoe** came?’

In addition to this evidence, I also received confirmation from my Russian language consultant that they consider interrogative intonation to be the primary polar question strategy in Russian and the polar particle to be used optionally.

Following these arguments, I contend that in Standard Thai and Kham Mueang no individual polar particles is mandatory, as there is often an alternative polar strategy available. I therefore propose that Gonzalez’s typology be amended to include an additional category for the Russian

li and Standard Thai *máy*, *ruu*, and *yang* and Kham Mueang *ga*. Below I have reproduced Gonzalez’s findings to include my proposed amendments. Note that Kham Mueang *goh* has been placed in a fifth category. I will explain why shortly.

Table 5.2

	Mandatory?	Polar Q? Alternative Q?	Wh-Q?	Embedded Q?	Q only?	Focus sensitive?
Japanese	no	yes	yes	yes	no	no
Hindi-Urdu	no	yes	no	sometimes	yes	yes
Finish	yes	yes	no	yes	yes	yes
Turkish	yes	yes	no	yes	yes	yes
Russian	no	yes	no	yes	yes	yes
Standard Thai	no	yes	no	yes	yes	yes
Kham Mueang	no	yes	no	yes	no	yes

Before addressing the need for separate category for Kham Mueang *goh*, I will briefly provide evidence that Kham Mueang and Standard Thai particles cannot be used in Wh-Q. I believe I have provided ample evidence throughout my paper to support my claims on the status of the other properties identified in the table above, but I have yet to discuss Wh-questions. In the examples below, we see that when Wh-words are used along with polar particles, the Wh-word is interpreted as an indefinite pronoun. When the polar particle is absent, the utterance is interpreted as Wh-Question. See (285) through (288) below.

Standard Thai

(285) boon mi **arai** **máy**
 Boon have something Q
 ‘Do you (Boon) have something?’

(286) boon mi **arai**
 Boon have what
 ‘What do you (Boon) have?’

Kham Mueang:

(287) nit su **ayang** tawa **goh**
Nith buy something yesterday Q
'Did you (Nith) buy something yesterday?'

(288) nit su **ayang** tawa
Nith buy what yesterday
'What did you (Nith) buy yesterday.'

As for the need for a fifth category for Kham Mueang *goh*, we find that it is distinct from Standard Thai in that *goh* is not restricted to polar questions. This can be seen clearly in (289) below.

(289) tagon boon goh suu nangsui
PST Boon Q buy book
'Boon bought a book'

While delving further into this subject or proposing an additional set of criteria for evaluating the essential properties of polar particles crosslinguistically is beyond the scope of this paper, I suggest that Gonzalez's model offers a clear and reproducible set of tests for establishing the fundamental characteristics of polar particles in any given language. Interestingly, Gonzalez's six criteria suggests a potential of 64 unique particle types. Based on this potential for variation and the fact my own findings imply a need for two additional particle types in the current typology, I predict future researchers will identify several distinct particle types with unique characteristics which have yet to be discussed. I look forward to researchers applying Gonzalez's criteria to their own work and the typology growing.

2 CONCLUSION AND QUESTIONS FOR FUTURE RESEARCH

This paper began by introducing seven crosslinguistic polar question strategies. It then identified the obligatory strategies used in Kham Mueang and Standard Thai. My findings can be seen in the table below.

Table 5.3

Polar question strategy	Standard Thai		Kham Mueang	
	obligatory	optional	obligatory	optional
1. question particle	no	yes	no	yes
2. interrogative verb morphology	no	no	no	no
3. interrogative word order	no	no	no	yes
4. absence of declarative morphemes	no	no	no	no
5. interrogative intonation	yes	no	no	no
6. pragmatic/semantic distinction	no	no	no	yes
7. polar alternative questions	no	yes	no	yes

As both languages make use of question particles and polar alternative questions, understanding these strategies were the primary focus of this paper. However, some time was dedicated to discussing how all of these strategies interact. Chapter 2 focused on the role of intonation in the creation of polar questions in both languages. The findings were quite conclusive that interrogative intonation is an obligatory strategy in Standard Thai, and perhaps more interestingly, it showed that Kham Mueang has a unique intonation system, in which the shape and F_0 of individual tones remain generally unaffected by intonation and features of adjacent tones. These findings will be of interest to phonologists in general as well as anyone interested issues of interface between intonation and syntax. I hope my work inspires future research on the intonation system of Kham Mueang, as an in-depth analysis was beyond the scope of this paper. In particular, I would like to see research carried out on Kham Mueang which is based on natural speech. All of my data was produced in an emotionally neutral state and lacks the dynamic qualities present in the language when used in daily life. Chapter 3 discussed past work on Standard Thai polar particles and attempted to conduct a comparative analysis. This chapter found that previous models failed to capture some of the key features of polar particles in Standard Thai, which led to several challenges in transposing past typologies onto the Kham Mueang data. However, the descriptive work carried out by Photisorn (1985) and Iwasaki and Ingkaphirom (2009) provided great insights into the distributional properties

of the particles and various polar question types. This allowed for a productive discussion of the function of the particles in Kham Mueang, which have never before been described. Chapter 4 then looked at the debate surrounding the underlying structure of question particles in Standard Thai. It concluded that a disjunction-deletion model was incapable of accounting for the patterns in Standard Thai and Kham Mueang. As a result, I proposed a model in which polar questions are formed in two ways: through the use of Polar Particle Questions (PPQs) and Polar Alternative Questions (PAQs). I suggested that PPQs are polar questions which always have a question particle, and PAQs are polar questions which form a disjunction between two polar constituents. Both are, by definition polar questions, because they both elicit polar replies. Focusing on PPQs, I then posited an analysis based on Syed and Dash (2017), in which the particle is underlyingly sentence-initial. Due to enclitic properties, which the particles have developed, movement then occurs at PF to satisfy a requirement that there be material to the left of the particle. Following Syed and Dash's analysis, I claimed the sentence-medial position was available in Kham Mueang due to language-specific variation of what size of material can move. Finally, in Chapter 5, I introduced Gonzalez's (2021) typology of polar particles and presented evidence that Standard Thai and Kham Mueang do not fit into the current typology. I then suggested an addition of a fourth and fifth particle type to accommodate the different attributes of the Kham Mueang and Standard Thai particles.

Broadly speaking, this paper has aimed to further our general understanding of polar questions crosslinguistically. More specifically, this paper has provided several solutions to problems which stem from a lack of research on Standard Thai question particles. It also conducted the first in-depth analysis of Kham Mueang. I hope that this will inspire future researchers to investigate this grossly understudied language. While my work was more of a theoretical nature, I hope that future researchers are able to do the important work of writing a grammar for the language, and doing cross-dialectal analysis of the tone-systems across Northern Thailand. Ultimately, I hope this research is useful to anyone interested in the Tai-Kadai/Kra-Dai family of languages or in the intersection between syntax and intonation. This paper has presented several strong claims, and I look forward to the responses these claims evoke.

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