The Interaction of Negatives with Modality, Aspect, and Interrogatives

by

Hui-Ling Yang

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Approved April 2012 by the
Graduate Supervisory Committee:

Elly van Gelderen, Chair
Karen Adams
Carrie Gillon
Chaofen Sun

ARIZONA STATE UNIVERSITY

May 2012

ABSTRACT

The primary topic of this dissertation is the grammaticalization of negation in three Sinitic language varieties: Hakka, Mandarin, and Southern Min. I discuss negative morphemes that are used under different modality or aspect contexts, including ability, volition, necessity, and perfectivity. Not only does this study examine Southern Min affirmative and negative pairs, but it also highlights the grammaticalization of negation and parametric differences in negation among the languages under investigation. This dissertation also covers the reanalysis of negatives into interrogatives.

I approach the investigation of Southern Min negation from both synchronic and diachronic perspectives. I analyze corpus data in addition to data collected from fieldwork for the contemporary linguistic data. For my diachronic research of Chinese negation, I use historical texts and etymological dictionaries.

Diachronically, many of the negative morphemes originate from full-fledged verbs and undergo an analogous grammaticalization process that consists of multiple stages of reanalysis from V to T (aspect; modality), and then T to C (interrogative; discourse). I explain this reanalysis, which involves head-to-head movement, using generative frameworks that combine a modified cartographic approach and Minimalist Economy Principles.

Synchronic data show that Southern Min affirmative modals are characterized by a certain morphological doubling. These doublings consist of two near synonyms used in sequence, resulting from the loss of features in a verb and a second verb added as a renewal. In the negation paradigm, some negatives

project a negative phrase, while the others serve a dual function, occupying a modal/aspect head as well as a negative head. The latter system is gradually shifting to the former. This study uncovers evidence to counter the long-established paradigm, where negation is tied to its independent modality (abilitive, volitional and necessitive) or aspect (perfective and perfect). I observe a mismatch between the use of interrogatives and their modality/aspect and attribute this phenomenon to feature loss during their reanalysis from negatives to interrogatives. Results however show that consistency occurs in the grammaticalization of negation within Southern Min and intra-linguistically among the three Sinitic languages, and that parametric differences are found at the morphological level.

DEDICATION

I am happy to know that the time to write acknowledgments has come. There are surely too many to whom I would like to express my deep gratitude. I thank Shing-Huei and Wei-Bin for handling my affairs during my absence from Taiwan. I am so fortunate to have a friend like Sonia, who always believes in me and who has been a good listening ear. I thank Virgil for bringing cheer and laughter to my life, and for providing me with an environment that featured English almost exclusively after school for six straight years. I thank Li-Chi, Paul, and Laohuang for always being there, however busy they themselves are. I shall never forget about the kindness given by Chu-Yu, who has been a very patient chauffeur. I enjoyed the wonderful exchanges on Chinese with George Oliver and Lauren Paschke. I am grateful to have met Daniela Kostadinovska; her many good qualities of character have exerted a positive influence on me. I thank Bonnie Quinn, Christian Thompson, James Berry, Jining Han, Mohammed AlRashed, and Victor Parra-Guinaldo. The many weekends spent in the computer lab alongside Ahmed Gul will always be a fond memory.

I owe my parents more than I can repay. I admire my mother's passion for linguistics; I appreciate my father, who never said no to my educational investment. I thank my siblings, nieces, and nephews, who have provided me with so many happy summers while back in Taiwan. I honor my grandfather, a man of wisdom who spoke five languages in his life time and who taught me what life is about. This dissertation is dedicated to him.

ACKNOWLEDGMENTS

I am indebted to all four members of my dissertation committee, Drs. Elly van Gelderen, Karen Adams, Carrie Gillon, and Chaofen Sun, for their constant support and insightful comments on my work. My committee chair Elly is my *Bole*, a good judge of talent, as the Chinese expression goes, who knows how to separate the wheat from the chaff. She has provided me with the best guidance by any means. Without the optimism and enthusiasm she has constantly provided, I would not have enjoyed my writing as much as I did. Elly has provided me with the best model of scholarship, and I heartily thank her. Thank you, Elly, for your non-negative feedback on my work on negation. Seven years ago, you planted the acorn of my academic career; thanks to your patient tutelage, it has grown into a vigorous sapling. Perhaps one day it will become, as you have proven yourself to be, a mighty oak. I owe a heartfelt debt to Dr. Adams, who has provided me with academic support in various ways and from whom I have also benefited for her suggestions on my work. My sincere thanks also go to Carrie for her critical and insightful comments on my prior manuscript. I thank Dr. Sun for his invaluable advice, particularly regarding the Chinese data.

I owe a debt of gratitude to Paul Jackson for his invaluable annotations on my dissertation draft, and for his constant and timely help. I admire his knowledge of Sinology. I thank Yu-Cheng Huang for his reviewing my transcriptions. I am so grateful for Robert LaBarge's willingness to spend time proofreading my final draft. My sincere thanks go to my fieldwork consultants for their time and patience. Thanks are also due to Dr. Chinfa Lien at National Tsing

Hua University and Dr. Hsiu-Fang Yang at National Taiwan University, who have provided me with countless resources on Southern Min as well as invaluable encouragement.

I thank the English faculty at ASU, particularly Drs. Claire Renaud, Elenore Long, Karen Dwyer, and Mark James for their encouragement. I appreciate Ruby Macksoud for her heartfelt conversations. My gratitude also extends to Demetria Baker, Manager of the Writing Programs, and to Ruth Johnston, for their years of support during my teaching at ASU. I thank Sheila Luna, Manager to the Graduate Program in English, for her willingness to stop in the middle of her work to answer my questions upon my every visit. I have made the best choice by selecting the Department of English at ASU, from which I have received various kinds of sponsorship, including but not limited to, a five-year scholarship and the University Graduate as well as Katherine C. Turner Dissertation Fellowships during the 2010-2011 academic year.

I would also like to thank several faculty members from the Chinese Program at ASU, including Zhang Laoshi (Dr. Xia Zhang) and Liu Laoshi (Dr. Qian Liu) for their support, and Wu Laoshi (Dr. Young Kyun Oh) for his introducing me to the world of Chinese historical phonology, which initiated my thought on researching the multiple Sinitic languages.

I appreciate the financial support from the Chiang Ching-Kuo Foundation for International Scholarly Exchange for the Doctoral Dissertation Fellowship for my academic year of 2011-2012.

All errors rest entirely with the author.

TABLE OF CONTENTS

Page

LIST OF TABLES ix

ABBREVIATIONS xiii

CHAPTER

1 INTRODUCTION 1

Purpose of Study 1

Scope of Research 2

Languages Investigated 7

Methodologies 10

Terminology and Transcription 13

Organization 17

2 THEORETICAL FRAMEWORKS 18

Generative Grammar 18

Cartography 21

Grammaticalization 37

Computational Economy 48

Negation Cycles 52

3 NEGATION AND TAM 57

Cross-linguistic Negation 57

A Brief History of Chinese Negation 63

Southern Min Negation 67

Modality and Aspect 75

Page

CHAPTER

Conclusion 92

4 THE ABILITIVE MODALS E AND BE 93

Introduction 93

Synchrony of *e/be* 94

Diachrony of *e/be* 105

Grammaticalization of *e/be* 111

Comparative Studies 127

Conclusion 148

5 THE VOLITIONAL MODALS BEH AND M 150

Introduction 150

Synchrony of *beh*/*m* 152

Diachrony of *beh*/*m* 165

Grammaticalization of *beh*/*m* 186

Comparative Studies 197

Conclusion 216

6 THE NECESSITIVE MODALS TIOH AND BIAN 219

Introduction 219

Synchrony of *tioh*/*bian* 220

Diachrony of *tioh*/*bian* 234

Grammaticalization of *tioh*/*bian* 253

Comparative Studies 259

Page

CHAPTER

Conclusion 274

7 THE ASPECTUAL NEGATIVES BO AND BUE 275

Introduction 275

Synchrony of *bo* and *bue* 276

Diachrony of Aspectual Negation 286

Grammaticalization of Aspectual Negation 299

Comparative Studies 325

Conclusion 342

8 SOUTHERN MIN NEGATION AND INTERROGATIVES 343

Introduction 343

Doublings in the Affirmative Paradigm 344

The Negative Paradigm 348

Conclusion 374

9 CONCLUSION 375

Contributions 375

Direction for Future Research 377

REFERENCES 379

LIST OF TABLES

Table		Page
2.1.	LF positions for English modals	35
3.1.	Modality in Classical Chinese	66
3.2.	The affirmative-negative pairs in Southern Min	68
3.3.	Words compatible with m_2	72
3.4.	Modality expressed by lexical items	77
3.5.	Palmer's classification of modality	78
3.6.	English modal verbs and their modality	83
3.7.	English modal verbs and their classifications	85
4.1.	Categorial status of *be*	94
4.2.	*e* and TAM	96
4.3.	Modality of *be*	103
4.4.	Frequency of *e*-words in *Zhuzi yulei*	109
4.5.	English possibility modality paradigm	129
4.6.	Hakka permissive deontic modals	133
4.7.	Hakka modal systems	136
4.8.	Hakka negative possibility modals	137
4.9.	A comparison of permissive deontic modals	138
4.10.	Mandarin possibility modal systems	141
4.11.	Possibility modals in Southern Min, Mandarin and Hakka	143
5.1.	Categorial status of *m*	152
5.2.	The distinction between *beh* and *ai*	155

Table Page

5.3. The competing forms for ‘not.want’ in TSM 157

5.4. Volitional verbs in *Zhuzi* 166

5.5. Diachronic development of *beh* 168

5.6. Affirmative and negatives of *beh* 169

5.7. The complex of *beh* and its negation 171

5.8. Diachronic development of *ai* 172

5.9. Affirmative and negatives of *ai* 174

5.10. The complex *beh* and its negation 175

5.11. The categorical distributions of *ai* in modern TSM 177

5.12. *beh*/*ai* in TSM 185

5.13. TSM volitional paradigm 187

5.14. *Beh* vs. *ai* in TSM 211

5.15. Typological comparison of volition 214

5.16. Two systems: possibility and volition 215

5.17. English *will* and *want* 215

6.1. The meaning distribution of *ai* 224

6.2. The use of *ai* in TSM 225

6.3. Categories of *tioh* and *bian* 234

6.4. Definitions of 著 in Chinese 234

6.5. The multiple meanings of *tioh* 著 in TSM 235

6.6. Necessity (modal) verbs in *Zhuzi yulei* 239

6.7. The overlapping modality in *Zhuzi yulei* 241

Table Page

6.8. Modern Southern Min necessity modals 243

6.9. TSM necessity paradigm 246

6.10. English modal verbs in the necessity modality paradigm 259

6.11. The necessity modality of the three languages 265

6.12. Epistemic necessity modals of the three languages 268

6.13. The necessity modal paradigms of the three languages 270

6.14. Mandarin *yao* in the volitional and necessity paradigms 271

6.15. The necessity modal paradigm in Mandarin 271

7.1. Aspectual negation in the three languages 275

7.2. The categorial status of *bo* 285

7.3. The categorial status of *bue* 285

7.4. A comparison of *wu* and *mei* 294

7.5. A comparison of *bo*, *wu*, and *mei* 325

7.6. negation for stage-level adjectival predication 339

7.7. Negation for individual-level adjectival predication 340

7.8. TSM *bo* versus MSC *mei* 341

7.9. Aspectual negation in synchronic Chinese 342

8.1. The negative system of the three languages 344

8.2. The affirmative modal doublings in Southern Min 345

8.3. The modal doublings in the three languages 347

8.4. The origins of Southern Min negatives 349

8.5. Southern Min negation in morpho-syntax 350

Table Page

8.6. The categorial status of Southern Min negatives 358

8.7. Semantic layering of *bo* 365

8.8. The negative system between Southern Min and Mandarin 366

8.9. The negative system between TSM and Hakka 371

ABBREVIATIONS

3pl	first person plural
3sg	first person singular
Adj	adjective
Adv	adverb
AspP	Aspect phrase
ASST	assertive marker
CL	classifier
COMP	complementizer
CONJ	conjunction
COP	copula
CP	complementizer phrase
CRS	current relevance state
DM	discourse marker
DP	determiner phrase
DISP	disposal marker
EMP	emphatic
EX	existential aspect
EXP	experiential marker
FinP	finite phrase
FOC	focus
FUR	future
GEN	genitive

HAB	habitative
HPP	head preference principle
i-F	interpretable features
ind	indicative
int.	intented
IP	inflectional phrase
LF	logical form
LMP	late merge principle
LOC	locative marker
MC	Middle Chinese
ModP	modal phrase
MSC	modern standard Chinese
NEG	negative marker
NML	nominalizer
Obj	object
OE	Old English
OED	Oxford English dictionary
PAR	particle
PASS	passive
PF	perfect
PFV	perfective
Pol	polarity
POSS	possessive

PREP	preposition
PRES	present tense
PROG	progressive
PROH	prohibitive
PRON	pronoun
PST	past tense
Q	question marker
REL	relative marker
Spec	specifier
Subj	subject
SVC	serial verb construction
TAG	tag
TMA	tense, mood and aspect
TOP	topic
TP	tense phrase
TSM	Taiwanese Southern Min
u-F	uninterpretable features
VP	verb phrase

Chapter 1

INTRODUCTION

This dissertation revolves around the grammaticalization of negation in three Chinese language varieties, namely Hakka, Mandarin, and Southern Min.[1] It also addresses several important related issues in syntax, such as the categorial status of negative morphemes and word order, and in the interface between syntax and semantics, such as negation and modality. The first chapter provides information about three questions: *what*, *how* and *why*?

1.1. Purpose of study

Negation has been discussed in a considerable number of studies in the field of Chinese Linguistics, such as Teng (1974), Tang (1994), Ernst (1995), Li (1999), Wang & Lien (2001), Huang (2009), among others. Some of these studies are descriptive, while others are more theoretical. The former group attempts to distinguish characteristics of Chinese negatives, while the latter group draws conclusions with respect to syntax, semantics and/or pragmatics. Despite the fact that several researchers adopt theoretical frameworks to account for the unique phenomena found in negation, a larger number of scholars approach Chinese negation in a descriptive fashion. There are also scholars who take a diachronic approach to explaining changes in Chinese negation using texts from different periods of Chinese history. Overall, recent research on negation has mainly addressed Mandarin negation with very few exceptions for other varieties within

[1] The order is simply ranked alphabetically.

the Chinese language family, such as Li (2007) and Lien (2008) on Southern Min, and Fang (1994) on Hakka.

Except for the above two studies, Southern Min and Hakka, two other languages spoken in Taiwan, have been much less addressed in the field of linguistics. The literature shows that research on these two languages has only appeared sporadically over the past 15 to 20 years. Negation has been one of the best researched topics (see Fang 1994, He 1997, Yu 2002, and Wu 2009). Most of the Min and Hakka studies analyze synchronic negation data and pay little attention to diachronic changes. To the best of my knowledge, little research has associated Chinese negation with diachronic language change. Much work has been on synchronic descriptions. This dissertation addresses this big gap.

Previous research has failed to bridge the gap between historical linguistics and modern language usage. Most look into one or two negatives at a time in a single study; thus far, no research has addressed the full range of negation in one language, let alone three. Few studies on negation cover more than one Chinese language. The connection of negation to questions is even less addressed in the literature. Also little research has attempted to account for language internal change under the framework of generative grammar and together with grammaticalization. This current study attempts to fill these gaps.

1.2 Scope of Research

This dissertation first answers the question, "How does negation evolve in the history of the Chinese language?" Attempts are made to answer two *what* questions: (a) what has been changed in the three Chinese languages under

investigation?, and (b) what characteristics these languages share in expressing negation? I also investigate how negation interacts with modality and aspect, and how negatives are reanalyzed into interrogatives. Finally, I answer why these changes happen.

I begin my investigation with the use of *mei* 沒 and *bu* 不 as sentential negative markers, as in (1) and (2), respectively.

(1) ta jintian **mei**-you ke. Mandarin
3sg today NEG-have class
'He doesn't have school today.'

(2) ta jintian **bu** shangke. Mandarin
3sg today NEG attend.class
'He isn't going to school today.'

The first puzzle that arises is the fact that negation can be used in questions.

(3) koushi-le **mei**? Mandarin
defense-ASP Q
'Have you defended your thesis?'

As stated in the literature (cf. van Gelderen, 2011), negative morphemes are reanalyzed as interrogatives in languages such as Latin, Arabic, Navajo and Mandarin Chinese. For instance, in non-standard Saudi-Najdi Arabic, negatives are also used in questions, as the past negative particle *ma* in (4) and (5) (Mohammed Al-Rashed, p.c.).

(4) Mohammed **ma** ja'a. (Arabic; Saudi-Najdi dialect)
Mohammed NEG.PST come
'Mohammed didn't come.'

(5) **Ma** ja'a Mohammed? (Arabic; Saudi-Najdi dialect)
Q *come* *Mohammed*
'Did Mohammed come?'

The second mystery is the interaction between negation and aspect/modality. Negation in Southern Min is connected to modality and aspect. For instance, *e* and *be* in (6), are affirmative and negative modality counterparts. The aspectual negative *bo* is the opposite of *u* in (7).

(6) a. i **e** lai. Southern Min
3sg *will* *come*
'He will come.'
b. i **be** lai.
3sg *will.not* *come*
'He will not come.'

(7) a. i **u** lai. Southern Min
3sg *ASP* *come*
'He did come.'
b. i **bo** lai.
3sg *NEG.ASP* *come*
'He did not come.'

There is a one-to-one relationship between the affirmative *e* and the negative *be*. In a question such as (8), *be* is used as the question marker in order to pair up with *e* in modality.

(8) i **e** lai **be**? Southern Min
3sg *will* *come* *Q*
'Will he come?'

However, modern Taiwanese Southern Min data show that *bo* can also be a candidate to substitute for *be* as in (9).

(9) i **e** lai **bo**? Southern Min
3sg *will* *come* *Q*
'Will he come?'

However, the question marker *bo* in (9) is mismatched with the affirmative modal *e*. There is no modality/aspect relationship between the modal *e* and bo. Sentences (8) and (9) reveal a grammar that allows one to choose either *be* or *bo* as the question marker.

The interrogative *bo* in (9) is, by far, the most flexible. The other aspectual negative *bue* 'not.yet' is not a candidate for the question in (9). I am therefore interested to know the status of the one-on-one match mechanism in negatives when they are reanalyzed as interrogatives. Contra Cheng, Huang and Tang (1996), I will argue that a revision is required for Taiwanese Southern Min: some interrogatives are base-generated in C, whereas some are base-generated in a lower position, moving to C. The latter interrogatives have not entirely lost their former (aspectual/modality) features.

The above puzzles have brought up the other questions: (a) Is there an asymmetry in selection of the morphemes between negation and questions?; (b) Have the negative morphemes at sentential final position all lost their original features?; (c) Where are these words situated in the syntax of modern Taiwanese Southern Min?

A last puzzle accompanying my research along the way is the various lexical choices allowed among the Sinitic languages. For instance, Mandarin *mei* marks both perfective and perfect aspects, as in (10a) and (11a). However, Southern Min and Hakka distinguish these two aspects by using two different negatives.

(10)	a.	wo	**mei**	chi-fan.	Mandarin
	b.	gua	**bo**	tsiah-png.	Southern Min
	c.	ngai	**mo**	shid-pon.	Hakka
		1sg	*not.ASP*	*eat-meal*	
		'I did not eat (a meal).'			

(11)	a.	wo	hai	**mei**	chi-fan.	Mandarin
	b.	gua	iau	**bue**	tsiah-png.	Southern Min
	c.	ngai	han	**mang**	shid-pon.	Hakka
		1sg	*yet*	*not.yet*	*eat-meal*	
		'I have yet not eaten (a meal).'				

In this dissertation, I raise the following questions:

1. What are the basic negatives in these languages (Hakka, Mandarin and Southern Min)? How do they converge or diverge throughout the history of the Chinese language? What is the grammaticalization path of negation in each language variety?
2. What are the common and/or distinct characteristics of negation in these languages?
3. What role does modality or aspect play in negation?
4. How do interrogatives interact with negatives in each of the languages?
5. How does the framework of generative grammar account for linguistic change found in these languages?

1.3 Languages investigated

This section introduces the languages investigated. I first address the topic on how the term Chinese is used, followed by a brief background on major Chinese language varieties. I then provide more detailed information about Southern Min.

1.3.1 Major Chinese language varieties.

Chinese can be broadly defined as people from China, a group of people who share a similar culture, a unified writing system, and a collection of languages spoken by ethnic Chinese persons, or a common language spoken by ethnic Chinese persons. Non-Chinese may also be included in the last entry. The word "Chinese" used in this dissertation primarily refers to the languages spoken by ethnic Chinese and secondarily to the history of Chinese.

There are seven major Chinese dialects, although most linguists consider them languages. Chinese is hypothesized to have split roughly as follows: Among the major Chinese dialects, Min was split from Old Chinese, whereas the other six, namely Mandarin, Wu, Xiang, Gan, Yue, and Hakka, were separated from Middle Chinese later (Norman 1988).

The languages under investigation include Hakka, Mandarin, and Southern Min, particularly the varieties spoken in Taiwan. Although Mandarin retains its official status as lingua franca in business settings, Southern Min is the most widely spoken vernacular language in Taiwan. The version of Southern Min spoken in the original areas in China where the ancestral Min speakers came from is different from that of Taiwanese Southern Min. The Min immigrants brought in

two major sub-dialects, Quan and Zhang. Since the 17th century, Southern Min has gradually developed its own linguistic patterns on the island, following, among other processes, contact with languages such as Japanese and Formosan languages. Today, Southern Min remains the most widely spoken vernacular in Taiwan due to its retention or use by 75-78% of population occupancy (Chung 2007: 220).

As my discussion in this dissertation centers around Taiwanese Southern Min along with a comparison with Mandarin and Hakka, I will provide more detailed background of Southern Min.

1.3.2 Characteristics of Southern Min.

Because the Min language preserves archaic Middle Chinese sounds, it is often postulated to have been split before Middle Chinese prior to the Han Dynasty (206 BCE) (Norman 1988).

Southern Min differs from the other Chinese language varieties in many aspects. Like Mandarin, modern Southern Min is an analytical language. Nevertheless, a Southern dialect, Min is, first of all, not mutually intelligible with Northern dialects such as Mandarin. This may not be due to their syntax, however.

Secondly, Southern Min and Hakka preserved more archaic words and contain more monosyllabic words in their lexicons, whereas Mandarin possesses more multisyllabic words in its lexicon, as it has fewer tones (four) than these dialects (Sun 2006: 7; Norman 1988). There are seven tones in Southern Min, and tone sandhi can be commonly found in this language (Lü 2003).

Also, there is a distinction between the *colloquial* versus *literary reading* in today's Chinese dialects. That is, a morpheme may have two pronunciations: colloquial versus literary such as (12) and (13) in Southern Min.

(12) 無 'not.have' *bu* (literary) *bo* (colloquial)

(13) 未 'not.yet' *bi* (literary) *be* (colloquial)

Historical stratification gives rise to the two readings. Baxter (1992: 47) argues that literary items are later borrowings from other dialects occurring in the Tang Dynasty (618-907 CE). The literary reading was used in official settings, such as at the court or at school. Poetry was also read in the literary reading.

Lien (2001: 310) notes that Taiwanese Southern Min is abundant with "[a] rich repertoire of chronological strata". Norman (1991) claims that Min dialects have incorporated three strata: (a) the Han dynasty stratum (206 BCE-220 CE); (b) the Nanbeichao stratum (420-581 CE); and (c) the Tang Chang'an stratum (7^{th} -8^{th} centuries). Lien (2001) further proposes that the colloquial reading of Min is built upon the first two strata, and the third stratum contributes to Min's literary reading. Based on Lien (2005: 206), stratal differences may be realized in vowel contrast such as in the two negative words in modern Southern Min.[2]

(14) 無 'not.have' *b**u*** (literary) *b**o*** (colloquial)

(15) 未 'not.yet' *b**i*** (literary) *b**e*** (colloquial)

[2] Vowel distinction is not the only mechanism to distinguish one reading from the other. Scholars have tried to find out a systematic pattern for the two readings in Southern Min. Because of the complexity of historical strata and perhaps because of the lack of written data in this language, the two readings have remained less known to most of its speakers (cf. Lien 2001; 2005).

1.4 Methodologies

This study includes both theoretical frameworks and empirical linguistic data. I address the theoretical frameworks in chapter two. For the collection of data, corpus analysis is the major method adopted in this study. However, I also conducted fieldwork for some parts of my research to further clarify certain issues.

1.4.1 Methods used by previous studies.

Below is a discussion of the two major research methodologies adopted by Chinese scholars, corpus linguistics and dialectology. One research method that is robustly adopted by Chinese syntacticians is corpus linguistics. Studies using such a method include Xing (2003), Yang (2006), Ji (2007), Wei (2007), to name just a few. These studies are on contemporary and/or historical Chinese linguistics. Xing (2003) has one section on the diachronic change of the Chinese morpheme *bei*, meaning 'sleeping clothes', which is used as a passive marker in modern Chinese. Yang (2006) examines the grammaticalization of this Chinese passive marker from modern texts among three regions where Mandarin is spoken as an official language and where Chinese is used as the writing system. Ji (2007) uses both diachronic and synchronic corpora to explain the order of CP left periphery adverbs. Wei (2007) focuses on diachronic texts and examines the change of negation throughout the history of Chinese. Other than the above-mentioned studies on Mandarin, Lien (2002; 2003; 2008; 2009) has used corpora in his work on Southern Min.

More recently, an increasing body of research in Chinese has made use of dialectology to compare and contrast particular morphemes, such as the passive

marker, among different dialect variations for their etymology. This line of research is often associated with historical linguistics since the study of other Chinese language variations may provide insights into how some of the unique Chinese constructions have derived. Dialectal studies are particularly common among Chinese phonologists, whose research relies heavily on rhyme books from different periods in Chinese history. The oldest accessible rhyme book, the *Qie yun* (切韻), discovered in 601 CE (and perhaps written long before), offers insights of Chinese phonology back to Middle Chinese. From these rhyme books, Chinese phonologists are able to reconstruct Old Chinese and trace cognates shared by different Sinitic language varieties. Since this dissertation is primarily about syntax, I do not follow such a research tradition. However, when necessary, I make use of the findings from this type of research as supplements.

1.4.2 Research Methods.

Since this study involves three languages, it is rather difficult to find one site that provides the data for all the relevant languages. To compensate, I use multiple sources such as corpora, literature reviews and fieldwork data.

Primary research data

The forms of primary research include corpus analyses and/or linguistic data from fieldwork. Fieldwork was conducted when my research questions couldn't be thoroughly or satisfactorily answered through online corpus data.

Primary research data mainly covers Hakka and Southern Min. I use previous studies on Mandarin negation for a comparison. However, when there is no literature about Mandarin on a certain topic, I conduct primary research.

I utilize contemporary corpora that are publicized, such as Min and Hakka storybook series, as well as the online modern Mandarin corpora provided by Taiwan Academia Sinica. The previous two provide synchronic data, while the latter source includes both diachronic and synchronic data.

As Southern Min is a living language, other sources included can range from TV shows, to popular music, and to biblical texts. There is no need to incorporate them all. Contemporary Taiwanese Southern Min data examined here are from the Southern Min story series (Hu 1992-2007). The most important reason is for comparison in that many previous studies have made use of these corpora.

Data from other studies

I include literature reviews as my major secondary research data. This is mainly for Mandarin to give a comparison with the other two languages under investigation since Chinese (in many studies, Chinese means Mandarin) negation is one of the hotly studied topics in Chinese linguistics. The research results are ample and impressive, and I look into literature on Chinese negatives/interrogatives (mainly on Mandarin). Research on modality is another focus. Literature on descriptive historical linguistics is an additional source I make use of. With abundant diachronic data and descriptive analyses, research in historical linguistics provides theoretical linguists with a good resource to interpret language change.

Dictionaries

Chief among the dictionary resources I utilize here are *Shuowen jiezi* 說文解字 and *Hanyu da cidian* 漢語大詞典. *Shuowen jiezi,* literally meaning "Explaining Simple Characters and Analyzing Compound Characters", is edited to completion in 100 CE by *Xu Shen* 許慎 (58-147 CE) and is commonly referred to the *Analytical Dictionary of Characters*. Despite the fact that it is not the first Chinese dictionary, *Shuowen* dissects structures of Chinese characters and provides etymology of a good number of characters (9,353 character entries, plus 1,163 graphic variants, with a total length of 133,441 characters).[3] *Hanyu da cidian* 漢語大詞典, the contemporary Chinese dictionary (2010), is considered to be one of the most comprehensive and influential Chinese lexicographic reference books.[4] I also make use of the Archaic Chinese dictionary by Wang li: *Wangli gu hanyu zidian* 王力古漢語字典 (2000).

1.5 Terminology

1.5.1 Languages.

This dissertation mainly investigated three languages spoken in Taiwan. I use the term Taiwan Southern Min rather than Taiwanese mainly because the latter term is not precise enough to describe and to cover the linguistic facts. In a multilingual society like Taiwan, Taiwanese should cover all the languages that

[3] I use this online version: http://ctext.org/shuo-wen-jie-zi/zh

[4] I utilize both the (2010) and the online bridged version, the latter of which is from the *Academia Sinica Words* at http://words.sinica.edu.tw/sou/sou.html.

local people speak. If I use Taiwanese, I would not be able to include Hakka, a distinct Chinese dialect spoken by approximately 15% people in Taiwan.

There are also more languages spoken throughout the island than the two languages of Southern Min and Hakka. Most current native speakers of Southern Min and Hakka are considered to be descendants of earlier immigrants. Those who came from China roughly about the end of World War II are regarded as late immigrants and may still speak their first languages in addition to Mandarin and/or the two earlier local dialects. Additionally, there are also aboriginal languages; some foreign languages are spoken by Southeast Asian immigrants. Due to these reasons, I feel that Taiwanese would be too vague a term to cover the version of Southern Min spoken in Taiwan.

Following some other scholars' definitions, I chose to use Taiwan Southern Min, abbreviated as TSM, henceforth. In the literature, it is often interchangeable with Taiwanese, Southern Min, Taiwan Southern Min, (Taiwanese) Min Nan, and, in some cases, Amoy, Hokien, or Hoklo.

With the same reasoning, the term Taiwanese should also be added to Hakka in order to distinguish it from the Hakka language spoken in China, where Taiwan Hakka originated from. To make it less complex, I use Hakka for short to stand for the Taiwanese version of Hakka throughout my research.

Unless stated otherwise, Mandarin examples provided by me also refer to Mandarin spoken in Taiwan. As a matter of fact, Mandarin in Chinese linguistic terms is regarded as a specific dialect (Norman 1988). The official lingua franca is modern standard Chinese, abbreviated as MSC in the Chinese linguistic literature.

In brief, wherever examples are specifically taken from Taiwanese version of Southern Min, I call it Taiwanese Southern Min. My fieldwork Hakka data or examples collected from Taiwanese speakers of Hakka are simply termed as *Hakka*. Mandarin data are marked as *MSC*.

I am also aware of regional or sub-dialectal differences in the other languages. Unless noted otherwise, I provide first-hand examples for TSM and MSC, of which I am a native speaker. However, all data are double checked with my consultants, the age ranging from the thirties to fifties. Data for Hakka, for which I only have passive knowledge, entirely rely on my consultants, who are in their mid-forties and mid-sixties. The checking is chiefly for syntactic issues.

1.5.2 Transcription systems.

As Chinese characters are not phonetics-based, it is essential to incorporate a decipherable transcription system. I use a phonological rather than phonetic system for transcription. I use the Taiwanese/Hakka Romanization System for Southern Min and Hakka spelling.[5] For first-hand data, I transcribe in my own Southern Min accent, which is in most cases *Zhang* (漳州音), but may sometimes be a mix of *Zhang* and *Quan* (泉州音). Hakka is based on *Hailu* or *Hoiluk* (海陸腔) accents spoken by my consultants.

Following linguistic conventions, I use *Hanyu Pinyin* (漢語拼音) for modern standard Mandarin although this spelling system is different from that of

[5] While another system called TLPA (Taiwanese Language Phonetic Alphabet) is also used by scholars, the system adopted in this study is officially used in Taiwan for elementary school language teaching.
http://140.111.34.54/MANDR/content.aspx?site_content_sn=12693

Southern Min and Hakka in some aspects. I also ignore reflections upon spoken MSC from social linguistic markedness.

Tones are neglected throughout, however. Unless otherwise cited from previous studies, Southern Min and Hakka data are mainly transcribed without giving corresponding Chinese characters. Where no indication is given, the example sentences are based on my personal knowledge and double checked with my consultants.

1.5.3 Periodization of Chinese.

As noted, the term "Chinese" may be used to cover all its varieties of modern times. However, when used for diachronic development, Chinese refers to the written records of the Chinese language, including both official and vernacular versions. For periodization of Chinese, I adopt Sun's (1996: 3) divisions as follows:[6]

OC	Old Chinese (500 BCE – CE 200)
MC	Middle Chinese (CE 201-1000)
EM	Early Mandarin (CE 1001-1900)
MMC	Modern Mandarin Chinese (CE 1900-present)

I add the years to the time periods whenever an example from historical texts is given. Modern standard Mandarin (MSC) is used for contemporary Mandarin data.

[6] Please refer to Tai and Chan (1998) for a review of different proposals for periodization.

1.5.4 Historical texts.

I also discuss major historical texts in this dissertation. Historical texts on Min are only available after the 16th Century. I mainly use examples from *Lijin ji* 荔鏡記 (published roughly 1566-1884 CE) and *Zhuzi yulei* 朱子語類 (compiled in 1270 CE), the latter of which is however a mix of *lingua franca* and Min during the Southern Song Dynasty (1127-1279 CE). The genre of these texts is however not the same. *Lijin ji* is a collection of plays, whereas *Zhuzi yulei* is spoken records as it comprises of conversations. To avoid repetition, in later chapters I will skip basic information for these texts.

1.6 Organization

There are nine chapters in this dissertation. The second chapter includes a discussion of theoretical frameworks. The third chapter presents some background information on Chinese negation as well as on aspect/modality. Chapters four through seven constitute my primary research; the first three chapters cover three modal negatives and the last chapter is on two aspectual negatives in Southern Min. Theoretical accounts are addressed in each chapter after its corpus analysis.

Chapters four through seven by and large adopt the same organization so as to include the five sets of basic negatives and affirmatives in Southern Min. A cross-linguistic comparison between Southern Min and the other two language varieties is included in each of the above chapters. Chapter eight is a review of Southern Min negation paradigms. Finally, chapter nine is the conclusion.

Chapter 2

THEORETICAL FRAMEWORKS

I use generative grammar and grammaticalization in this dissertation to account for internal language change. This chapter begins with generative grammar, with a focus on Cartography, the Economy Principles, and the Linear Correspondence Axiom (Kayne 1994). The second focus is the framework of grammaticalization. This chapter finishes with the grammaticalization of negation.

2.1 Generative grammar

Generative grammar began with Chomsky's Ph.D. dissertation in 1955. It has gone through many revolutionary changes along the way. His most updated framework, namely the Minimalist Program (MP) by Chomsky (1995 and later works), has two core components: *merge* and *feature checking*.

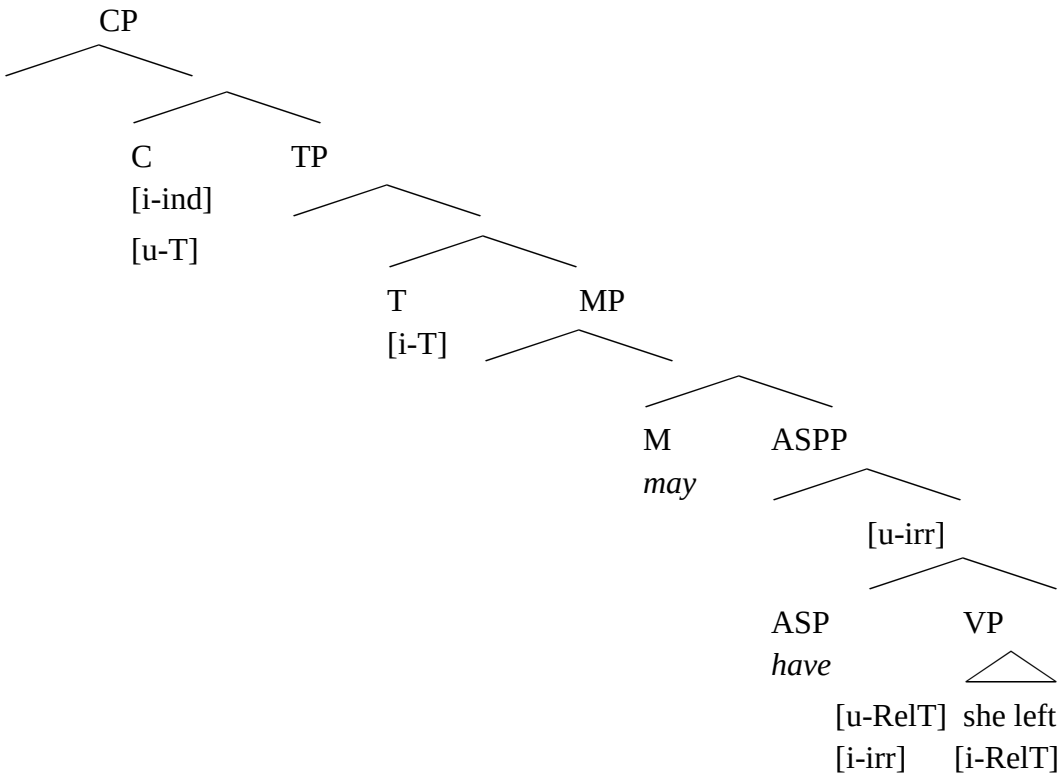
Merge is crucial in MP, and it is derivational, approaching syntax from the bottom-up, as opposed to representational theories, as in cartography, which approaches syntax from the top-down. The basic concept is that derivation takes place in the narrow syntax, where two components are merged (called *external merge*, often a verb and a *Theme*) and where another type of merge, *internal merge*, also participates. These processes take place at the VP layer, the TP layer, up to the CP layer, although more recently Chomsky has abandoned *labeling* so *bare phrase structures* are instead used. Participating in this derivation are mechanisms that put things together to make sense of an utterance.

Feature checking is central to MP. The most important features introduced in Chomsky (1995) are *interpretable* and *uninterpretable features*. The

uninterpretable features, often labeled as [u-F], have to be *value*d by checking off interpretable ones, as [i-F], and this *agree* mechanism begins with a *probe* (with uninterpretable features) looking down in its c-command domain for a *goal* that has properly matching interpretable features. This way, *case* and the subject-verb *agreement* in the traditional grammar sense (tense or finiteness) are explained.

I adopt feature checking for the head-to-head movement of V > Mod/Asp > NEG > C in negation of the Sinitic languages under investigation. For clausal relationships between TP and CP, I adopt the Minimalist feature checking modal proposed by van Gelderen (2012: 146-147) in (1) for 'she may have left'.

(1)



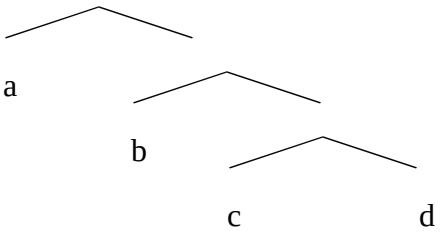
I explain feature checking of (1) from top-down for convenience; MP derivation is bottom-up. In (1), a declarative sentence has interpretable indicative

features [i-ind] in the mood head C, so this sentence is not read as a question. On the other hand, when there are uninterpretable features, as in [u-Q], sitting in the C, the features must find an [i-Q] to check their features.

While interpretable features can stand independently (van Gelderen 2012) as the [i-ind] in the tree diagram, un-interpretable features cannot. The [u-T] on the C probes down and finds the [i-T] on the T head, which values the un-interpretable features on the C. Same as the uninterpretable irrealis features on the Mod and the uninterpretable relevant time features on the ASP. Feature checking allows the derivation to take place, and is thus more economical.

Other than feature checking across Minimalist clauses (van Gelderen 2012), I also make use of Kayne's (1994) LAC to account for Chinese final particles that indicate mood, such as question markers. LCA stands for *Linear Correspondence Axiom*, which is responsible for the externalization or spell-out of the narrow syntax. The basic idea behind LAC is asymmetry of two components, one of which has to spell out before the other.

(2) Asymmetry in LCA



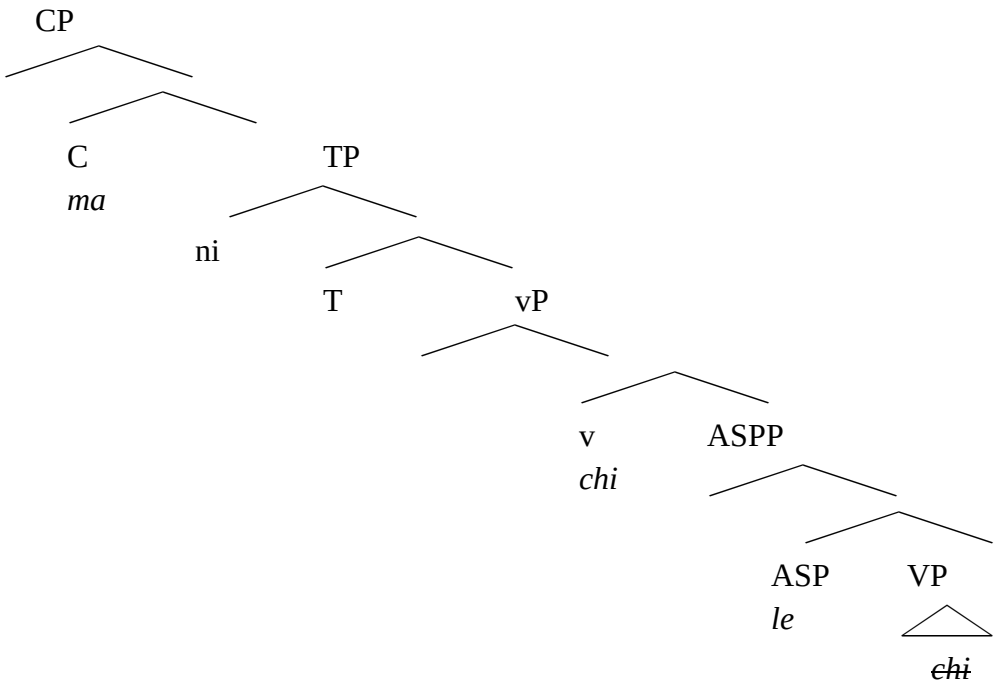
The linear order of (2) then becomes a-b-c, but there is a problem to externalize c and d as they are sisters to each other. The literature has used LCA for Chinese questions, suggesting a move of everything below TP to the Spec of

CP. The problem is then resolved. To linearize (3), the hierarchical structure is shown as (4) and (5). Compare (4) with (5), the portion of TP and below is now in the spec of CP.

(3) ni chi-le ma? MSC
2sg *eat-ASP* *Q*
'Did you eat?'

(4) [$_{CP}$ [$_{C}$ *ma* [$_{TP}$ *ni* [$_{VP}$ [$_{V}$ *chi-le*]]]]]

(5)



2.2 Cartography

This section addresses two scholars' work: Rizzi (1997) and Cinque (1999). The CP, VP and TP layers are investigated.

2.2.1 The framework.

Cartography is used to map clauses. This approach began roughly with the rise of the functional category coupled with the development in which researchers observed more than one head in the functional structure, such as the IP which can

be split into Agr (cf. Pollock 1989) and T, M, and /or Asp.[7] Rizzi and Cinque (2009) do not consider cartography to be a theory; neither do they think of it as a framework. They call it a project or a topic. I use the term *approach*.

The cartographic approach to syntax basically claims that each element in a sentence fills a specific spot. This line of study looks for a precise order from the top-down, namely a universal hierarchical order for multiple heads/specifiers within the same layer. Cartographic studies thus postulate multiple sub-layers in each traditionally defined layer, such as CP, TP, VP, and DP.

In the following two subsections, I mainly address Rizzi's *clausal hierarchy* and Cinque's *adverbial universal hierarchy* as these two scholars are the pioneers of cartography.

2.2.2 Rizzi's clausal hierarchy.

Under the cartographic approach, the CP has individual functional heads to host Force, Focus, Topic and Fin as in Rizzi (1997; 2000). According to his observation on Italian, English, and French, and the like, Rizzi suggests that each sub-layer has to be made available for its functional head to fill in even though some heads may be null in other languages.

He proposes a fixed order for the CP such as (6) where a Topic can occupy multiple places, as the asterisk shows.

(6) Rizzi's clausal hierarchy in the CP (1997: 288)

ForceP	(TopP*)	FocP	(TopP*)	FinP	IP
[+ind]	(DP)	(who)	(DP)	[+tense]	

[7] I do not mean that Pollock is a cartographer.

van Gelderen (2012: 31) demonstrates the categorial status and features for each projection in the discourse area, which is shown in the third line of (6). The indicative mood is abbreviated as ind. Focus asks *wh*-questions, so she uses *who* to represent that. She has DPs for the Topic Phrase, of which the topicalized *cigarettes* in (7) is an example.[8]

(7) ***Cigarettes****, I don't smoke them.*

Since Rizzi (1997), different models of cartography have been proposed in the literature. In Rizzi (2005), he proposes a hierarchy for the components in the left periphery, including INT (interrogative) as in (8); emphases are mine.

(8) Force > Topic* > **INT** > Topic* > Foc > Mod > Topic* > **Fin** > IP

In Rizzi's modal, every clause is a ForceP and this includes embedded sentences. However, scholars have various views on the Force. Haegeman (2002) inserts a SD (Speaker Deixis) into Rizzi's modal, illustrated in (10), where Sub indicates the subordinate complementizer. She considers SD in the subordinate clause to be anchored to the speaker but not to the subject of the predicate. This shows that the speaker's mood can be expressed in embedded clauses too.

(9) Sub Top Focus SD Fin

Following Rizzi (1997), Roussou (2000) suggests different sub-layers for the CP domain, distinguishing among three types of C: a plain C to host pure subordinators without modal or illocutionary force, a C_{op} (= ForceP) to host illocutionary force, and another head C_m, which is equivalent to FinP; see (10).

(10) **C** [Topic/Focus [$\mathbf{C}_{op}$ [NegP [$\mathbf{C}_m$…

[8] Bare nouns are not always considered to be DPs.

Li (2006: 169) postulates a cartographic hierarchy for Mandarin "mood markers" as follows:

(11) Discourse >> Degree >> Force >> Evaluative >> Mood >> Fin
a 啊 *ba* 吧, *ma* 嘛 *ne* 呢

As seen, many different models are postulated under the cartographic approach or to argue again a strong version of cartography. We then may not want to take it for granted that any of these models is universally determined. For instance, the topic/focus concept in the CP layer is applicable to topicalization in Chinese, but not so useful in English as the latter language does not show as various topicalized or focalized components in its left periphery as does Italian.

Nevertheless, some set patterns can certainly be identified, such as the hierarchical order. For instance, Belletti (2004; 2005) exploits the left periphery of the VP in a similar fashion to Rizzi (1997), and concludes that "the VP shares a periphery which closely resembles the clause external CP left periphery".

(12) $[_{TopP}$ Top $[_{Foc}$ Foc $[_{Top}$ Top … VP]]] (Belletti 2005: 9)

Chinese is commonly accepted as a topic-prominent language and presumably has a richer CP. There has been work on the left periphery of Chinese. Paul (2005) examines the architecture of the area between IP and vP in Mandarin, and argues against the existence of ModP and TopP below the external FocP.

(13) CP (force) >> TopP >> 'even' **FocusP** >
IP >> inner TopP >> 'even' FocP >> *v*P

Compared Paul's cartographic structure of (13) with Rizzi's (8), one finds that there is no ModP, which would accommodate prepositional adverbs or TopicP to the left of FinP. One such example is below (Paul 2005: 119).

(14) a. [$_{CP}$ [$_{TopP}$ xianran [$_{FocP}$ lian xiaohaizi [$_{IP}$ ta ye taoyan]]]]

obviously *even* *child* *3sg* *also* *hate*

'Obviously, he hates even children.'

b. *lian xiaohaizi **xianran** [$_{IP}$ ta ye taoyan]

even *child* *obviously* *3sg* *also* *hate*

Paul concludes that the vP left domain parallels that of the clausal-external left periphery, the order in Chinese is not the same as postulated by Rizzi (1997) and Belletti (2003). Note that INT (interrogatives) and Fin (finiteness) are not discussed by Paul either, as her focus is on the Mandarin 'even'.

Tsai (2008) examines Mandarin Chinese *how*'s and *why*'s, which are used as 'instrument vs. manner' and 'reason vs. purpose', respectively, and suggests the following for the order of each *wh*-adverbial type (Tsai 2008: 107).

(15) Force Top* INT Top* Focus Mod* Top* Fin [$_{TP}$ Tense Mod* [$_{vP}$

From the above studies, we see discrepancies in the conclusions about the left periphery in Mandarin. Each project in fact emphasizes a different area. For instance, (96) only demonstrates how Chinese adverbials (*how*'s and *why*'s) resemble Rizzi's model. The key point in Tsai (2008) is to suggest a split CP for different types of *zenme* 怎麼 'how' and *weishenme* 為什麼 'why' as hierarchical functional projections. Paul (2005), on the other hand, investigates topicalization and Mandarin *even* focus (*lian* 連…*dou* 都) to decide on the order of Topic and Focus below and above the IP. I do not plan to pursue any of these issues in this current study, however. The review is to show what cartography is about and how it contributes to the literature.

2.2.3 Cinque's adverbials hierarchy.

Cinque (1999) proposes a hierarchical order for the aspectual phrases and of the adverbs within the lower IP area. According to Cinque, each of the different adverbs in the left periphery occupies a different sublayer; their cartography is given in (16) and the line below shows corresponding examples in English.[9]

(16) Cinque's left peripheral adverbs (1999)

Mood $_{\text{speech act}}$	>>	Mood $_{\text{evaluative}}$	>>	Mood $_{\text{evidential}}$
frankly		*fortunately*		*apparently*

>> Mod $_{\text{epistemic}}$

Probably

With a strong claim about the cartographic approach to adverbs in syntax, Cinque (1999; 2004) argues that adverbs are specifiers of functional heads rather than verbal adjuncts. Cinque's argument, together with Pollock's, suggest that the traditional claim of the IP is over simplified and cannot explain the different elements in the CP.

Ji (2007) examines the CP left periphery of Mandarin Chinese. She finds that Chinese only needs two layers (17). In other words, Cinque's (1999) universal hierarchy does not hold for Chinese.

(17) Mood $_{\text{speech act/evaluative/evidential}}$ >> Mood $_{\text{evaluative/epistemic}}$.

Briefly, Cinque and Rizzi are two of the pioneer scholars in cartographic studies. Their works are similar with an emphasis on the left periphery of the clause. Cinque, however, differs from Rizzi in that the former researcher works

[9] This is a simplified version of Cinque (1999).

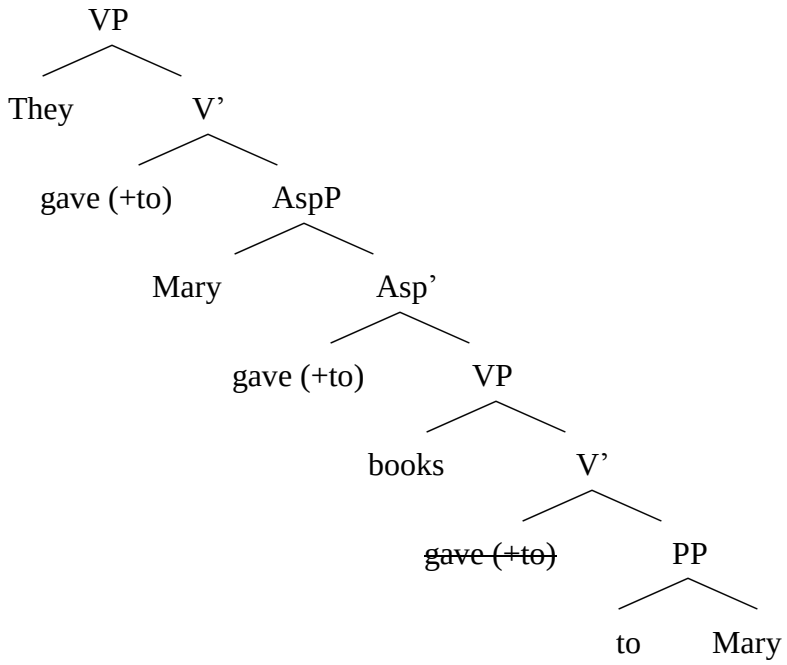
on accommodation of the different sentential adverbs in the lower IP, whereas Rizzi's work is on the order of the clausal phrases situated in the CP layer, left to FinP or TP.

2.2.4 The VP cartography.

I address the issue of VP because the negatives under my investigation are mostly modals, including deontic modals. Deontic modal verbs are connected to event in the VP (more in chapter three).

Larson (1988) first split the VP for English ditransitive verbs. Baker (1997) proposes a modified VP-shell as in (18).

(18) They gave books to Mary.



As argued by van Gelderen (2012: 121), the advantage of (18) is the use of AspP for affectedness, for which she provides a pair sentences with a ditransitive verb *teach*. She argues that 'Chinese' in (19a) occupies the spec of AspP.

(19) a. *Ivy taught James Chinese.*

b. *Ivy taught Chinese to James.*

Sybesma (1999: 157) holds a different view of the structure of the Mandarin VP. He treats the special constructions in Mandarin, such as the resultative, verb-*le*, prepositional dative, and *ba*- constructions, as SCs (small clauses), consisting of an NP and a predicate. The schema is given in (20).

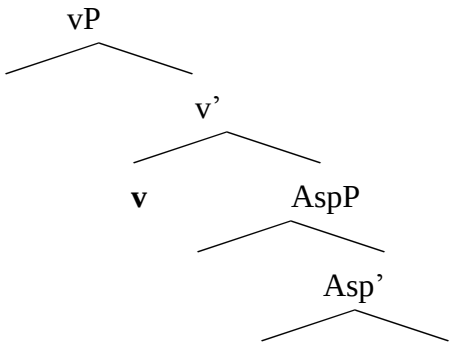
(20) NP $[_{VP}$ V $[_{SC}$ NP XP]]

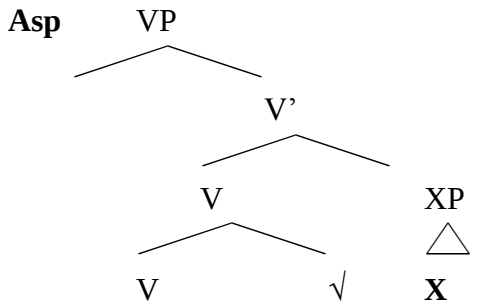
Take the *ba*-construction as an example. Sybesma argues that the *ba*-noun phrase is not base-generated in the preverbal position; instead, it is generated in the small clause. The trace shows that *shu* 'book' originates in the small clause.

(21) wo ba $[_{vp}$ $[_{ba\text{-}NP}$ $shu_i]$ $[_{VP}$ nong $[_{resultative\ SC}$ e_i zang le]]
1sg *DISP* *book* *make* *dirty* *LE*
'I caused the book to become dirty.'

Multi-layered VPs with an additional AspP have also been pursued by Travis since her (1991) work. Travis (2005) argues for an inner aspect in the VP shell and proposes three places to encode (in her terms) telicity: v, Asp and X. This tree is particularly useful to describe aspectual sentences.

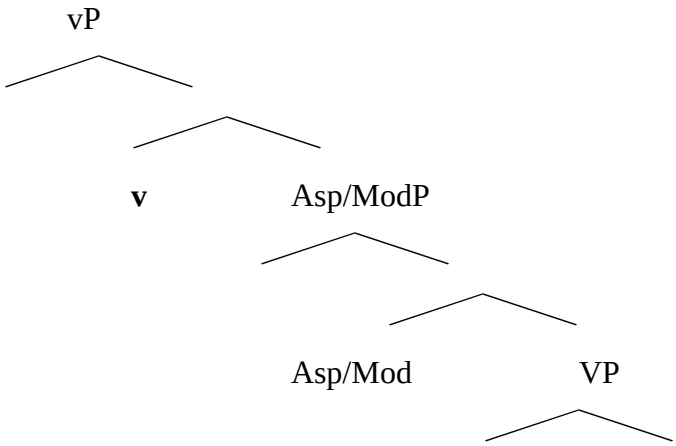
(22) Travis' (2005: 71) articulated vP structure





As modals are also important in this study, I then modify the AspP to Asp/ModP in order to accommodate both inner AspP and ModP in my Chinese data; see (23).

(23) An abridged VP structure



I make use of (23) when arguing for the interpretation of negation in the secondary predicate position (chapter seven).[10]

The evidence that we need an inner Asp/ModP comes from a special word order in which a modal verb follows the verb. I provide an example of Mandarin Chinese as in (24), where *de*/*bu* can provide modality.

[10] I am ingoring the order of Mod and Asp now; they are placed in one head only for convenience.

(24) sanlunche pao **de/bu** kuai. MSC
tricycle run able/not.able fast
'The tricycle [does/does not; can/cannot] run fast.'

In the Southern Min sentence below in (25), the aspectual *u* 'have' and its negation *bo* 'have.not' can also occupy the same inner position.

(25) sann-lian-tshia tsau **e/be** kin. TSM
three-wheel-vehicle run able/not.able fast
'The tricycle [does/does not; can/cannot] run fast.'

I analyze the modal in the other word order (26) (the canonical one) as a reanalysis into a higher position.

(26) sann-lian-tshia **e**-sai tsai sann-e lang-kheh.
three-wheel-vehicle able accommodate three-CL passenger
'This tricycle can accommodate three passengers.'

Examples with an aspectual secondary predicate are given in (25)' and (27).

(25)' sann-lian-tshia tsau **u/bo** kin. TSM
three-wheel-vehicle run PF/not.PF fast
'The tricycle did/didn't run very fast.'

(27) sann-lian-tshia iau **bue** kau. TSM
three-wheel-vehicle yet not.yet arrive
'The tricycle has not arrived.'

To conclude, a VP cartography must take into account factors such as aspect, mosality, and affectedness, by means of an additional inner phrase.

In the chapters where I address the movement of V > v in a modal, MP is adopted. I adopt a modified VP cartographic structure to accommodate the inner

aspect/modality sublayer. My VP analysis will emphasize on feature loss and the generative view on grammaticalization: moving upwards. I also make use of Minimalist perspectives when dealing with clausal relations between the VP and TP layers.

2.2.5 The TP cartography.

We now move to TP. I address the order of TAM morphemes because many of the negatives discussed in this dissertation have a dual function as modal or aspect marking. Historically, modals are grammaticalized from lexical verbs in Chinese (see chapters three to seven).

One important work by Pollock (1898) is the split of the IP to accommodate more components, such as AgrP and T in French.[11] Here I investigate the hierarchical order for TAM (tense, aspect and modality); more is in chapter three.

The generative tradition treats epistemic modals as raising verbs as opposed to control verbs for deontic modals (such as Bošković 1997); also see Abraham (2002) for his view on the loss of Aktionsart properties in English.

However, in Minimalism, feature checking is the key and move/inner merge is only performed as a last resort. So, I assume that there is no raising versus control distinction for modal verbs in MP any longer. Presumably feature economy should account for the ordering of TAM, since future markers can be

[11] The terms TP and IP are often used interchangeably. IP is split into TP and AgrP by Pollock (1989) and since then, TP has been used. To avoid confusion, I use IP in this dissertation as a general term for TAM but ignore tense in my data, as I adopt the notion that Chinese does not express tense by grammatical means.

reanalyzed from modals historically, and many modals were reanalyzed from full-fledged verbs.

Nuyts (2006: 19) suggests an ordering for modality and aspect, given in (28). She, however, admits that a precise ordering is far from settled.

(28) > evidentiality
> epistemic modality
> deontic modality
> time
> quantificational aspect [frequency]/dynamic modality
> qualificational aspect [internal phases]
V (parts of the) STATE OF AFFAIRS

The ordering tells us the relationship between V and TAM. The order for three basic types of modality is epistemic > deontic > dynamic, and aspect is closer to the V.

I investigate proposals that make use of cartography in the IP/TP layer. First, Cinque's adverbial hierarchy is also associated with TAM. I summarize TAM-associated adverbs that are relevant to this study from Cinque (1999: 106).

(29)

Mod $_{\text{epistemic}}$	*probably*
T $_{\text{past}}$	*once*
T $_{\text{future}}$	*then*
Mood $_{\text{irrealis}}$	*perhaps*
Mod $_{\text{necessity}}$	*necessarily*
Mod $_{\text{possibility}}$	*possibly*
ASP $_{\text{habitual}}$	*usually*
Mod $_{\text{volitional}}$	*intentionally*
ASP $_{\text{perfect}}$	*always*
ASP $_{\text{proximative}}$	*soon*

From (29), we learn that epistemic modality is higher than the other types of modality, with the volitional modality occupying the lowest position.

I now turn to Southern Min. I adopt the order for modality postulated by Hsin (1999: 66). The second line in (30) shows the XP layer the spec of which each modal adverb occupys.

(30) discourse >> epistemic >> subject-oriented
CP IP ModP

Her example in (31) however does not correspond to (30) in that *e* 'will' is not a modal adverb (Hsin 1999: 70).

(31) 早晚伊一定會知影你刁故意欲予歹看。[12] TSM

tsa-ban	i	**it-ting**	e	tsai-iann	
sooner.or.later	*3sg*	*definitely*	*will*	*know*	
li	**thiau-koo-i**	beh	hoo	(i)	phainn-khuann
2sg	*purposely*	*want*	*PREP*	*(3sg)*	*embarrass*

'Sooner or later he will surely come to know (that) you purposely wanted to embarrass him.'

Hsin also claims that epistemic adverbs must precede epistemic modals and that subject-oriented adverbs must precede subject-oriented modals (Hsin 1999: 66-67). Hsin treats adverbs as in the spec and modals as heads of the same projection. Examples for these are (32) and (33).[13]

(32) i **tai-khai** **e** lai Taipak. TSM
3sg *probably* *will* *come* *Taipei*
'It is probable that he will come to Taipei.' (Hsin 1999: 66)

[12] The Chinese characters are provided by Hsin. Glosses and translation are mine.

[13] *Beh* 'want' is a modal in Southern Min.

(33) i **thiau-koo-i** **beh** hoo li phainn-khuann. TSM
3sg *on purpose* *want* *PREP* *2sg* *embarrass*
'He purposely wanted to embarrass you.' (Hsin 1999: 67)

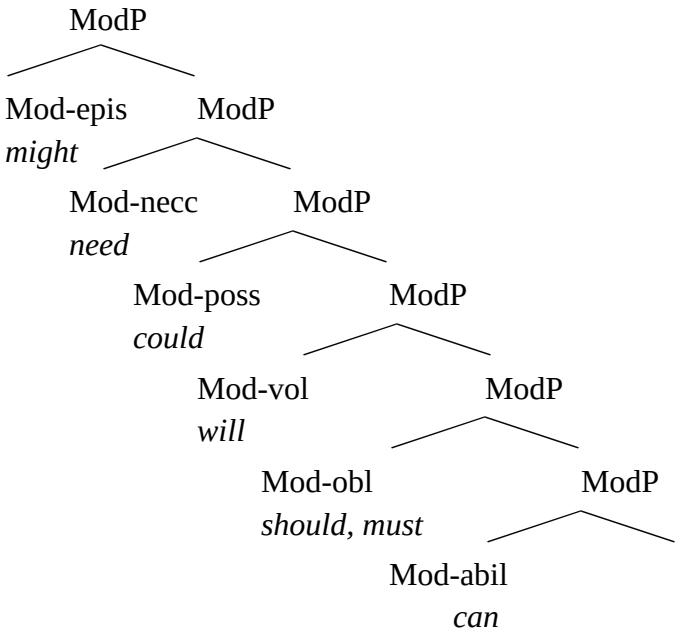
In principle, Hsin's hierarchy for modality resembles Nuyts' (2006) in (28). However, Hsin does not address the relative order for the various types of modal verbs, namely epistemic, deontic and dynamic, in Southern Min.[14]

We turn to the topic on where modals are situated in English. Typically, the order of TAM in the English TP layer is TMA as in (34).

(34) *He **might have been** forgotten.*

Based on Cinque (1999), van Gelderen (2012: 148) postulates a hierarchy for English ModPs illustrated in (35).

(35) The English modal sub-layers



[14] A more detailed discussion on modals is in chapter three where the modal classification may change.

Cormack and Smith (2002: 141) suggest two ModPs for English as summarized in Table 2.1.

Table 2.1
LF positions for English modals

Pre-Pol ($Modal_1$)	necessity	*shall*, *should*, *must*, *will*, *would*, *ought + to*, *is + to*, *have + to*
	possibility	epistemic readings only: *may*, *might*
Post-Pol ($Modal_2$)	necessity	*need*
	possibility	*can*, *could*, *dare* (only deontic) deontic readings only: *may*, *might*

The authors argue against the notion by which modals are merged under T or I, as noted by Pollock (1989) and Lightfoot (1999). Cormack and Smith's (2002: 141, 148) argument lies in the relative order between modals and negation.

(36) (Q) (Echo) C T ($Modal_1$) Pol ($Modal_2$) (Adv [NEG])

Simply put, the polarity type of negation separates $ModP_1$ from $ModP_2$. For instance, two orders available for negation yield two readings (Cormack and Smith 2002: 136).

(37) *Edwin can not climb trees.*

a. 'It is **not** permitted that Edwin climb trees. NOT [CAN

b. Edwin is permitted **not** to climb trees. CAN [NOT

As seen, the position for modals is complicated. Both van Gelderen (2012) and Cormack and Smith (2002) attribute the relative order in English modals to a cognitive system, the new UG.

I adopt the two-layered ModP proposal. The hierarchy proposed by Cinque is not examined as I do not extend my research to double modals.

2.2.5 Cartography and Minimalism.

Cartography and minimalism differ in that the former is a top-down mechanism, while the latter is bottom-up. Both approaches are by nature incompatible with one other, in that the minimalist approach is derivational, whereas cartography is representational.

What follows is a discussion of the application of these two approaches to Chinese studies. Because the Chinese language is morphologically poor, some find it easier to approach Chinese syntax within the framework of cartography. I have provided studies, such as Paul (2005), Ji (2007), and Tsai (2008), in which the cartographic approach is adopted or the hierarch is examined.

Yet, the Cartographic approach is not flawless when applied to Chinese syntax. For example, Chinese syntax may not perfectly reflect the rigidly hierarchical fixed order. For example, we have seen various conclusions from Paul (2005) and Ji (2007). Yet, the fixed order under the modified Cartography can be a good guideline for investigating and accounting for some linguistic phenomena within Sinitc languages.

To summarize, these two lines of research (minimalism and cartography) can complement and compensate for each other with some modifications. Both

frameworks assume universal principles/computational efficiency across languages in relation to features and mapping order.

2.3 Grammaticalization

This section covers the phenomenon and framework of grammaticalization, including several definitions, the generative "up the tree" notion, and ends with Chinese examples.

2.3.1 The framework.

The term "grammaticalization" is thought to be first coined by Meillet in 1912. At first, grammaticalization was mostly pursued by grammarians and historical linguists. Not until in the 1980s, with the appearance of important work of (Lehmann 1982), did this line of linguistic research regain attention. The basic concept behind grammaticalization is the loss of phonology and the bleaching of semantics in some morphemes, and gain of a language's syntactic complexity. This means that grammaticalization is often accompanied by phonological weakening and semantic bleaching as well.

Grammaticalization is observed "when a lexical item becomes a grammatical one, or when a less grammatical item becomes more grammatical" (Detges and Waltereit 2002: 188). A case for the former description is when a verb is reanalyzed as an auxiliary, such as 'to go' > 'be going to' (future) in English (Hopper and Traugott 2003: 3).[15] An example for the latter case is when 'going to' becomes reduced to 'gonna'. English *for* from the status of a preposition to

[15] The phrase *be going to* is not a full auxiliary yet.

complementizer is also an instance of the latter type. This definition is still questionable because C is not really more grammatical than P. It fits better with the notion of "moving upwards," which is discussed in a later paragraph.

Hopper and Traugott (2003: 7) outline the cline of grammaticalization as (38). Zero or ∅ is usually added in the literature.

(38) content item > grammatical item > clitic > inflectional affix (> zero)

When the cline in (38) comes to an end, one cycle of change takes place. The end of a cycle motivates a renewal, for which van Gelderen gives an example of negation (2008; 2010; 2011). The term *renewal* may have been first addressed in Whitney (1870). It is sometimes called reinforcement (van Gelderen 2009).

One of the grammaticalization paths for English negation suggested by van Gelderen (2008: 193; 2010) mirrors the pattern of (38).

I summarize it as (39). I will come back to this change in section 2.5 on negation cycles.[16]

(39) *na wiht* OE 'no creature' > *not* > *n't* > (zero; *never* as a renewal)

In the above case, it can be claimed that English negation is *renewed* by *never*. The renewal *never* is not commonly observed, possibly due to prescriptive reasons (van Gelderen 2011: 295).

In addition to renewal, *reanalysis*, *layering*, and *unidirectionality* are also important terminology in the grammaticalization framework. I explain below.

[16] (39) is appliable to some dialects of English, but not standard English.

The term *reanalysis* is frequently seen in studies on grammaticalization. Langacker may be the first who uses reanalysis, defined by him as "a change in the structure of an expression or class of expressions that does not involve any immediate or intrinsic modification of its surface manifestation" (1977: 58). Hopper and Trougott (2003) side with Harris and Campbell (1995: 61) in their view on reanalysis: "a change in constituency, hierarchical structure, category labels, grammatical relations, and cohesion (type of boundary)". Below is an example of reanalysis from Hopper and Traugott (2003: 51). They discuss the phenomenon of reanalysis in terms of boundary change.

(40) [[*back*] *of the barn*] > [*back of* [*the barn*]]

Bisang regards reanalysis as "the occurrence in a particular position within a syntactic pattern" (Bisang 2008: 34). This definition is less broad than the above mentioned. van Gelderen uses reanalysis to explaina morpheme being used in a more grammatical sense. For instance, the complementizer *for* is a reanalysis of preposition *for* indicating location, time, or cause.

(41) *I would prefer* ***for*** *John to stay in the 250 class*. (van Gelderen 2011: 7).

Next, once grammaticalization takes place, the syntactic structure becomes more complicated and synchronically a morpheme can be observed occupying different categories, which phenomenon is called *layering* (Hopper 1991). Another term "bridging contexts" by Evans and Wilkins (2000) is a similar notion. Hopper and Traugott (2003: 126) give an example of Latin from the periphrastic *cantare habet* 'he has to sing > he will sing' to morphological *cantabit* 'he will sing', both forms of which coexisted at some stage in Latin.

Taking Southeast Asian languages as empirical data, Bisang (2008) suggests that all layerings may be synchronically observed in a language. For instance, Khmer 'come to have' can be interpreted as ability, permission, obligation, past and emphasis of truth or factuality (Bisang 2008: 31). We shall see in later chapters that many Chinese morphemes follow this pattern.

The third concept often encountered in the grammaticalization literature is the *unidirectional* property. Scholars have claimed that grammaticalization is unidirectional although this notion has been hotly debated.[17] I assume that grammaticalization is unidirectional. Nevertheless, just like the claim made by Bisang, multiple layering is often observed in negation of the Sinitic languages under investigation.

Linguists have worked on grammaticalization from different theoretical frameworks and approaches.[18] Both the formal and functional work on grammaticalization. Scholars such as Traugott herself are in the functional camp and its basic reasoning is that pragmatic reasons trigger linguistic changes. On the other hand, the formal camp views grammaticalization as syntax-driven. The scholars in this camp, such as van Gelderen (2004) and Roberts and Roussou (2003), propose that grammaticalization involves moving higher up across the CP,

[17] Newmeyer (1998) and Lightfoot (2006), for instance, argue against unidirectionality.

[18] Those scholars include, but are not limited to, Heine and Hünnemeyer (1991), Lehmann (1986) and Heine and Claudi (1986), Hopper and Traugott (2003), Roberts & Roussou (2003), and van Gelderen (2004).

IP and VP layers. Therefore, the phrase "up the tree" is generally used. I adopt this definition of reanalysis in this dissertation.

As van Gelderen points out, the concept is not the one where the lexical item "moves" to a higher position (head), given that under the Minimalist syntax is "inert and doesn't change" and language change is associated to "the lexical items that are reanalyzed" (2008: 186). Therefore, the "up the tree" notion should not be confused with movement in the narrow syntax.

2.3.2 Grammaticalization in Chinese.

Grammaticalization in Chinese has been adopted by many scholars as well. This approach of research has been used profitably by scholars in historical linguistics, such as Sun (1996) and Shi (2002), and by functionalists such as Xing (2003), as well as by minimalists, such as Z. Wu (2004) and Ting (2003; 2006).

I discuss the grammaticalization of *ba* 把 and *le* 了, given that they are among the most well-known examples. I then add *dao* 到 as a third example.

The affected marker ba

I first discuss the well-known Chinese *ba*-construction. The categorial status has been a hotly debated topic[19]. In principle, *ba* originates as a full-fledged verb, meaning 'to hold; to take' in archaic Chinese.

The grammaticalization path is shown in (42).

(42) *ba*: 'to hold; to take' > affected marker

[19] Other terms are also used, such as disposal marker, object marker or case marker.

In the following instances, *ba* is a lexical verb that takes a single argument as its complement; examples are from Sun (1996: 61-62).[20]

(43) 左手把其袖 *Zhanguoce*, compiled in the 3rd to 1st centuries BCE

zuo-shou	**ba**	qi	xiu
left-hand	*hold*	*his*	*sleeve*

'The left hand holds his sleeve.'

(44) 醉把花看益自傷 *Bai Juyi* (772-846 BCE)

zui	**ba**	hua	kan	yi	zi	shang
drunk	***hold***	*flower*	*watch*	*more*	*self*	*hurt*

'Drunk, I hold the follower and gaze at it, even more broken-hearted.'

However, *ba* in (45) does not mean 'hold'. It is a grammatical marker. In (45), qi 'deceive' is the main verb that the negative *mo* 'do not' scopes over and *ba* can be seen as a light verb that indicates definiteness and affectiveness.

(45) 莫把杭州刺史欺 (Sun 1996: 62)

mo	**ba**	Hangzhou	cishi	qi
NEG	*DISP*	*(place)*	*magistrate*	*deceive*

'Do not deceive the magistrate of Hangzhou.'

Ba is a grammatical marker in MSC (46).

(46)

ta	**ba**	pingguo	chi-le.
3sg	*DISP*	*apple*	*eat-LE*

'He ate the apple.' (Sun 1996: 53)

[20] I change part of the translation in (44).

I would like to draw the reader's attention to the morpheme *jiang* 'to take' in (47), which is a renewal. In some Chinese languages, such as Hakka, *jiang* rather than the cognate of *ba* is used; see (48).

(47) 把聖賢說話將來學 Early Mandarin (1001-1900 CE); Sun (1996: 71)

ba	sheng-xian	shuo-hua	**jiang**	lai	xue.[21]
DISP	*sage-worthy*	*words*	*take*	*come*	*learn*

'Take the words of the Sages and worthy people, and learn them.'

(48)

ziong/*ba	mun	da	koi.	Hakka
DISP	*door*	*hit*	*open*	

'to push the door open'

The perfective marker -le

The second case of grammaticalization is *le,* which is also one of the most researched and debated topics.[22] There are two *le*'s in MSC: the bound morpheme -le_1, attached to the verb, and the free morpheme le_2, often seen in sentential final position.[23] I only discuss the perfective marker –le_1 below. Let us first compare (49) and (50) in the two Sinitic languages.[24]

[21] Sun (1996: 71) notes that this is a bi-clausal purposive construction and that *lai* is purposive.

[22] A general claim is that there are two *le*'s: one is marked as –*le* ($le_{2;}$ a bound morpheme) and the other *le* (le_1; a free morpheme). A further distinction is made between the perfective –*le* and the sentence final particle *le,* often referred as Currently Relevant State (abbreviated as CRS) (Li and Thompson 1981: 240). While some scholars such as Sun (1996) hold the view of having two *le*'s, some see *le* as one morpheme (cf. Li 1989). Lin (2004) considers *le* to be denoting inchoativity. For other views, see Chao (1968) and Lin (2003).

[23] I do not agree with this distinction because it is too simple; nothing hinges on this, however.

[24] These two are phrases and are only used parallel for comparison. In regular

(49) tsiah **liau** png ah. TSM
eat *finish* *rice* *PAR*
'ate and finished rice'

(50) chi **-le** fan le MSC
eat *-LE* *rice* *LE*
'ate and finished rice'

Shi (2002: 136) argues that the disyllabification in the Chinese history gives rise to the reanalysis of *liao* as the modern perfective marker *–le*. The verb *liao* underwent semantic bleaching and became an aspect marker in modern Mandarin as in (50). Note that *liao* (*liau* as TSM pronunciation) also underwent phonological reduction, from *liao* to *le*.

The general view on the grammaticalization path of *-le* is shown in (51).

(51) *liao* 'to finish' > *-le* = perfective marker

Xing (2003) classifies reanalysis into three types when discussing the grammaticalization of *le*.

Xing (2003: 37) argues that a reanalysis of a verb takes place in three steps.

(52) verb serialization > verb de-centralization > functionalization

The first stage is when *liao* is used as 'to finish' (52), and this process is serialization.

(53) 吃飯了也。 *Zutangji*; 10th century
chi fan **liao** ye
eat *food* *complete* *PAR*
'ate and completed the food' (Xing 2003: 37)

---

conversations, *chi-le fan le* 'I had my meal.' or *chi-le fan jiu qu* 'I'll go after my meal' are more common. Also note that le does not necessarily mean completion.

Xing (2003) analyzes *liao* in (53) as part of a serial verb construction (SVC) and the verbal meaning is central to the sentence. If *liao* is analyzed as Asp in (53), the meaning is 'one has finished eating the meal'. She claims that when *liao* in (53) is *decentralized*, it gradually becomes more grammaticalized; (54).

(54) 軍官食了，便即渡江。 10th century, *Bianwen* (Xing 2003: 37)

junguan	shi	**liao**	bian	ji	du	jiang
officer	*eat*	*complete*	*then*	*soon*	*cross*	*river*

'Soon after the officers finished eating, they crossed the river.'

The third type of reanalysis is functionalization; see *-le* in (55).

(55) 他去了北京。 MSC

ta	qu-le	Beijing.
3sg	*go-LE*	*(place)*

'She went to Beijing.' (Xing 2003: 38)

In the cases for *ba* and *le* just discussed above, layerings and renewals are evident in the historical texts. *Ba* or *le* are no longer used as verbs, except in some set items, such as *bawo* 把握 'to seize' and *liaoshi* 了事 'to finish something'.

(56) *ba* 'hold' + *wo* 'grasp' = *bawo* 'to seize'

(57) *liao* 'finish' + *shi* 'matter' = *liaoshi*'to finish something'

However, there are cases where the old layers co-exist with the newer layers. I show *dao* as such an example below.

The dictionary *Shuowen* has an entry for *dao*: 'to arrive'. *Dao* was a verb 'to go, to visit' in archaic Chinese; see (58).

(58) 蹶父孔武、靡國不到。 *Shi Jin*, 1046-771 BCE

Jue-fu	kong-wu,	mi	guo	bu	**dao**.

Jue-fu martial NEG nation NEG arrive

'Jue-fu was very martial, and there was no State which he had not visited.'

Ma (2002: 134-135) shows that the use of *dao* to indicate the end point can be observed in the *Analects* as in (59), where *dao* is a verb and *yu* is a preposition. Sentences are all from Ma; translation is mine.

(59) 民**到**于今稱之。 論語 *Analects of Confucius*

min **dao** yu jin cheng zhi.

people DAO till today praise them

'To this day, people still praise them.'

Ma further states that *dao* can be used for the starting point, as in (60).

(60) 到秋馬肥，變必起矣。（漢書）(*the Book of Former Han*)

dao qiu ma fei, bian bi qi yi.

DAO fall horse corpulent rebel certainly arise PAR

'Rebels are sure to arise when fall comes and the horses become corpulent.'

The V-*dao* phrase has been documented back in the Han Dynasty (206 BCE - 220 CE); see (61).

(61) 惠王用張儀之計…，使之西面事秦，功施到今。（史記）*Shiji*

Hui Wang yong Zhangyi zhi ji,

hui king use (name) GEN strategy

… shi zhi xi mian shi Qin,

make PRON west face worship Qin,

gong shi **dao** jin.

effect take.effect till today

'King Hui adopted Zhangyi's strategy…, making (them) worship Qin from the west side, and this has worked to this day.'

Ma (2002) concludes that not until the Yuan Dynasty (1271-1368 CE) can one see the post-verbal *dao* such as (62).

(62) 直吃**到**銀燭暗，玉繩低，雪晴時人未歸。（全元散曲）(the loose melody of Yuan Dynasty)

zhi	chi	**dao**	yin	zhu	an,
continue	*eat*	*DAO*	*silver*	*candle*	*dark,*
yusheng		di,			
constellation		*low,*			
xue	qing	shi	ren	wei	gui.
snow	*bright*	*time*	*person*	*not.yet*	*return*

‘(someone) continued to eat until the silver candle became dark, and the stars went below; when the snow stopped [falling], the person had not yet returned.’

Different from *le* and *ba*, the use of *dao* as a verb, preposition and a telicity marker co-exists in modern Mandarin Chinese; see (63)-(65).

(63) qiutian **dao** le. [*dao* as a verb]
fall *arrive* *PAR*
‘Here arrives fall.’

(64) chi **dao** bao. [*dao* as a degree indicator]
eat *to.the.point* *full(ness)*
‘all-you-can-eat’

(65) wo zhao-**dao** che yaoshi le. [telicity marker]
1sg *look.for-dao* *car* *key* *PAR*
‘I found the car key.’

In this subsection I have reviewed the phenomenon of grammaticalization and discussed several case studies on Chinese grammaticalization.

Grammaticalization is the framework I adopt for the VP and the ModP layers when discussing language change. I now move on to how grammaticalization is viewed under the generative approach.

2.4 Computational Economy

I have addressed Cartography and grammaticalization as my major frameworks. Another important topic I will discuss is the *Computational Economy* under Minimalism.

As discussed, UG has a different definition since Chomsky (1995) under the new Minimalist framework. UG is now associated with computational efficiency, the third factor by Chomsky (2005; 2007), or the initial cognitive system in a language acquirer.

I do not pursue feature economy as it does not seem to be compatible with the empirical data in the Sinitic languages. Rather, I use Economy Principles from MP, to account for the reanalysis occurring in Southern Min negation.

Feature loss is taken from van Gelderen's (since 2008) feature economy model, which is revised from her (2004) work of the Late Merge and Head Preference Principles. Feature loss adopted in this dissertation is center to the Economy framework. According to van Gelderen, uninterpretable features are more economical than interpretable features in that the former ones keep derivation going. Likewise, interpretable features are more economical than semantic features (2011: 4). The concept can be conceptualized as (66).

(66) u-F >> i-F >> semantic features

Feature loss participating in this model has a reverse order, as in (67).

(67) semantic features > [i-F] > [u-F]

A lexicon has an array of features. Semantic features are in lexical items, typically in verbs or nouns. When a morpheme is taken out by the speaker with fewer features, [i-F] is at play. When it comes to the stage with [u-F], a renewal comes about and is often viewed as a linguistic cycle in the literature. As van Gelderen claims, feature economy motivates language change, as it is evident in diachronic language change as well as child language acquisition (2004; 2011: 6).

The term "economy" is used by van Gelderen in the sense that the syntactic derivation needs something uninterpretable to probe for another item that is interpretable, thus a speaker only needs lexical inputs into the course of derivation where agree and merge/move take place. The change of features in a lexical item derives different syntactic patterns in narrow syntax. It is economical given that the speaker does not use as much lexicon as s/he would have to.

I consider reanalysis in a higher head to be a result of feature loss. A reanalysis in the way reflects upon one step of feature loss in a grammaticalization cline. Take the Chinese morpheme *dao* as an example. The lexical verb *dao* means 'to arrive', but *dao* in (68) has lost its semantic features.

(68) ta **dao** Zhangguo qu le. [*dao* as a locative]
3sg *LOC* *China* *go* *PF*
'He went to China.' (Heine & Kuteva 2002: 45)

van Gelderen concludes with a path with feature loss in *dao* as (69) and the verbal case cline is shown in (70), where she furthers shows that *dao* has undergone several reanalysis processes, thus having a shift from V to v and to P.

(69) *dao* 'arrive' > *dao* 'to' (van Gelderen 2011: 188)
[move, direction] [i-direction] (or [i-T])

(70) V > v > P (van Gelderen 2011: 191)
[move, finish] i-loc ??

Note that she uses [i-loc] for this use of *dao* in (68). Below I attempt to continued on the prepositional and telic uses of *dao*. The morpheme *dao* is often used as a preposition; (71) is repeated from (64) for convenience.

(71) chi **dao** bao. [*dao* as a degree indicator]
eat *to.the.point* *full(ness)*
'all you can eat'

I consider the reanalysis of *dao* applicable to the reanalysis of v [i-loc] > P in (70). Like many other instances, the use of *dao* extends from spatial to temporal as *dao* indicates telicity in (72), repeated from (65).

(72) wo zhao-**dao** che yaoshi le. [telicity marker]
1sg *look.for-dao* *car* *key* *PAR*
'I found the car key.'

What is more, the use of *dao* as a phase or telicity marker in modern Mandarin as in (73) and (74) is very much grammaticalized and is also a late

development.[25] Below are two more fascinating examples where *dao* is attached to telic verbs.

(73) 讓我學習到做事應有的態度。[26] MSC

rang	wo	xuexi-**dao**	zuo-shi	
let	*1sg*	*learn-DAO*	*do-thing*	
	ying-you		de	taidu.
	necessarily-have		*GEN*	*attitude*

'Let me learn the necessary attitudes in coping with things.'

(74) 這有沒有解決**到**你的問題。

zhe	you-mei.you	jiejue-**dao**	nide	wenti.
this	*Q*	*solve-DAO*	*your*	*problem*

'Did this solve your problem?'

With additional data from (71) to (74), a more complete cline of *dao* should look like (75), modified from (70). More research certainly has to be conducted from a diachronic perspective so as to determine where the telicity use of *dao* situates in the cline.

(75)

V	>	v	>	P
[move, finish]		i-loc/i-telicity		[degree]

I adopt feature loss from van Gelderen's feature economy model to account for the multi-functional morphemes in Chinese. A skeptic may argue for a possibility of many different *dao*'s. My brief answer here is that a path such as (75) is empirically evident in the literature of typology and grammaticalization. Feature loss is a better account than having multiple words for a language

[25] Li and Thompson (1981: 65-66)

[26] taken from the acknowledges of an MA thesis written in Chinese

acquirer to learn, the latter of which is not economical. We will see more applications in chapters four to seven.

2.5 Negation Cycles

The last section contributes to motivation for Chinese negation. According to van Gelderen, language change follows principles of Economy, one of which is the Late Merge Principle (LMP). In addition to feature loss, the LMP explains the grammaticalization pathway of negative words.

The LMP describes how children "build their grammar in a particular way" (p.12). In the case of negatives reanalyzed as interrogatives, children tend to place the interrogatives "higher [in the tree] rather than merge them early and then move" (van Gelderen 2004: 12). One example is the English *not*, which undergoes changes from a phrase, to Spec and to head (van Gelderen 2008: 193).

(76)	*na wiht* 'no creature'	>	*ne*	>	*not*
	negative object/DP	>	Spec	>	head of NegP

In a revised modal, namely Feature Economy, van Gelderen uses (77) to account for negative cycle instead.

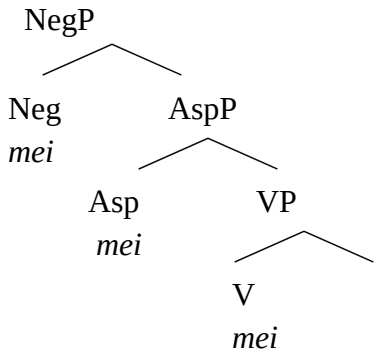
(77)	Adjunct/Arg	>	Spec	>	head	>	Affix
Features	[semantic]		[i-F]		[u-F]		--

She argues that another grammaticalization process is responsible for Chinese negation (van Gelderen 2011: 292, 299). Similar to (77), a loss of semantic features as shown in (78) accounts for the reanalysis of a lexical head to a higher head for Chinese.

(78) lexical head > (higher) head > (higher head)
[NEG] [i-NEG] [i-INT]

Chinese negation does not seem to have [u-F], as there is no renewal doubling as a negative concord language has; French *ne* and *pas*, for instance. The mechanism for the latter path is illustrated in (79).

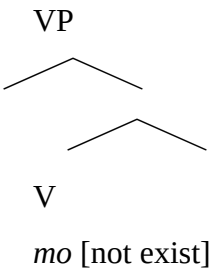
(79) The negative head cycle (van Gelderen 2011: 298)



van Gelderen (2008) uses Head-to-Head movement to explain the reanalysis of Chinese 沒 *mei*, which originates as a verb 'to die/to sink' (pronounced as *mo*) but is later used as an negative as well as aspectual marker(, and then an interrogative).

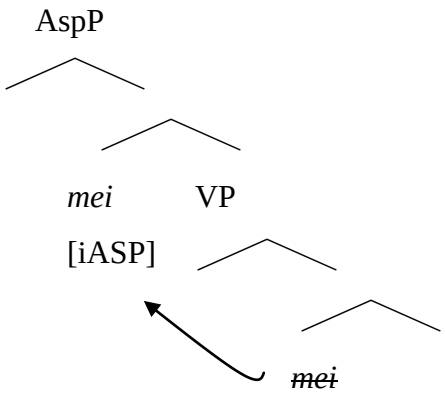
The tree in (80) demonstrates that the lexical *mo* has semantic features [to die; not exist; lack; not possess] and occupies the V head.

(80) the verbal *mo*: [die; not exist]



The features of lacking or not possession in *mei* lead *mei* to become reanalyzed as aspect, as possession to aspect is attested across languages. (81) shows a reanalysis of *mei* into an aspectual marker.

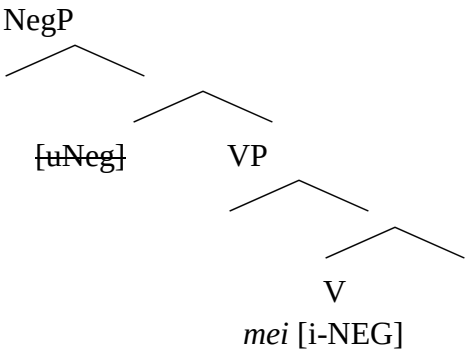
(81) The aspectual *mei*: [iASP] < [not exist; not possess]



The reanalyzed *mei* in a higher head has interpretable aspectual features, [i-ASP]. The LMP takes place when *mei* is reanalyzed as a new head in AspP. Note that the cross-out does not mean copy/delete, and neither does the arrow indicate movement, as reanalysis is a result of one head landing in another head.

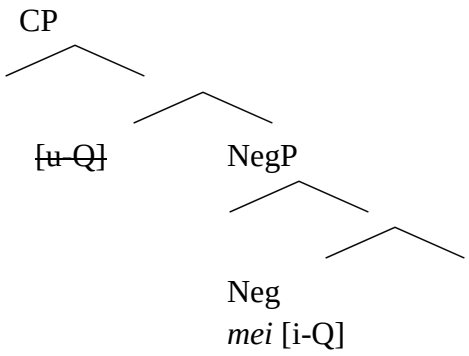
There is also a stage during which *mei* loses lexical features [lacking], leading to a reanalyzed *mei* with interpretable grammatical features [i-NEG]. This *mei* lands at the head of NegP.

(82) The negative *mei*: [i-NEG] < [lacking]



The negative *mei* carries *irrealis* features, easily reanalyzed as an interpretable question feature, i.e. [i-Q].

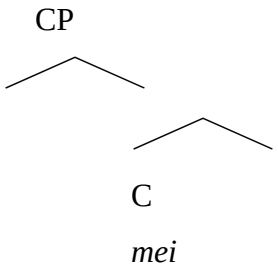
(83) the interrogative *mei*: [i-Q]



The i-Q feature in (83) agrees with the un-interpretable question features [u-Q] in the head of CP. Thus, *mei* moves from Neg to Q. This phenomenon is evident in the history of the Chinese language (cf. Wei 2007; Wei 2010).

Through the course of time, *mei* is further reanalyzed as an interrogative and is base-generated in C, in accordance with the LMP.

(84) the base-generated interrogative *mei*



The trees illustrate how *mei* is reanalyzed in each stage to a different head. The Principle of Economy is in play, as we observe features loss in *mei*, from lexical to grammatical ones. This triggers language change. Reanalysis takes

place through several generations. Whenever *mei* lands in a particular position without any movement, it is a *late merge.*

Van Gelderen's Late Merge Principle helps to explain language change in children's grammar through a reanalysis of *mei* to a higher up position (i.e. C in the CP) rather than undergoing several steps of movement because (external) merger is "cheaper" than movement/internal merge (Chomsky 1995; 1998). Through late merges, in the new grammar, the negative word *mei* is base-generated in C as an interrogative as shown in (84).

Next chapter discusses negation and modality/aspect as Southern Min negation interacts with modality and aspect.

Chapter 3

NEGATION AND TAM

This chapter focuses on negation and modality. I first address negation from a typological perspective. The second and third sections discuss Chinese negation in general and then specifically Southern Min negation. The remainder of the chapter centers around modality, as concepts of modality will be used in later chapters when negative modal verbs are introduced. Also touched upon is aspect.

3.1 Cross-linguistic negation

3.1.1 Negation strategies.

I address what strategies are used across languages to form negation and relate those to Chinese. As Dahl (1979) notes, three standard negation strategies can be found in natural languages, either through a negative particle, a negative auxiliary, or a negative affix.[27] Below are examples for each type.

(1) ta **bu** he jiu. Mandarin
3sg NEG drink wine
'She does not drink wine.' (Whaley 1997: 228-229)

(2) bi dukuwun-ma **ə-cə-w** duku-ra. Evenki
1sg letter-OBJ NEG-PST-1sg write-PAR
'I didn't write a letter.' (Whaley 1997: 228-229)

(3) **m**-a-rany. Massai
NEG-1sg-sing
'I do not sing.' (Whaley 1997: 228-229)

[27] Standard negation is interchangeable with clausal negation; lexical negation is not addressed here.

The negative particle has been the focus in the literature. Negative particles are independent and non-inflectional (Dahl 2020: 19). Payne (1985) suggests that in some languages, such as Russian, an invariant particle is used for any predicate type. Chinese, on the other hand, has different particles at the sentential level. Payne suggests three basic strategies in such languages that use different negatives. First, negation particles vary based on mood. For example, Hungarian employs *nem* and *ne* for statements and imperative sentences, respectively. Second, tense or aspect determines which particle to use, especially in Semitic languages (Payne 1985: 223). Third, the grammatical category of the predicate also determines the choice of negative particles. For example, in Baghdad Arabic *ma:/m* is used with verbal predicates, as opposed to *mu:*, which is for nominal, adjectival, and prepositional predicates" (Bakir 1970, in Payne 1985: 223).

Let us briefly examine Chinese negation based on Payne's analysis. Mandarin utilizes different particles depending on the verb type and the mood of the sentence (Li and Thompson 1981). *Bu* 不, *mei* 沒 and *bie* 別 are the most commonly used negatives in Mandarin. The first and second strategies by Payne apply to Chinese. *Bu* is used for habitual negation and *bie* negates imperatives. Thus, mood is associated with negation. The choice between *bu* and *mei* is tied to aspect and modality.

Another typological characteristic of negation is the symmetric vs. asymmetric distinction (Miestamo 2005). Asymmetry refers to when affirmation changes to negation while being accompanied by structural changes in addition to

negative markers. Take Mandarin as an example. The affirmative sentence has an aspect marker *–le* in (4). When (4) is negated, ungrammaticality occurs if a negative such as *bu* or *mei* is simply added, as in (5).

(4) ta chi-**le** fan. MSC
3sg eat-ASP rice
'She ate.'

(5) *ta **bu/mei** chi-**le** fan. MSC
3sg NEG eat-ASP rice
Int.: 'She did not eat.'

The counterpart of (4) is shown in (6), where *mei* 'not' appears together with an optional aspect marker *you* 'have' and *–le* is dropped.[28]

(6) ta **mei**(-**you)** chi fan. MSC
3sg NEG(-ASP) eat rice
'She did not eat.'

Southern Min and Hakka differ however, in that these two languages make use of a symmetric affirmative and negative system.

Let us investigate another negative *bu* in Mandarin. *Bu* is considered to be a pure or habitual negator in the literature; see the examples below.

(7) ta chi yu. MSC
3sg eat fish
'She eats fish.'

(8) ta **bu** chi yu. MSC
3sg NEG eat fish
'She doesn't eat fish.'

[28] Note that *mei* by itself can be aspectual too and glossed as NEG.ASP.

Bu is also used for modal verbs and stative verbs; see (9) and (10). I address the relationship between negation and predicate types immediately.

(9) ta **bu** hui kaiche. MSC
3sg NEG can drive
'She doesn't know how to drive.'

(10) ta **bu** gao. MSC
3sg NEG tall
'She is not tall.'

However, *bu* can express volition as in (11).

(11) ta **bu** chi yu. MSC
3sg not.want eat fish
'She doesn't want to eat fish.'

3.1.2 Topics in the typology of negation.

I draw particular attention to three issues: (a) negation with non-verbal predicates; (b) negation in existential sentences; and (c) negation as interrogatives. These concepts will be encountered in later chapters individually.

Negation with non-verbal predicates. Negation is related to its predicate. For examples, in Indonesian, the negative particle *tidak* is used as a standard negator, as in (12); however, another negative *bukan* is used when the predicate changes to nominal, as in (13) (Dahl 2010: 19 & 27).[29]

(12) saya **tidak** tidur. Indonesian
3sg NOT sleep
'I am not asleep.'

[29] The gloss in (13) is modified.

(13) itu **bukan** jeruk. Indonesian
that *NEG* *orange*
'That is not an orange.'

(14) itu (**adalah**) jeruk. Indonesian
that *COP* *orange*
'That is an orange.'

Example (14) above is the affirmative counterpart of (13), where a copula verb *adalah* is optional (Dinny Aletheiani, p.c.).

Czech makes use of a special negator in copular constructions; a comparison between the affirmative and negative is shown below (Dahl 2010: 28). In later chapters, I will show that the Chinese language is similar in this respect.

(15) Jan **je** doma. Czech
Jan *COP.3sg* *at.home*
'Jan is at home.'

(16) Jan **neni** doma. Czech
Jan *NEG.COP.3sg* *at.home*
'Jan is not at home.'

Negation in existential sentences. Another typological characteristic of negation is that the negative existential can be identical to the standard negator (Croft 1991: 11). I provide Mandarin examples to show that the Chinese language shares this typological characteristic.

As shown in (17), *you* is the existential verb 'to exist'; its negative form *meiyou* can be used as a negative existential as in (18) and a negator in (19).

(17) zheli **you** ren. MSC
here *exist* *person*

‘There is a person here./ There are some people here.’

(18) zheli **mei(-you)** ren. MSC
here *NEG.exist* *person*
‘There is nobody here.’

(19) ta **mei(-you)** nian yanjiusuo. MSC
3sg *NEG.ASP* *attend* *graduate.school*
‘She did not attend graduate school.’

Negation in interrogatives. Palmer (2001: 12, 52) provides examples of Imbabura to show that languages may use the same negative marker for questions, as they are both “non-assertive” (Palmer 2001: 53). In (20) and (21), *chu* is used as ‘not’ and as a question marker.

(20) ňuka-ka mana chay llama-ta shuwa-shka-ni-**chu**.
1sg-TOP *NEG* *that* *sheep-ACC* *steal-PF-2sg-NEG*
‘I did not steal that sheep.’ Imbabura

(21) mayistru-**chu** ka-ngui? Imbabura
teacher-Q *COP-2sg*
‘Are you a teacher?’

The use of negative markers to form interrogatives is not unknown; van Gelderen (2008) argues that in the world languages “many negatives develop into mood markers in C, in particular into interrogatives” (2008: 236). The reanalysis of negatives into interrogatives is addressed in chapter four to seven when I discuss negation of Southern Min.

3.2 A brief history of Chinese negation

3.2.1 Evolution of Chinese negatives.

Chinese has been abundant in negative expressions throughout its history. Djamouri (1991: 8), Pulleyblank (1990, Chapter 11) and Xu (2003: 2) show that there were four negatives in *Jiaguwen* 甲骨文 (oracle bone script) as in (22), and others, (23), emerged later in the Zhou-Qin Dynasties (1066-221 BCE).[30]

(22) 不 *bu*, 弗 *fu*, 勿 *wu*, 毋 *wu*

(23) 非 *fei*, 匪 *fei*, 微 *wei*, 無 *wu*, 蔑 *mie*, 未 *wei*

The various negatives in archaic Chinese serve different functions. Pulleyblank (1990, cited in Djamouri 1996: 291) and Sagart (1999: 84) suggest that some negatives function like verbs. For example, *wu* 無 means 'not have'. Also discussed is the dual function in one morpheme, one such example is *fu* 弗, which is believed to be a fuse word of a negative *bu* 不 and an object pronoun *zhi* 之 (Pulleyblank 1995: 104).

Among these negatives, 不 *bu* is still productively used in modern Mandarin Chinese. The prohibitive 勿 *wu* also survives to this day, but mainly in written texts or as set expressions. The rest are no longer productive, with some lexicalized and others used in idiomatic expressions.

Wu 無 'not have' is postulated by Shi and Li (2004) to be replaced by *mei* 沒. Neither seen in (22) nor (23), the morpheme *mei* developed later in the Chinese

[30] The transcription is in modern standard Mandarin pronunciation. Some negatives may have been pronounced the same in or before Middle Chinese time.

history before early Mandarin, and is now another commonly used negative in Mandarin other than *bu* and the prohibitive *bei* 別, as noted in previous paragraphs.

How do the many negatives differ? According to Shi and Li (2004: 241), the use of various negatives between the Wei-Jin Periods (265-420 CE) and the Yuan-Ming Dynasties (1271-1644 CE) is determined by the predicate, as shown in (24) and (25).

(24) negative candidates for a VP or AdjP predicate:
不 *bu*, 未 *wei* 'not yet', 不曾 *bu.ceng* 'never' , 未曾 *wei.ceng* 'never'

(25) negative candidates for a NP predicate:
無 *wu* 'not have', 沒 *mei* 'not have'

Below are examples.

(26) 今日做未得，且待來日做。 朱子語類訓門人 *Zhuzi yulei*; 1270 CE

jinri	zuo	**wei**	de,	qie	dai	lairi	zuo
today	*do*	*not.yet*	*obtain*	*just*	*wait*	*future*	*do*

'Whatever hasn't been done today will be kept until a later day.'

(27) 不見仙人，

bu	jian	xian	ren,
NEG	*see*	*transcendent*	*person*

不可謂世間無仙人也。 抱朴子內篇 *Baopuzi* (371-420 CE)

bu-ke	wei	shijian	**wu**	xian	ren	ye
NEG.can	*say*	*world*	*not.have*	*transcendent*	*person*	*PAR*

'One can't conclude that there is no transcendent being in the world until he sees one.'

Shi and Li (2004: 262) suggest that *mei* replaced the functions of the negatives *wu* in (25) and *wei*, *buzeng*, and *weizeng* in (24). Only two out of these candidates, namely *bu* and *mei*, survive in modern Chinese to this day.[31]

3.2.2 Modality in Classical Chinese.

An important topic is that the incorporation of modality into negation is by no means an innovation of Southern Min. As noted in Dobson (1966: 282), Chinese had established a "symmetry of the modal paradigm in late Archaic Chinese […by the third century]." Pulleyblank (1995: 122-123) addresses different types of modality in Classical Chinese, which I summarize in Table 3.1, showing examples that are related to my research. [32] As argued by Pulleyblank, the first four verbs can take clausal objects, but *de* 'get' is used in a verb series with another verb following.

There are some things to note in Table 3.1. First, in today's Mandarin Chinese, only few of these morphemes can appear alone: *neng*, *gan*, and *ken*. Many others are combined with another modal; an example is the disyllabic modal *ke-neng* 可能 'maybe'. Another important point is the two uses of the same morpheme *ke* 可, which I demonstrate in different rows. The possibility modal *ke* has, in our terms, epistemic modality (possibility), whereas the other *ke* is in the

[31] In Southern Min and Hakka, many archaic negative forms are preserved, such as *bue* 未 and *mang* 亡, both glossed as 'not.yet'. I will visit this in chapters four to seven where Southern Min negatives are introduced.

[32] Transcription is in modern standard Mandarin.

deontic necessity paradigm.[33] This is crucial in grammaticalization and typology in that English makes use of *can* for epistemic (probability), abilitive, and deontic. In comparison, Mandarin uses *neng* and *ke* for the possibility (as opposed to necessity) modal paradigm. Additionally, some of these modal morphemes are related to one another and thus used in the same paradigm (possibility, necessity or volition). For instance, *bi* and *de* are in the necessity paradigm, equivalent to the use of English *need*. I address this in a later subsection of this chapter.

Table 3.1
Modality in Classical Chinese

modals	categorial status	meanings
neng 能	verb	'can, be capable of'
gan 敢	verb	'dare'
ken 肯	verb	'be willing to'
yu 欲	verb	'wish, intend, will'
de 得	verb	'get to do, can'
ke 可	adjective	'possible'
ke 可	adjective	'ought to, should'
jiang 將	adverb	Intentionality & futurity
bi 必	adverb, verb, adnominal particle	necessity, 'must'

[33] Epistemic and deontic are introduced in this chapter.

Many of the archaic negatives are associated with modality too. They are 毋 (or 無) *wu* and 勿 *wu* (Pulleyblank 1995: 107-108, 124), which are prohibitives.[34]

(28) 王無罪歲　　孟子 *Mencius* (372-289 BCE)

Wang **wu** zui sui.

King WU blame harvest

'Let your Majesty not blame the harvest.'

(29) 百畝之田，勿奪其時　　孟子 *Mencius* (372-289 BCE)

bai mu zhi tian,

hundred (measure) GEN field

wu duo qi shi.

WU deprive GEN time

'Do not deprive the hundred *mu* fields of their times (of cultivation).'

3.3 Southern Min Negation

Southern Min has a rather systematic periphrastic system of affirmatives and negatives. There are four pairs of affirmatives and negatives: (a) *e* vs. *be*, (b) *beh* vs. *m*, (c) *tioh* vs. *bian*, and (d) *u* vs. *bo*. The five basic negatives are thus *be*, *m*, *bian*, *bo*, and additionally *bue*. Table 3.2 shows the systematic negative auxiliaries and their affirmative counterparts in Taiwanese Southern Min. Intriguingly, each negative morpheme above is marked for aspect or modality, and these negatives can also be used as interrogatives.

[34]毋 and 無 are homophones in *Mencius* 孟子 (Pulleyblank 1995).

Table 3.2
The affirmative-negative pairs in Southern Min

Affirmatives	Negatives
e 會 'will'; 'able'	*be* 袂 'will not'; 'unable' [35]
beh 卜 'want'	m_1 毋 'not-want'; m_2: pure negator
tioh 著 'need'	*bian* 免 'need not'
u 有'have'[36]	*bo* 無 'not-have'
	bue[37] 未 'not yet'

This section is not meant for a thorough investigation of Southern Min negation. To avoid repetition, I simply present the basic information here to prepare my reader for a much detailed exploration in chapters four through seven. Except for cases otherwise indicated, all examples below are Taiwanese Southern Min generated by me.

3.3.1 The Basics.

Scholars have noticed that Southern Min negatives encode modality and/or aspect. For instance, Crosland (1998: 260) lists five negatives with their distinctive functions, as in (30), based on his fieldwork investigation in Xiamen, China, where Southern Min is spoken.

[35] Some studies transliterate *boe* as *be*; this is due to dialectal differences.

[36] I follow the most widely accepted Chinese characters for these Southern Min words. Other studies may use, 欲 for 卜, 唔 for 毋 and 勿會 for 袂.

[37] According to my fieldwork, *bue* can be pronounced as *be* in some sub-dialects, whereas in other sub-dialects, *be* 'will.not; cannot; unable' is pronounced as *bue*. In other words, *be* and *bue* are free variations for some speakers.

(30) Southern Min negatives[38]

m	negative of volition (m_1)
m	negative simplex (m_2)
bo	negative possessive/existential/affirmative aspect
bue	negative potential/possibility
be	negative perfective aspect

Crosland suggests that except for m_2, which is devoid of any modality, the negative words have additional semantic properties. The negatives in (30) can also be found in Taiwanese Southern Min. I briefly comment on the use of each negative in Taiwanese Southern Min below.

3.3.2 The systematic pairs.

Below are examples with negation occurring with an activity verb. All negatives are compatible with the verb *senn-kiann* 'give birth'.

(31) i **be** senn-kiann. (abilitive)
3sg *can.not* *give.birth*
'She is unable to reproduce.'

(32) i **m** senn-kiann. (volitional)
3sg *not.want* *give.birth*
'She doesn't want to have babies.'

(33) i **bian** senn-kiann. (obligatory)
3sg need.not *give.birth*
'She is allowed not to give birth.' (e.g. Her sister-in-law has children.')

(34) i **bo** senn-kiann. (habitual)
3sg *not.have* *give.birth*
'She doesn't have children.'

[38] I leave out his superscript numbers as tone markers. His negative potential vs. negative aspect are transcribed differently from those in Table 3.1, but it is not an issue, as explained in footnote 29.

(35) i iau **bue** senn-kiann. (perfect)
3sg yet not.yet give.birth
'She has not had children yet.'

Next, I show sentences with the same negatives but with stative verbs in (36) through (41). Stative verbs are adjectival. As shown, only the aspectual negatives *bo* and *bue* can occur with stative verbs; *be* is restrictive with stative verbs. This shows that negative particles vary depending on the predicate.

(36) i **be** kuan *(a).
3sg BE tall PAR
'She won't grow any taller.'

(37) *i **m_1** kuan.
3sg M tall
Int. 'She doesn't want to be tall.'

(38) *i **m_2** kuan.
3sg M tall
Int. 'She is not tall.'

(39) *i **bian** kuan.
3sg BIAN tall
'She needs not be tall.'

(40) i iau **bue** kuan.
3sg yet not.yet tall
'She hasn't yet grown taller.'

(41) i **bo** kuan.
3sg BO tall
'She is not tall.'

3.3.3 Other negatives.

The two m's. The literature distinguishes between the two *m*'s in Southern Min (Crosland 1998, among others). The volitional *m* is conventionally labeled as m_1, whereas the other function of *m* is labeled as m_2. I provide examples in Taiwanese Southern Min.

(42)	i	**m_1**	khi	hak-hau.	(volitional m_1)
	3sg	*not.want*	*go*	*school*	
	'She didn't/doesn't want to go to school.'				
(43)	i	**m_2** si	khi	hak-hau.	(pure negative m_2)
	3sg	*NEG COP*	*go*	*school*	
	'It is not the case that she went to school.'				

The latter negator, namely m_2, can only occur with a limited number of words, as listed in Table 3.3 (adopted from Crosland 1998: 261).[39] Table 3.3 is not an exhaustive list, however.

In brief, an investigation reveals that these verbs comprise mostly psych verbs, stative adjectives and modals. I consider the choice of m_2 as connected to the stativity and (a)telicity in the verb. More details about the distinction between m_2 and m_2 will be addressed in chapter six.

[39] It seems problematic that the pure negator *m*-2 is so restricted in its verbal choice. Lin (2004) proposes that *m*-2 together with the above verbs are lexicalized as one unit, whereas *m*-1 and other negatives remain in the grammatical category. Lin uses "syntactic" instead of "grammatical." What she means by 'syntactic category' is that the other negatives are free morphemes.

Table 3.3
Words compatible with m_2

a.	*si* 是	copula
b.	*tsai-iann* 知影	'to know something'
c.	*kann* 敢	'to dare to'
d.	*tih* 捏	'to want something'
e.	*thang* 通	'to be permissible'
f.	*sa*/*sio* 相+V	'to mutually V'
g.	*siong sin* 相信	'to believe'
h.	*ho* 好	'to be good' (m6 ho3 'to be sick')
i.	*kiann* 驚	'to fear'
j.	*tioh* 著	'to be correct'
k.	*bat* 捌	'to know a person, a character, the way to a place'
l.	*bat* 捌	experiential aspect

Prohibitives. Li (2007: 147) suggests three common prohibitives used in different dialects of Southern Min: *tai*, *mai*, and *mmo*. The second and third are more commonly heard in Taiwan. Sentences (44) and (45) show prohibitives; the sentences are mine.

(44) li **mmo** kong-ue.
2sg MMO speak
'Do not talk./ Be quiet.'

(45) li **mai** luan kong-ue.
2sg MAI mess speak
'Do not make things up.'

Mmo is argued to be the fusion of *m* ‘not’ and *hoo* ‘good’, and *mai*, of *m* and *ai* ‘love; like’ (Wu 2009). This *m* is m_2. Prohibitive is related to deontic, which topic I address in another subsection.

Two readings. In contemporary TSM, one can hear two pronunciations in the same morpheme: *literary* vs. *colloquial*, or *wendu* 文讀 vs. *baidu* 白讀. In principle, the former pronunciation is used in official settings. This phenomenon is commonly found in non-Mandarin dialects. For example, the character 不 is read as *put*. *Put* is considered to be the literal reading, as opposed to its colloquial counterpart *bo*. *Put* is a loan from historical stratification (Lien 2005). Below I provide three examples with the use of *put*. (46) is from a popular song, and (47) is mostly likely to appear in a formal speech read in TSM. The last example (48) is a poetic line read in TSM. The choice of *put* over *bo* is stylistic.

(46) 不見中秋又逢冬[40] TSM

put	kian	tiong-tshiu	iu	hong	tang
NEG	*see*	*mid-Autumn*	*again*	*encounter*	*winter*

‘(I) did not see mid-Autumn (reunion) and now it is winter again.’

(47) 不知不覺 TSM

put	ti	**put**	kak
NEG	*know*	*NEG*	*feel*

‘without noticing’

(48) 春眠不覺曉 poem by Meng Haoran 孟浩然詩; 689-740 CE

tshun	bian	**put**	kak	hiau
spring	*sleep*	*NEG*	*feel*	*dawn*

‘I slept so well, without noticing spring dawn.’

[40] A line taken from a Taiwanese popular song 雪中紅 *suat tiong ang*.

3.3.5 Negation and Modality.

Previous studies on Southern Min have either focused on negative or affirmative modals/modal expressions, thus separating negation from modality in their discussions.[41] This study incorporates these two topics. As stated, there are five basic negatives in Southern Min: *be, m, bian, bo* and *bue*, the first three of which are used as negative modals. The last two negatives are aspectual.

The negation of Southern Min modal verbs is rather complex. There are two ways of looking at Southern Min negation. For one, Southern Min modal verbs can be seen as negative auxiliaries. For instance, the volitional m_2 'not want' plays a dual role as negation and modality. I call this a dual-function morpheme.

The other way is to consider the pure negative m_1 to be the invariant negative particle (like English *not*) from which the other negative forms are derived (Teng 1992; Tang 1994; among others). Below are examples:

(49) *bo* 'not.have' = m_2 + affirmative *u* 'have'

(50) *be* 'cannot; will.not' = m_2 + affirmative *be* 'can; will'

(51) the volitional m_1 'not.want' = m_2 + affirmative BEH 'want'[42]

In other words, the other negative modals are phonetic fusion of *m* plus their affirmative counterparts (Lin 2004: 115-116). I name this the fusion

[41] Scholars who have worked on Southern Min modal verbs or modality include, but are not limited to, Zhang (1999), Hsin (1999), and Lien (2008). I would also like to refer my reader to Yu (2007) for a comparison of modal verbs of Mandarin and Southern Min, and Cheng (2003) for a comparison of Mandarin, Southern Min and Hakka.

[42] *Beh* 'want' is the affirmative counterpart of the volitional *m*. Lin (2004: 115) argues that there is a phonetically unpronounced BEH. Therefore, the formula *m* = *m* + BEH is applicable to *m* as well.

hypothesis. This approach sees SM negatives as particles. This analysis sounds appealing; however, it is not perfect. How do we account for the two negatives that are left out, namely *bian* 'not need' and *bue* 'not yet', for their morphology or phonology does not look like *m* plus their affirmative counterparts? Despite the fact that *bian* and *bue* both share bilabial features with m, they do not use the same system, as in (52) and (53). I will show in chapters four through seven that different strategies are used in expressing negation.

(52) **bian* 'need.not' = m_2 + affirmative *tioh* 'need'

(53) **bue* 'not.yet' = m_2 + affirmative ? 'yet' [43]

To conclude, either the dual-function morphology or the fusion hypothesis points to the fact that these negative modals belong to functional categories.

3.4 Aspect and Modality

As stated previously, Southern Min negation is associated with aspect or modality. It is therefore necessary to address this issue in more detail.

Traditionally, *tense*, *aspect* and *modality* are treated together as one major system called TAM. Some scholars use TAME, with E standing for *evidential*; many however consider evidential to be repetitive as evidentials are often expressed by means of modals.The term tense-aspect-modality (TAM) is recorded in Givón (1984; 1990). It has been widely used to refer to the above three categories.

[43] The ? morpheme may be zero marking or *a*, which is represented as 矣 and is believed to be inchoative.

Palmer (2003: 5) defines tense as "time of the event or situation referred to", aspect as "the nature of the event or situation", and modality as "the status of the proposition that describes the event or situation." These three systems are highly related in that they are all associated with the verb in a sentence.

Tense is not addressed here, as Chinese is often considered a non-tensed language. Aspect is discussed in chapter seven. What follows is a discussion of modal expressions in typology, followed by the classification of modality.

3.4.1 The typology of modality.

De Haan (2006: 27-69) proposes eight different ways to mark modality, one of which is by modal auxiliary verbs such as in (54) and (55).

(54) *John **may** go to school*.

(55) *John **must** go to school*.

The second type is by mood. I skip the other means of marking modality as they are less relevant to my research. De Haan defines mood as the grammaticalized expression of modality. Although there is no consensus among linguists about the distinction of mood, the indicative-subjunctive distinction is commonly accepted. The Latin example below is cited in de Haan from Palmer (2001: 133). As seen in (56), the main verb in the matrix clause is marked for the indicative mood, whereas the verb in the subordinate clause is marked for the subjunctive mood.

(56) time-o ne laborem auge-am.
*fear-1sg.**IND**.PRES COMP work.ACC increase-1sg.**SUBJ**.PRES*
'I am afraid that I shall increase my work.'

Languages use different devices to express modality. For instance, English makes use of grammatical auxiliaries as well as lexical items, such as adverbs, adjectives, and main verbs (Nuyts 2005: 15). Table 3.4 shows the relations between categories and modality types, which I summarize from Nuyts (2005: 15) and Portner (2007: 154).

Table 3.4
Modality expressed by lexical items

	dynamic	deontic	epistemic
adverb	*possibly; necessarily*	*(had) better; unfortunately*	*maybe; certainly*
predicative adjective	*be able*	*be compulsory; be advisable*	*be probable; be certain*
main verb	*hope; deplore*	*require*	*think; believe*
noun	*possibility*	*necessity*	*possibility*

Take English epistemic modality as an example. We shall see the following possible categories: modal verbs (*may, could*), adverbs (*maybe, surely*), adjectives (*probable, certain*), and full verbs (*think, believe*) (Nuyts 2006: 13). I show English auxiliaries in the next subsection.

3.4.2 Classifications of modality.

I discuss several proposals on modality classifications and explain what I adopt. The classification of modality is extremely complex. As described by Nuyts, "there is no unanimity regarding what the list of participating categories should look like" and also "no unanimity about each of the [categories] should be

characterized in detail" (Nuyts 2005: 7). Even the same author uses modality in various ways. For instance, Palmer (1974: 100-103) and Palmer (1990: 36) hold different views on the classification of modality, shown in Table 3.5. In the table, epistemic, deontic and dynamic are the three major modal subsystems in Palmer's (1990) system.[44]

Table 3.5
Palmer's classification of modality (adopted Zhang 1999)

Palmer (1974)	Palmer (1990)	
epistemic	epistemic	opinions of the speaker
discourse-oriented	deontic	attitudes of the speaker
subject-oriented	dynamic	the ability or volition of the subject

However, Palmer (2001) further distinguishes *event* modality from *propositional* modality. These two newly introduced categories correspond to the above three types of modality (epistemic, deontic and dynamic), plus evidential, in the following way.

(57) event modality = deontic + dynamic
(58) propositional modality = epistemic + evidential

In other words, deontic and dynamic modality is for events, whereas epistemic or evidential is related propositions.

This event versus proposition distinction has its advantages. Event modality is part of the VP with arguments and theta-roles involved, whereas propositional modality simply denotes modality outside of the VP. Below are

[44] von Wright (1951: 1-2)

explanations and examples of each subtype (epistemic, deontic and dynamic) modality.

Epistemic modality. Epistemic indicates "the estimation [and] chances that the state of affairs applies to the world" (Nuyts 2006: 6). Below are two such examples. *Will* in (59) is a modal verb, whereas *maybe* in (60) is an adverb.

(59) *Someone is knocking at the door. That* ***will*** *be John.*

(60) *This manuscript is damned hard to read.* ***Maybe*** *some more light can help.*

Palmer's (2001: 8) working definition for epistemic modality is "speakers express their judgment about the factual status of the proposition."

(61) *Kate* ***may*** *be home now.*

(62) *Kate* ***must*** *be home now.*

Both *may* and *must* in (61) and (62) are modal verbs. The former expresses possibility and the latter necessity. The speaker's judgment of the proposition "that Kate is at home" is made clearer through the logical forms as in (61)' and (62)' (Palmer 2001: 7).

(61)' *It is possible/possibly the case* ***that Kate is at home now****.*

(62)' *It is necessarily the case* ***that Kate is at home now****.*

Deontic modality. Deontic modality denotes "the degree of moral desirability of the state of affairs expressed in the utterance, typically, on behalf of the speaker" (Nuyts 2006: 4-5). This subsystem thus covers what Kratzer (1978: 111) and Palmer (1986: 96-97) list as permission and obligation. Examples are shown in (63) through (65) (Nuyts 2006: 4-5); boldface and parentheses are mine.

(63) *We **should** be thankful for what he has done for us, so we **must** find a way to show our gratitude to him.* (obligation)

(64) *You **may** come in now.* (permission)

(65) *I **demand** that you come in immediately.* (obligation)

As seen, the instances above make use of use modal verbs to express modality; yet, one could see the speech act verb 'demand' in (65) expresses modality. So, modality is a broader term than modal verbs.

The following two sets of examples from Palmer (2001) provide a contrast to sentences (61) and (62), which are epistemic.

(66) *Kate **may** come in now.* (permission)

(66)' *It is possible **for** Kate to come in now.*

(67) *Kate **must** come in now. (obligation)*

(67)' *It is necessary **for** Kate to come in now.*

According to Palmer, (66) and (67) expresses "the speaker's attitude toward a potential future event, *that of Kate coming in*" (2001: 7). (66) is to show permission, while obligation is expressed through the modal *must*. As seen in (66)' and (67)', the complementizer is *for* instead of *that* as in (61) and (62).

This distinction in syntax is connected to the deonticity in the speaker over the event. The CP with *for* as its C is infinitive, which is tighter in relationship with the embedded event 'Kate comes in'. The same is in the deontic verb 'want', which has an infinitival CP as a complement. Thus, the subject in the matrix clause can have influence over the event in the embedded clause. In comparison, the epistemic verb *think* has a looser relationship with its complement.

(68) *I **want**ed* [***for** him to leave.*]

(69) *I **think** for him to leave.

Two other terms are often used in the literature: *directive* and *commissive*. For Palmer, deontic modality covers both directives and commissives (2001: 70-71). These two concepts are overlapping. By definition, *directives* are expressions/words by which "we try to get others to do things" (Searle 1983: 166). Some uses "the morally good possible worlds" to refer to the deontic *must* (Potner 2007: 154). Directives include both *Permissive* and *Obligative*.

Palmer (2001: 72-73) uses the term commissive from Searle: "where we commit ourselves to do things" (1983: 166).

(70) *John **shall** have the book tomorrow.*

(71) *You **shall** do as you are told.*

Dynamic modality. Dynamic modality is "an ascription of a capacity to the subject-participant of the clause" (Nuyts 2006: 3). Terminology varies greatly among scholars. For the same system, Goossens (1985) uses the term *facultative modality* and Hengeveld (1988) names it as *inherent modality*. (72) is an example, where the adjective *able* is used to indicate dynamic modality.

(72) *Pete is perfectly **able** to solve this problem if he wants to.*

Palmer (2001: 10) classifies dynamic modality as the conditional factors being "internal" to the relevant individual, as opposed to being "external" for deontic modality. Thus, he also includes volitional into dynamic modality. His examples are (73) and (74). I will show later a different classification by van der Auwera and Plungian (1998).

(73) *John **can** speak English. (abilitive)*

(74) *John **will** do it for you. (volitive)*

A quick comparison of these three types of modality can be captured in (75) through (78), where the modal *can* covers all kinds (Palmer 2001: 10).

(75) *He **can't** be in his office now*. (epistemic)

(76) *He **can** go now*. (deontic: I give permission)

(77) *He **can** run a mile in five minutes.* (dynamic: he has the ability)

(78) *He **can** escape.* (dynamic: the door's not locked)

Note that some authors distinguished (77) from (78) using participant-internal versus -external (cf. van der Auwara and Plungian 1998).

I have discussed the three-way distinction of modality, mainly adapting Palmer (2001): epistemic, deontic and dynamic. Other terms, such as *root modality* and *volition/intention*, have also been used in the literature regarding modality. As pointed out by Nuyts (2006: 7), researchers such as Hofmann (1976) and Coates (1983) use root modality to cover both deontic and dynamic modality, as opposed to epistemic.

Palmer (1986) regards volition and intention as a subcategory of deontic, whereas in Palmer (2001) it is under the category of dynamic modality, as have seen in (77) above. Sentences (79) and (80) are from Nuyts (2006: 9).

(79) *I **want** you to tell the truth*. (volition)

(80) *I promise I **will** never lie to you again*. (intention)

I summarize the nine central English modals in Table 3.5. Examples are from Depraetere and Reed (2006) and Li (2003). The semi-modals such as *have to*, *ought to* or *need* are left out however.

Table 3.6

English modal verbs and their modality[45] [46]

modals	examples
can	(a) *They say Bill **can** cook better than his wife*. (ability; p48) (b) ***Can** they be serious*? (uncertainty; p44) (c) *Even though this is my rock you **can** use it sometimes*. (permission; p55)
could	(d) ***Could** you please make less noise*? (ability; p49) (e) *There **could** be something wrong with the light switch*. (uncertainty; p44) (f) *You **could** answer these letters for me*. (permission; p56)
may	(g) *You **may** be right*. (uncertainty; p43) (h) *You **may** borrow my bicycle if you wish*. (permission; p53)
might	(i) *Of course, I **might** be wrong*. (uncertainty; p43) (j) *You **might** try nagging the Abbey National again*. (permission; p54)
will	(k) *John **will** be in his office now*. (probability; p47) (l) *Why **won't** anyone believe them* (volition) &&
would	(m) *I think it **would** be Turner as well*. (probability; p47) (n) ***Would** you get the Fairground Attraction album (on CD) for me*?&&
shall	(o) *We shall be away on holiday for a fortnight from Wednesday 29 August*. (epistemic)&& (p) *You **shall** do exactly as I say*. (permission; p61)
should	(q) *The letter **should** be in the mail*. (probability; p46) (r) *Did you know that smiling might make you feel better? Read our article on why you **should** smile to find out even more interesting facts*! (root necessity) &&

[45] Page numbers from Li (2003) are shown after the category of each example sentence, indicating as "p48," for example.

[46] Examples taken from Depraetere and Reed (2006: 276-277) are marked as &&.

	(s) *The floor **should** be washed at least once a week*. (obligation; p62)
must	(t) *The Smiths **must** have a lot of money*. (epistemic probability; p45) (u) *To be healthy, a plant **must** receive a good supply of both sunshine and moisture.* (need; p51) (v) *You **must** be back by ten o'clock.* (obligation; p58)

With regards to modal classifications, van der Auwera and Plungian (1998) hold a different view. Like most scholars, they differentiate *possibility* from *necessity*; they however leave out volition. Under each of the categories, they further distinguish participant-internal modality from participant-external modality.

By their definition, the former refers to "a kind of possibility or necessity **internal** to a participant engaged in the state of affairs" and the latter to "circumstances that are **external** to the participant …engaged in the state of affairs and that make this state of affairs either possible or necessity" (van der Auwera and Plungian 1998: 80; boldface is mine). Examples below are from them. [47]

(81) *Boris **can** get by with sleeping five hours a night*. (possibility; internal)

(82) *Boris **needs** to sleep ten hours every night for him to function properly*. (necessity; internal)

(83) *To get to the station, you **can** take bus 66*. (possibility; external)

(84) *To get to the station, you **have to** take bus 66*. (necessity; external)

Below is a set of examples showing that the English modal verb *may* can be used in four different categories (van der Auwera and Plungian 1998: 90).

(85) *She deals with it as best she **may***. [participant-internal]

(86) *To get to the station, you **may** take bus 66*. [participant-external]

[47] (83) and (84) are participant-external modal verbs but non-deontic.

(87) *John **may** leave now*. [deontic]

(88) *John **may** have arrived*. [epistemic]

I found their classification system easier to follow. I will adopt theirs when discussing Southern Min modals. Putting together their examples, Table 3.7, adapted from Li (2003: 64), provides a clearer view on the two-way distinction. The highlighted modals are used relatively more frequently in a particular category.

Table 3.7
English modal verbs and their classifications

	possibility	necessity
epistemic	***may**; can*	***must**; should; will;*
Participant-internal	***can***	***need (to)**;*
Participant-external (non-deontic)	***can**; may*	***have to**; must,*
Deontic	***may***	***must**; **should**; **shall**; ought to*

bold: prominent markers; non-bold: often used, but not prominent markers

3.4.3 Mood.

Finally, we turn to the last category—mood. There are various definitions for mood as well (Nuyts 2006: 8). Some researchers classify mood based on the utterance types, such as declarative, interrogative, imperative, and the like. Others prefer the *realis* vs. *irrealis* distinction or the indicative vs. subjunctive distinction. Still others such as de Haan (2006) consider mood to be a grammatical device to express modality. I side with him.

How does modality interact with mood? Modal verbs are used in declaratives, negation, and interrogatives, which are moods. In Southern Min, negation and modality can be fused into one morpheme, and the necessity modal verbs can be used as imperatives or prohibitives. Also in this language, modality is connected to questions by means of a affirmative-negative matching, which will become clearer in the chapters where modal negatives are discussed.

3.4.4 Aspect.

This subsection addresses different ways of expressing aspect, particularly perfectivity and anterior aspect. Related concepts such as completive and resultative are also introduced here. Chapter seven provides a more thorough discussion of Sinitic aspectual negation.

Perfective is defined as a temporally bounded event, as opposed to *imperfective* (Whaley 1997: 210). English makes use of simple past tense to indicate perfectivity of an event. In contrast to perfective, the progressive in English is used to "make reference to the internal temporal structure of an event" (Whaley 1997: 210).

(89) *I **ate**.* (perfective)

(90) *I am eat**ing**.* (imperfective)

Anterior aspect is also known as *perfect*. The terminology, perfect versus perfective, is rather confusing; therefore, anterior aspect is often used. Whaley refers anterior aspect to aspect "signal[ing] a past event that has enduring relevance to a set of reference time" (1997: 211). Below is an example.

(91) *I **have** already **done** the dishes, so now I don't have to.*

The lexical verb ‘to have’ expresses possession and existence, and it also serves as a grammatical means to mark aspect cross-linguistically. For anterior aspect, English uses ‘have’ together with a past participle, the latter marked as V_{pp}. Tense is shown in the auxiliary ‘have’, as in (93).

(92) have + V_{pp} (English anterior aspect)

(93) *By the time John **came**, I **had** clean**ed** the entire house*.

The verbal *have* is not the only source for anterior, Bybee et al. (1994: 105) propose three lexical sources for anterior aspect. I explain each and relate it to Chinese.[48]

(94) ‘be/have’ > resultative > anterior (> perfective/past tense)

(95) ‘finish’> completive > anterior (> perfective/past tense)

Resultatives show “a state that exists as a result of a past action” (Bybee et al. 1994: 54), and are thus compatible with telic verbs.

The concept of resultative is diachronically based. Traugott (1972) provides evidence for the reanalysis of the OE *habb-* ‘have; take; get’ into a resultative. The categorial status of the V_{pp} initially in OE is adjectival. Thus, the syntactic boundary should look like (96).

(96) have + [V_{pp} + NP] Old English

Conceptually, if one has/possesses something or if something exists, that concept can easily become resultative. Anterior aspect comes about when the

[48] A third type lexical source is ‘come’, but I’ll ignore it here as I don’t find it applicable to the Chinese language.

structure is reanalyzed from (96) to (97), where V_{pp} is no longer a modifier of the nominal phrase.

(97) [have-V_{pp} + NP]

Resultative can be further grammaticalized into anterior. According to Bybee et al. (1994: 65), resultative focuses on "the state resulting from the action" and anterior on "the action itself." The two concepts can be captured from (98) and (99), respectively.

(98) *He pushed the door* ***open***. (resultative)

(99) *He* ***has*** *push****ed*** *open the door*. (anterior)

Next, Bybee et al. define completive as "to do something thoroughly and to completion" and their examples are "to shoot someone dead" or "to eat up" (1994: 54). English makes use of lexical verbs like 'finish' as its source of *completive*. The *completive* aspect can be observed in (100), where a lexical verb 'finish' participates, together with the non-finiteness in the main verb 'read'.

(100) *I* ***finished*** *reading…* (Whaley 1997: 213).

Bybee et al. also suggest that completive often has dynamic verbs as its sources, and that typical lexical sources are 'finish' and 'to be finished, ready, complete'. They point out the Cantonese auxiliary *yun* 'finish' signaling the completion of an action (Bybee et al. 1994: 60). The Mandarin equivalent to *yun* is *wan* 完, as in (101).

(101) fan chi-**wan** le. MSC
rice eat-finish LE
'I ate up/finished the rice.'

Verbs of direction are possible for completive too; see (102) where *qi-lai* provides telicity to the psych verb *xiang* 'think'.[49]

(102) wo xiang-**qilai** le. MSC
1sg think-up.come LE
'I remembered (now).'

Completive can turn into anterior. Bybee et al. (1994: 64, 70) analyze 'pass by' and 'finish' as the sources to convey anterior in Chinese. I have addressed the grammaticalization of *liao* 了 from 'to finish' into the aspect marker *–le* in chapter two. I provide two examples below, one of Southern Min and the other of Mandarin.

(103) gua png tsiah **liao** tsiah khi. TSM
1sg rice eat finish then go
'I will take off after I have finished the meal.'

(104) wo fan chi-**le** zai qu. MSC
1sg rice eat-LE then go
'I will take off after I have finished the meal.'

Li, Thompson and Thompson (1982) relate Mandarin sentence-final particle *le* to a perfective from anterior aspect. The authors believe that *liao* 'finish' first developed into anterior before its use of *current relevance of state* (often abbreviated as CRS) at the sentence-final position sentence.[50] I show two different *le*'s in (105) and (106).

[49] The marker *le* here indicates a change of state. Its transcription varies from one scholar to another. I simply mark it as LE. *Qilai* 起來 can be read as inceptive 'beginning to...'.

[50] There are other words in Middle Chinese that express 'to complete, to finish',

(105) wo gaosu **le** ta. (perfective)
3sg tell PFV 3sg
'I told him.'

(106) wo gaosu ta **le**. (anterior)
1sg tell 3sg PAR
'I have told him.'

Another source of anterior from completives suggested by Bybee et al. (1994: 64) is 'to pass by' in Cantonese, however, with no examples provided. Its equivalent in Mandarin is the experiential marker *–guo* 過. Before *guo* came into existence, *ceng* 曾 'once' was largely used (Shi and Li 2004).

(107) ta qu-**guo** Shanghai. (anterior)
3sg go-EXP Shanghai
'She has been to Shanghai.'

(108) ta **ceng** qu Shanghai. (anterior)
3sg once go Shanghai
'She has been to Shanghai.'

Likewise, Southern Min uses a preverbal marker *bat* 捌, often with *–kue* 'pass by'. *Guo* or *kue* in the two examples shows a reanalysis from V to ASP.

(109) i **bat** khi-**kue** Siong-hai. TSM
1sg ever go-EXP Shanghai
'She has been to Shanghai.'

---

such as *yi* 已 (cf. Sun 1996: 86). The finial particle *le* in Mandarin has a different counterpart in Southern Min, for which 矣 *ah* is used. The TSM counterpart sentence is given below.
gua kah i kong ah.
1sg with 3sg tell PAR
'I have told him.'

The difference between resultative and completive is conceptualized below, based on Bybee et al. (1994).

(110) Sources of resultative and completive

Stative verbs: 'be/have' > resultative
> anterior/ perfect > perfective
Dynamic verbs: 'finish, pass by' > completive

Completion can be expressed by means of lexical and grammatical words across languages. Chinese makes use of both resultative and completive, while English adopts the former method.

Mandarin has fairly abundant lexical sources for resultatives or completives, many of which are becoming more dependent on the main verb, on the way to become grammatical markers. For instance, in (111), *kai* 開 'open' is the resulting state of the action *tui* 'to push'. *Kai* can be a verb too, as in (112).

(111) 門推開了。

men tui **kai** le. MSC
door push open LE
'The door was pushed open.'

(112) 去開門！

qu **kai** men! MSC
go open door
'Go get the door.'

Verbs as such are called phase markers by Chinese scholars. [51], The markers are largely from unaccusative verbs. Carrying some lexical meanings, the phase

[51] Phase markers indicate verbal inner aspect or lexical aspect, equivalent to Aktionsart. See Li and Thompson (1981: 65-66) and Sun (2006: 54).

markers such as *luo* ‘fall’ in (113) and *hao* in (114) are between full-fledged verbs and grammatical markers.

(113) 樹葉掉落了滿地。

shuye	diao	**luo**	le	man-di.	MSC
leave	*drop*	*fall*	*LE*	*entire-floor*	

‘The leaves fell all over on the ground.’

(114) 我作業寫好了。

wo	zuoye	xie	**hao**	le.	MSC
1sg	*homework*	*write*	*good*	*LE*	

‘I am done with my homework.’

3.5 Conclusion

This chapter covers typological negation and the negation system of Southern Min. Modality and aspect are also discussed because Southern Min negatives are also modals or aspectual markers.

The following four chapters discuss Southern Min negation, in random order, beginning with the abilitive *e/be* pair in Chapter Four, the volitional *beh/m* pair in Chapter Five, the necessity pair *tioh/bian* in Chapter Six, and the two aspectual negatives (*bo* and *bue*) in Chapter Seven. Terminology introduced in this chapter will be revisited.

Chapter 4

THE ABILITIVE MODALS E AND BE

The primary focus of this chapter is the grammaticalization of *e* and *be* in Southern Min. I argue that the original verb *e*/*be* has become grammaticalized into a modal verb, being used to express dynamic ability, deontic possibility and epistemic probability. This phenomenon is also found in much evidence cross-linguistically, such as in English *can*. I account for this type of language change using the minimalist approach. Also addressed are Hakka and Mandarin data.

4.1 Introduction

The negative morpheme *be* has been argued to be the fusion of the negative *m* 'not' and its positive counterpart *e* (Li 2007: 146; Lien 2008: 2). Different Chinese characters have been given to *be*. Whereas Lien uses 袂 as a representation for *be*/*boe*, Li uses *be*/*bue* 勿會, which character combines the negative 勿 with the modal 會 'can; will'.

This chapter is organized as follows: I discuss the synchronic status of *e*/*be* in section 4.2, followed by its diachrony in section 4.3. I account for the grammaticalization of *e*/*be* in section 4.4, using Minimalist Economy Principles. This chapter closes with a typological comparison.

Chapters four through six are organized in a similar fashion, given that three Southern Min modal pairs are discussed: abilitive *e/be* in this chapter, volitional *beh/m* in chapter five, and necessitive *tioh/bian* in chapter six. Modal paradigms are investigated in addition to corpus analyses in these chapters. The other two aspectual negatives: *u/bo* 'have/not.have' and *bue* 'not.yet' are placed

together in chapter seven, where Southern Min negation paradigms are reviewed to prepare the reader for chapter eight on the reanalysis of negatives as interrogatives.

In these chapters, I make use of the Southern Min story series (Hu 1992-2007) for contemporary Taiwanese Southern Min (TSM) data, most of which include Chinese characters. Wherever necessary, I add examples from my personal knowledge and also consult other speakers. My examples are presented without characters to distinguish from those from the corpus.

4.2 Synchrony of *e*/*be*

Although previous research on the affirmative *e* has been fruitful (cf. Huang 2007), there is no corpus analysis of *be*. I examine the occurrence of *be*, *be-hiau*, *be-sai*, *be-tang*, and *be-ing*, and compare my findings with those of *e*.

Table 4.1 shows the categorical status of the negative *be* in modern TSM. The table reveals that *be* is typically not a verb. The abilitive *be-hiau* is both a verb and a modal. The permissive *be-sai*, *be-tang*, and *be-ing* are modals without lexical verb counterparts. All are used as negatives, but the category of interrogative only applies to *be*. I discuss each immediately following.

Table 4.1
Categorial status of *be*

	verb	*TAM*	*NEG*	QM
be	(√)	√	√	√
be-hiau	√	√	√	
be-sai; be-tang; be-ing		√	√	

4.2.1 *e*/*be* as a verb.

Yang (2001) provides examples where *e* (the affirmative counterpart of *be*) serves as a verb, as shown in (1). Yang claims that this usage can be found in the Quan sub-dialect of Min.

(1) 伊解英文。 (Yang 2001: 286)
i e ing-bun.
3sg *can* *English*
'He understands English'.

However, neither *e* or *be* is treated as a full-fledged verb in the TSM corpus I used. Thus, (2) is considered ungrammatical.

(2) *i **e**/**be** ing-bun.
3sg *can/cannot* *English*
Int.: 'He (does not) understand(s) English'.

Li (2007) also does not list *be* as a lexical verb. Additionally, Lien (2008) found no single verbal instance of *be* from a large-scale TSM corpus. [52] My analysis on *be* is also consistent with theirs.

This change in *e* from a lexical verb to a modal follows the pattern of English *can*. The results are not exactly the same, however. For instance, a doubling can be observed to be accompanied with *e*, such as *e-hiau.* This doubling *hiau* 曉, meaning ' to know; to understand', is a near synonym of *e*.

The new disyllabic *e-hiau* yields the meaning, 'to comprehend', and is used as a verb in (3) and (4).

[52] Li's research is based on his fieldwork on Southern Min in Fujian, China, whereas Lien analyzes modern TSM corpora.

(3) i **e-hiau/ be-hiau** ing-bun.

3sg *can-know/ can't-know* *English*

'He (does not) understand(s) English'.

(4) 這我袂曉，你去叫別人。

tsit gua **be-hiau**,

this *1sg* *not.know*

li khi kio pat-lang.

2sg *go* *ask* *other.person*

'As for this, I know nothing about it; go and ask someone else.'

Be-hiau in (5) is an adjectival stative verb.

(5) 較憨較袂曉。

khah gong khah **be-hiau**.

more *stupid* *more* *incapable*

'(someone) is less smart and less capable.'

4.2.2 *e/be* as a modal.

As shown below, *e* receives three modal interpretations: dynamic, deontic and epistemic.[53]

Table 4.2
e and TAM

Usage	category	notes
e(*-hiau*)	dynamic modal (abilitive)	The form *e-hiau* is less ambiguous and thus preferred over the monosyllabic *e*.
e-sai; e-tang; e-ing	deontic modal (permissive)	The double modal combination of *e-sai*/*e-tang*/*e-ing* does not have a lexical counterpart in verbs.
e	epistemic modal	When used in a declarative sentence, *e* can be ambiguous between dynamic or epistemic use.

[53] Lien (2008) classifies the three types of modality of *be*, which correspond well to those of Tsao (1993) on *e*: dynamic, deontic and epistemic, respectively. I follow these scholars' classification.

1. e/be as dynamic ability. The first category is the dynamic *e*/*be*. Both *e* and *e-hiau* are dynamic modals. When used alone, *e* can be a dynamic/abilitive modal.

(6) i **e** kiann ah.
3sg able walk PAR
'He can walk (now).'

In addition to its lexical verbal usage in (3), *e-hiau* can be used as a modal, as in (7). The instances in (6) and (7) could be used in cases where one re-gains his capability. For instance, this person may have temporarily lost the capability of walking due to an accident, but it could also be a newly learned ability of 'walking'.

(7) i **e-hiau** kiann ah.
3sg able walk PAR
'He can walk (now).'

The two modals, *e* and *e-hiau*, are not always interchangeable. For instance, (8) and (9) have distinct meanings: *e* is epistemic, but *e-hiau* is abilitive.[54]

(8) i **e** khui tshia lai. (epistemic)
3sg FUR drive car come
'He will drive (to get here).'

(9) i **e-hiau** khui tshia. (dynamic)
3sg able drive car
'He knows how to drive a car.'

In brief, *e* is ambiguous as shown above, between prediction and abilitive, whereas *e-hiau* only denotes the abilitive reading. This shows grammaticalization,

[54] I will discuss later in this chapter that the shared morpheme e does not mean the same as English epistemic *can*.

as a reanalyzed word *e-hiau* has clearer semantic features than its origin *e* whose semantics has bleached.

Both pre-verbal and pre-resultative positions are possible for *be-hiau*.

(10) 和老師這攏袂曉解說啦

ham	lau-su	tse	long	**be-hiau**	kai-sueh	la
even	*teacherthis*	*FOC*	*not.able*		*explain*	*PAR*

'This, even the teacher is not able to explain it.'

(11) 學嘛學袂曉

oh	ma	oh	**be-hiau.**
learn	*and*	*learn*	*not.able*

'(Someone) is unable to learn.'

Like *e*, the negative *be* also can be epistemic or abilitive. Below are examples of the negative *be*.

(12) 毋過愛緊煞袂緊

m-ko	ai	kin	suah	**be**	kin
but	*need*	*fast*	*then*	*not.able*	*fast*

'But (they) have to move fast but they were unable to.'

(13) 煞袂記得來煮這个中晝飯啦

sua	**be**	ki-tit	lai	tsu
then	*not.able*	*remember*	*come*	*cook*
	tsit	e	tiong-tau-png	lah
	this	*CL*	*middle-day-meal*	*PAR*

'(They) then forgot to make lunch.' (unable to remember)

Examples (14) and (15) are instances where *be* negates the resultative of the main verb. [55] Interestingly, *be* in this position is almost always abilitive.[56] Unlike the preverbal *e*/*be*, there is less ambiguity (16).

(14) 想袂出這个答案

siunn	**be**	tshut	tsit	e	tap-an
think	*not.able*	*out*	*this*	*CL*	*answer*

'(someone) cannot think of this answer.'

(15) 連三頓飯亦食袂飽

lien	sann	tng	png	iah	tsiah	**be**	pa
FOC	*three*	*meal*	*rice*	*also*	*eat*	*not.able*	*full*

'(The cat) can't even have enough food to eat.'

(16) *siunn **be** tshut tsit e tap-an

think not.able out this CL answer

Int. '(someone) will not think of this answer.'

***2. e/be* as deontic necessity.** The second category of *e*/*be* is deontic. The monosyllabic *e/be* cannot indicate permission; it needs another morpheme. There are three reanalyzed deontic variations: *e-sai*, *e-tang*, or *e-ing*, as in (17).

(17) li **e-sai/e-tang/e-ing** tsiah a.

3sg can eat PAR

'You can/may eat now.' (permission)

[55] This construction is sometimes called post-verbal negation although the term is rather confusing.

[56] *Be* in (14) and (15) can be read as pure negation too.

The three renewals all indicate permission as their original meanings. For instance, *sai* 使 meant 'to demand; to cause', *thang* 通 meant 'to pass through', and *ing* 用 meant 'to designate; to use'.[57] These are now bound morphemes.

Despite the fact that the three modals in (17) can all be used as deontic, speakers of TSM prefer one over another. Huang's (2007) corpus analysis points to an interesting fact that *e-tang* (about 500 tokens) figures more prominently than the other two, namely *e-sai* and *e-ing* (approximately 200 tokens for each).[58]

My corpus analysis of *be* shows both similarities and differences, compared to Huang's; see (18) and (19) as examples. However, the preference finding is different from Huang's: *be-sai* outnumbers the other two negative modals.

(18) 我無生你就卜共我娶細姨哦？彼袂當！

gua	bo	senn					
1sg	*NEG*	*birth*					
li	tioh	beh	ka	gua	tshua	se-i	oh?
2sg	*then*	*want*	*KA*	*1sg*	*marry*	*concubine*	*PAR*
he	**be-tang**!						
that	*can.not*						

'Because I can't give birth, you then want to get concubines. That is not allowed!'

(19) 袂用得心急啦

be-ing-tit	sim	kip	la
can.not	*heart*	*anxious*	*PAR*

'(One) cannot be impatient.'

---

[57] Lien (1997) analyzes *e-tang* as a fusion from *e-thang-tit* 會通得, literally 'can-obtain-pass through'.

[58] Huang seems to treat these three interchangeable. Zhang (1999), however, claims that *e-sai* and *e-tang* are semantically different. Zhang (1999: 81-82) refers to Teng (1980), addressing a subtle difference: *e-sai* is associated with permission by law and *e-tang* by capacity.

Interestingly, 袂當 *e-tang* not only expresses deontic modality but is also used as a dynamic modal; see (20). This usage is however absent in the other two counterparts, namely 袂用 *be-ing* and 袂使 *be-sai*.

(20) 鹿仔走袂當過去 (dynamic)

lok-a	kiann	**be-tang**	kue-khi
deer	*walk*	*cannot*	*cross-come*

'The deer is unable to walk across (to somewhere).'

***3. e/be* as epistemic probability.** The third use of *e*/*be* is epistemic.

(21)

i	bin-a-tsai	**e**	lai	Tai-pak.
3sg	*tomorrow*	*FUR*	*come*	*Taipei*

'He will come to Taipei tomorrow.'

(22) 應該啊袂擱來漏氣呀才著

ing-kai	a	**be**	koh	lai	lau-khui	tsiah-tioh
should	*PAR*	*NOT.FUR*	*again*	*come*	*lose*	*then-right*

'It should be that (someone) will not lose face again.'

Interestingly, *lai* 'to come' as in (22) is often accompanied with *be* to express futurity. *Khi* 'to go' is used in third person situations; see (23). Typically, when *be* is used together with the deictic *lai* 'come', *be* is only interpreted as epistemic.

(23)

i	be	**khi**	kah	lang	kong.
3sg	*not.FUR*	*go*	*with*	*person*	*speak*

'He will not tell anyone.'

Note that the gloss of *e*/*be* is will(not), but not 'can(not)'. *E* expresses futurity 'will' instead of deduction 'may/can'. I come back to this in section 4.5.

4.2.3 The ambiguous *e*/*be.*

E alone in modern TSM is never associated with deontic meanings (Lien 2008; Huang 2007). However, as previously stated, *e* can be read either ability or futurity. For example, (24) has two interpretations.

(24) i **e** kiann-loo lai.
3sg *E* *walk-road* *come*
a. 'He can walk here (now).' (ability)
b. 'He will come here on foot.' (futurity)

Based on my fieldwork, the abilitive reading (24a) is less preferred. The epistemic future reading wins out over the dynamic abilitive one. This coincides with Huang's (2007) analysis of *e*. He found a pattern, given in (25), for the occurrence and frequency of the modal *e* in modern TSM (2007: 96). The data show that the epistemic use of *e* accounts for 80 percent in his modern TSM corpus. The overlapping or layering in use is not unusual in the process of grammaticalization.

(25) epistemic (80.24%) ; dynamic ability (8.38%); generic (10.78%)[59]

4.2.4 *be* as an interrogative.

As noted, negatives are often used as interrogatives in the Chinese language. Despite the fact that TSM *e* can be used alone or with *-hiau* or *-sai* in a declarative sentence to indicate different modality types, as shown in (26) through (28), the typical corresponding interrogative is *be* without an additional morpheme.

[59] I do not discuss the generic category here. Southern Min uses *e*/*be* in sentences such as 'Birds can fly'/Birds fly.'

(26) i **e-(hiau)** kiann (ah) **be**? (dynamic: ability)
3sg *able* *walk* *PAR* *Q*
'Can he walk (now)?'

(27) gua **e-sai** tsiah png **be**? (deontic: permission)
1sg *allow* *eat* *rice* *Q*
'Can/May I eat my meal?'

(28) i **e** khi **be**? (epistemic: futurity)
3sg *FUR* *go* *Q*
'Will he go?'

This, however, does not reveal the whole story of *be* as an interrogative. The topic of *be* being used in questions is discussed in chapter seven together with other negatives.

In conclusion, *e*/*be* is no longer a full-fledged verb in modern TSM. Despite the fact that *e-hiau* can be a lexical verb, it is losing its verbhood and is primarily read as a dynamic modal. There are three deontic modals: *e-tang*, *e-sai*, and *e-ing*, each preferred by different TSM speakers. The monosyllabic *e* is primarily epistemic, but at times abilitive. Table 4.3 provides my conclusions.

Table 4.3
Modality in *be*

	verb	Mod		Q
		ability	deontic	epistemic	
be		√		√ (primary)	√
be-hiau	√	√ (primary)			
be-tang; *be-sai*; *be-ing*			√		

4.2.5 Other categories of *e*/*be*.

I would also like to discuss two new issues discovered in my corpus analysis. *Be* can also be used in suggestions, as in (29) and (30), but such usage is not found in the affirmation *e*.

(29) 你袂曉揣您阿姐仔？

li	**be-hiau**	tshue	lin	a-tsi-a
2sg	*be-hiau*	*look.for*	*your*	*sister*

'Why don't you look for your older sister?'

(30) 煞袂曉掌頭仔愛 tok4 起來

suah	**be-hiau**	tsing-thau-a	ai	tok	khi-lai
then	*be-hiau*	*finger*	*must*	*chop*	*-up-come*

'Why don't you chop off your fingers?'

This type of question, in spite of its expectation of an assertive answer, reveals a connection between negatives and interrogatives; the reanalysis from negatives to interrogatives is evident in synchronic data.

The other issue is when *be* shows volition; see (31) and (32).

(31) 我一定袂來反對

gua	it-ting	**be**	lai	huan-tui
1sg	*definitely*	*not.FUR*	*come*	*oppose*

'I will not have an opposing opinion.'/
I am willing not to go against your ideas.'

(32) 你袂曉想講從做囝仔

li	**be-hiau**	siunn	kong	tiong	tsue	gin-a.
2sg	*not.able-able*	*think*	*say*	*again*	*do*	*child*

'You will not want to be a child again.'

As a matter of fact, there is an extra modality marking in the above two sentences: the adverb *it-ting* 'definitely' and the modal *siunn*, both of which express volition, a point I return in chapter six on *beh* 'want' or 'will'.

The above instance is connected to the fact that TSM *e* can mean *will*. The English possibility paradigm has *can* in all the sub-categories (epistemic, abilitive and deontic). Southern Min abilitive *e*(*-hiau*) and deontic *e-sai* are within the possibility paradigm defined by van der Auwera and Plungian (1998); however, the epistemic *e/be* is not placed in this paradigm. *E* means 'will', which indicates prediction and volition under certain contexts. I address volition in chapter five.

4.3 Diachrony of *e/be*

There have been several studies on *e* from historical perspectives. Mei (1999) and Yang (2001), among others, trace the origin of the SM word *e* as 解.[60, 61]

Yang (2001) gives an historical account for 解. According to her, the original meaning for 解 is 'to cut off bull horns with two hands', and it is a pictophonetic character in Chinese (Yang 2001: 265). She then demonstrates eight semantic uses of *e*, with five relevant to the modern meanings of *e*.[62]

---

[60] Note that some scholars may use the Chinese character 會 to replace 解, as the word 會 *hui* in Middle Chinese functions very much the same as *e* in Southern Min. Yang (2001) claims that 解 was colloquial, and 會 was used in formal documents.

[61] Not every word in SM can be traced to its origin. Scholars working on this topic include, but are not limited to, Mei 梅祖麟 (1999) and Yang 楊秀芳 (2001).

[62] The example sentences are taken from her paper, while the transcriptions and translations are mine.

4.3.1 The history of *e*.

1. e = 'to take something apart'. The character first appeared in oracle bone scripts, meaning 'to dissect'. The first example with 解, however, appeared in *Zhuangzi* 莊子 (368-286 BCE) as 'to use a physical instrument to take something apart'.[63]

(33) 庖丁為文惠君解牛。 (Yang 2001: 266, (2))

Paoding	wei	Wenhui	jun	**jie**	niu
(name)	*PREP*	*(name)*	*lord*	*dissect*	*ox*

'Cook Pao Ding was cutting up an ox for Lord Wen Hui.'

2. e = 'to explain in words'. Yang (2001) claims that this second meaning is very likely derived from the original usage, but with the object of dissection changing from concrete objects to abstract 'words'. Example (34) appears in *Xun Zi*'s 荀子 (313-238 BCE) works.

(34) 閉約而無解。 (Yang 2001: 280, (50))

bi	yue	er	wu	**jie**
close	*agreement*	*and*	*not*	*explain*

'They have come close to an agreement, but there is no resolution.'

3. e = 'to understand; to know'. Yang believes that this meaning came from the item noted above, i.e. 'to explain in words' becomes 'to understand', as in (35), which is found in *Zhuzi yulei* dating back to the 12th and 13th centuries.

(35) 有所不解，因而紀錄。 (Yang 2001: 284)

you	suo	bu	**jie**,	yiner	jilu.

[63] Following conventions, I use modern Mandarin pronunciation for all transcriptions of examples in historical texts.

exist PRON not understand therefore record

'If there is something which is not resolved, then it should be noted.'

4. e = 'capable'. Yang explains that this meaning of 解 involves 'capability' for "doing," as opposed to the previous one which means ability for "things to be understood". This instance is also from *Zhuzi*.

(36) 有人…不解讀書。 (Yang 2001: 285, (71))

you ren… bu **jie** dushu.

exist person not capable read

'There are some who... do not know how to read.'

5. e = modal 'can'. The last developed usage of 解 is its modality. Yang distinguishes this modal use into three sub-uses: abilitive, deontic and epistemic. Sentences (37)-(39) provide examples of each. [64]

(37) 菊解制頹齡。 dynamic (Yang 2001: 286, (74))

ju **jie** zhi tui ling.

chrysanthemum can ameliorate decline age

'Chrysanthemums can ameliorate the decline due to my age.'

(38) 誰使女解緣青冥。 deontic (Yang 2001: 287, (79))

shui shi ru **jie** yuan qing ming

who cause 2sg permit fate blue vastness

'Who causes you to untangle the skein of your fate and enter the blue vastness?'

(39) 無人解愛蕭條境。 epistemic (Yang 2001: 287, (81))

wu ren **jie** ai xiaotiao jing

[64] Examples (37)-(39) are poetic lines from *Tao Yuanming* 陶淵明 (365-427 CE), *Han Yu* 韓愈 (768-824 CE), and *Bai Juyi* 白居易 (772-846 CE). I am transliterating these sentences using MSC Pinyin out of convenience only.

no person FUR love desolate environment

'No one will love in a desolate environment.'

To summarize, Yang (2001) claims that, by the Southern Song Dynasty (1127-1279 CE), the above five uses of *e* co-existed and the modal use of *e* had stabilized. She postulates a grammaticalization path for 解 *e* as follows (Yang 2001: 285):

(40) 解 *e*: 'to explain in words' > 'to understand' > 'capable' > modal 'can'

In modern TSM, the monosyllabic *e* is unable to receive the above meanings. We observe *e* with a renewal (*-hiau* or *-sai*) in today's TSM speakers. I discuss the latter two usages in the following two sections. I review related findings in Huang (2007) and provide my interpretation of them in terms of grammaticalization.

4.3.2 The emergence of *e-hiau.*

First, *hiau* 曉 'to understand' provides a key to interpreting the grammaticalization of *e*. The use of disyllabic *e-hiau* in modern TSM is not accidental. Both *e* and *hiau* are near synonyms, meaning 'comprehend; know'. Huang (2007) observes a coexistence of the lexical verb *e* and other combinations such as *e-hiau* 解曉 and the reversed *hiau-e* 曉解 in *Zhuzi*. Huang notes that another form 曉得 *hiau-tit* , literally 'understand-obtain', is also documented in the same text. I associate the significance of his findings with regard to grammaticalization below. The frequency of each entry in *Zhuzi yulei* is illustrated in Table 4.4, adapted from Huang (2007: 124-126).

Table 4.4
Frequency of *e*-related words in *Zhuzi yulei*

	Number of tokens
解 *e*	14
解曉 *e-hiau*	2
曉解 *hiau-e*	6
曉 *hiau*	over 1000
曉得 *hiau tit*	200

The data presented in Table 4.4 indicate that *e* in *Zhuzi yulei* shows a different paradigm than that of modern TSM.

First, *e* rarely occurred as a verb at that time. It is consistent with Yang's (2001) findings: *e* was well established as a modal between the 12th and 13th centuries. There must have been change in *e* regarding its verbhood. Second, *hiau* alone was the most dominant verb that expressed 'to know' or 'ability'; modern TSM –*hiau* is however a bound morpheme.

Based on Table 4.4, *hiau*, a near synonym of *e*, might have been competing with *e* and taking the role of the original lexical verb *e*. In Table 4.4, we also see three combinations: *e-hiau*, *hiau-e*, and *hiau-tit*, with the last one surpassing the other two competing forms in frequency. The disyllabic verb 曉得 does not exist in modern TSM, but *e-hiau* has continued its use to this date.[65]

[65] Yet, 曉得 *xiao de* is used in modern Mandarin with a different meaning: 'to know (how to)'. What is more interesting is that Hakka uses *hiau-ded* as a dynamic (modal) verb expression modality (see the comparison section of this chapter).

A skeptical reader may argue that the disyllabic words may have sounded the same but been recorded in different characters. I do not deny this possibility as Chinese characters are not phonetic-based. Nonetheless, the fact that morpheme doubling did appear suggests a feature loss in one of the morphemes, resulting in grammaticalization. Note that *tit* 得 'to obtain' is also a synonym of *e* and *hiau*. There are at least three morphemes (*e*, *hiau*, and *tit*) at play in this text.

The words in Table 4.4 from *Zhuzi* behaved as full verbs or modals before the emergence of a new paradigm, where some of them became extinct and others were reanalyzed. However, scholars hold different views on this. For instance, Yang (2001) claims that *e* and *hiau* in the combination *e-hiau* in this text were both verbs; Huang (2007) however considers *e-hiau* to be a modal at that time. Either way, there must have been a transition stage before *e* underwent the loss of semantic features and *hiau* came to assist as a renewal. We see *e-hiau* being used as both a lexical verb and a modal today.

A corpus analysis of modern TSM reveals distributional characteristics of *e-hiau*. A striking fact is that *e-hiau* shows rare lexical usage, accounting for only about 1% of in Huang's (2007) data (498 tokens). Suffice it to say that *e-hiau* is losing its verbhood and is signaling a change toward modal auxiliary behavior.

Recall that when *e* was still possibly a verb, its status as a modal was also established in the 12th and 13th centuries. In contemporary TSM, *e* no longer acts as a lexical verb, however. These above facts provide evidence for two grammaticalization paths of *e*.

(41) V 'know; comprehend': *e* > *e-hiau*

(42) V: *e* > V: *e-hiau* > Mod: *e-hiau* ‘capable’

4.3.3 The emergence of *e-sai.*

I discuss *e-sai* in place of all three: *e-sai*, *e-tan*g, and *e-ing*. The development of the three disyllabic deontic modals is relatively new.

Huang (2007) found only one instance of *e sai* and two of *e ing* in *Zhuzi yulei*. He claims that *e* was used with another verb *sai* 使 or *ing* 用 to mean ‘able to use’, which meaning is different from the modern meaning. He may mean that the lexical sense was still strong in *sai* and *ing*. That is, these originally lexical morphemes become attached to *e* when *e* lost its semantic features.

Huang (2007: 144) concludes that these multi-syllabic deontic models did not come into use until the 20th century and a development path looks like (43).

(43) *e-hiau* (abilitive) >> *e-sai* (permissive) >> *e-tang*; *e-ing* (permissive)[66]

4.3.4 Closing remarks.

To sum up, the abilitive *e-hiau* and the deontic *e-sai* come from the same origin *e,* and so does the epistemic *e*. The major difference is that the epistemic *e* does not change its form, while the dynamic or deontic usage has a renewal, making it disyllabic: *e-hiau* or *e-sai*. The diachronic development of *e* suggests a feature loss in *e* accompanied by several renewals.

4.4 Grammaticalization of *e* and *be*

This section discusses the reanalysis of the multi-syllabic words, such as the dynamic abilitive *e-hiau* and the deontic permissive *e-sai*. Following

[66] >> indicates time order instead of A deriving from B.

Minimalist Economy Principles and the cartographic approach described in chapter two, I provide theoretical accounts for the diachronic development of *e*.

4.4.1 *E* in Different Contexts.

As discussed, *e* has undergone a series of reanalyses. Recall that there are three types of modality of *e*: epistemic futurity, dynamic ability, and deontic permission. In TSM, *e* is typically epistemic, *e-hiau* is abilitive, and *e-tang*, *e-sai*, and *e-ing* are deontic modals. I review different uses of *e* in brief.

Table 4.5
TSM *e* in different contexts

	possibility	
epistemic		***e*** 解 'will' (future; prediction)
participant-internal	***e-hiau*** 解曉 (ability)	***e*** 'will' (volition)
Participant-external; deontic	***e-sai*** 解使; ***e-ing*** 解用; ***e-tang*** (permission)	

(44) i kinn-ni **e** pit-giap. (epistemic; prediction)
3sg this.year FUR graduate
'She will graduate this year.'

(45) i **e-hiau** kong ing-bun. (dynamic; ability)
3sg know speak English
'She can speak English.'

(46) lau-su kong i kin-ni **e-sai** pit-giap. (deontic; permission)
teacher say 3sg this.year can graduate
'The teacher says that she can/may graduate this year.'

I do not gloss *e* in (44) as 'can' or 'may'. To express *can* (or *may*) in the epistemic sense, the adverbial expression *koh-ling* 可能 is used. *Koh-ling* is the literary pronunciation of TSM, which is the same as *keneng* 'maybe; possibly' in MSC.

(47) i **koh-ling** **e** pit-giap. (epistemic; probability)
3sg *maybe* *FUR* *graduate*
'She may graduate.'

4.4.2 V-*tit* as a cycle.

First, I would like to address a morphological issue, where *tit* 得 is often found attached to *e*/*be*.[67] Scholars have pointed out that the deontic *e* is optionally followed by *tit* 得, whose original meaning is 'to obtain'.

(48) i **e**-sai (**tit**) khi Tai-pak. Yang (2001: 289)
3sg *can-can* *TIT* *go* *Taipei*
'She can go to Taipei.'

(49) 我嘛袂用得出來遐久 TSM (Lien 2008: 11)
gua ma be-ing **tit** tshut-lai hiah ku
1sg *PAR* *not-allow* *TIT* *out-come* *so* *long*
'I can't be out for so long. (I need to go now).'

The use of *tit* is worthy of attention. As noted in chapter three, 得 (*de* as Mandarin pronunciation) as modality has been attested in Classical Chinese appearing in verb series.[68] For instance, Sun (1996) suggests a grammaticalization path as (50) for *de*.

---

[67] The use of 得 may be manifest in one Sinitic variation but not in another; see further discussion in the comparative studies section.

[68] Some scholars use the term *serial verb construction* (SVC).

(50) 得 *de*: ‘obtain’ > ‘attain’ > ‘possible’ (Sun 1996: 143)

Wu (2006: 57) traces the lexical use of *de* back to the pre-Qin era (two centuries BCE), but claims that its aspectual usage did not evolve until the Tang dynasty (618-907 CE).

(51) V + *de* > V-*de*, where –*de* is to mark aspect [69]

Wu (2006) and Yang (2001) propose that the grammaticalization of *tit* may have taken place earlier than that of *e*. Before the Song dynasty, pre-verbal modals such as *neng* 能, *ke*(*yi*) 可(以), and *de* 得 co-existed with V + (*bu*) *de*, as in (52). This means that the post-V *de* has lost its semantic features.

(52) *neng*/*ke*(*yi*)/*de*+ V + (*bu*) *de* (Wu 2006: 54-55)

A close look-up shows a similar pattern in TSM *e*/*be* V-*tit*; see (53).

(53) *e*/*be* + V + (-*tit*) .

A relevant discussion here is the occurrence of *tit* with *e/be.* Lien (2010) argues that *tit* 得 (i.e. V-*tit*) is a case of post-verbal modality. He concludes that when a loss of modality in *tit* takes place, the pre-verbal *e*/*be* is attached to V-*tit*. Below I show a grammaticalization path, based on his findings.

(54) V + *tit* > V-*tit* > *e*/*be* + V-*tit* > *e*/*be* + V-∅

This development of *tit* in (54) apparently follows the general grammaticalization chain, from a full-fledged verb, a clitic, and to zero. I see (54) as a *cycle*.

[69] The term phase marker is also used to mean lexical aspect, aka Aktionsart.

Unlike Wu (2006), Lien (2010) regards *tit* 得 as denoting modality in this position.[70] Historically, both the first verb and *tit* initially are both lexical verbs (V + *tit*). At the second stage, the semantics of *tit* gets weakened, becoming a modal. I represent it in (54) as V-*tit*.

The third stage in (54) is when -*tit* is losing its modality, the modal *e*/*be* began to appear before V-*tit*, resulting in *e*-*V*-*tit*. I call *e*/*be* renewals. The post-modal *tit* can then be eliminated. Therefore, the verbal string becomes *e*/*be* + V. The above phenomenon is typically seen as a linguistic cycle.

Modifying Lien's conclusion, I analyze *tit* as telic and *e/be* as the renewal in the modal string *e*/*be*-*hiau*-*tit*.

4.4.3 Reanalysis of *e*-*hiau*.

I show that *e* was a lexical verb and *e*-*hiau* is a reanalysis of two verbs: *e* and *hiau*. As evident in the historical data, *e* originates as a lexical verb, featuring 'to know; to comprehend' (55).[71]

(55) 薰也解，酒也解。 SM (Yang 2001: 286)

hun	ia	e,	tsiu	ia	e.
cigarette	*also*	*able*	*alcohol*	*also*	*able*

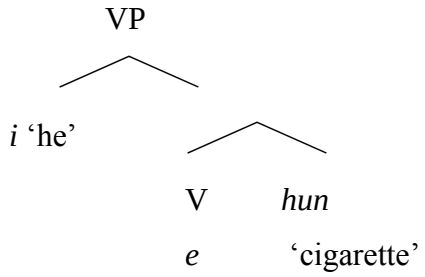
'(He) not only smokes but drinks.'

[70] I side with Lien although I also believe that *de* can be aspectual.

[71] The translation would be 'He can not only smoke but drink', but I modify it and ignore the modal 'can' in the translation.

The tree diagram is illustrated as (56)[72].

(56) *e* as a full-fledged verb



In accordance with the Economy Principle, I postulate a bundle of semantic features in *e*, as in (57). This is also evident in typology; see section 4.5.

(57) *e*: [know; comprehend; able to do; able to use; permission; futurity]

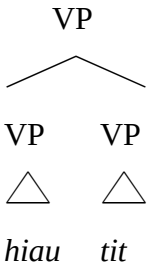
1. Reanalysis of hiau-tit **曉得**. Recall that Huang (2007) notes the co-occurrence of *hiau-tit*, *e-hiau*, and *hiau-e* in *Zhuzi*, where these words were used interchangeably.

I first show the reanalysis of *hiau-tit, with –tit* presumably the same as *de* 得. Features of the morphemes are given below the tree.[73]

[72] The tree doesn't show the topicalization of the logical object *hun* 'cigarette'. I simply place *hun* in its base-generated position. The adverbial *ia* 'also' is omitted in the tree too.

[73] The position of Spec is ignored for convenience.

(58) *hiau* and *tit* as individual lexical verbs[74]

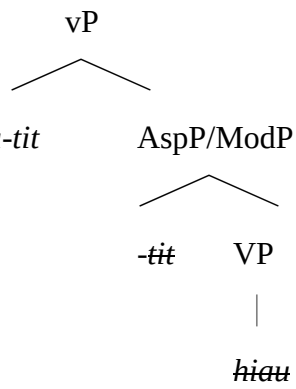


hiau: [know; comprehend]

tit: [obtain]

I suggest that these verbs appeared as serial verbs. Over the course of time, *hiau-tit* became lexicalized as one unit. In *Zhuzi*, *hiau* 曉 was a lexical verb and not used as a modal (cf. Huang 2007). As in (51), *tit* has undergone grammaticalization, and one of its usages is as lexical aspect. I therefore postulate *tit* as marking telicity in *hiau-tit*. I assume an inner aspect phrase between vP and VP (chapter two).

(59) *-tit* as aspect



hiau: [comprehend] (semantic features)

tit: [iF: aspect]

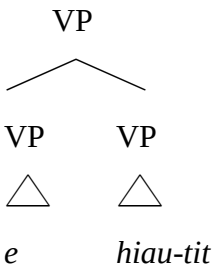
[74] I use the models of Baker and Stewart (1999) and of Stewart (2001) for serial verbs.

I analyze *hiau-tit* ‘know’ as occupying little v. It is further reanalyzed in the ModP.

Huang (2007) argues that *hiau-tit* disappeared and did not survive in modern TSM. As discussed in (54), the unit *hiau-tit* is combined with *e* and further reanalyzed as *e-hiau-tit.*

Next, I investigate how *e-hiau-tit* possibly developed.

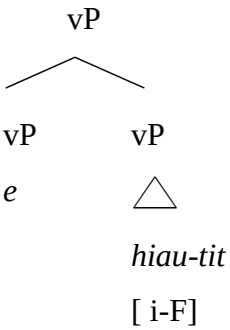
(60) *e* and *hiau-tit* as in a sequence



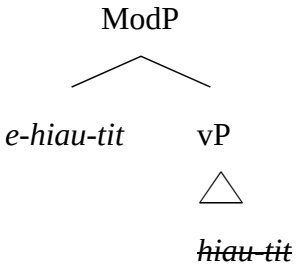
e: [comprehend]
hiau-tit: [comprehend]

E and *hiau-tit* may have initially occurred in a sequence as (60). Yet, when *e* is reanalyzed as a modality marker, the structure changes to (61). The next step is (62), where *e-hiau-tit* becomes a new reanalysis in the modal head position.

(61) *e* as a renewal



(62) *e-hiau-tit* as Mod



The tree in (61) shows the lexical verb of *hiau-tit* 曉得, whereas (62) represents *e-hiau-tit* as a modal. I side with Yang (2001), who considers *hiau-tit* to be a verb in *Zhuzi*. *Hiau-tit* is not preserved in TSM, but in modern Hakka, *hiau-ded* 曉得 is used as a lexical and modal verb, meaning 'can, capable of'.

I also found supporting evidence in Huang (2007: 127), where the use of *hiau-tit* has a pre-modal as in the text *Zhuzi*. This combination can be conceptualized as (63), where *hiau-tit* serves as a verb and the pre-verbal morpheme expresses modality.

(63) *ling* 能/*su* 需/*iao* 要 + *hiau-tit* + NP[75]

Huang suggests that the instances of *e-hiau* in the historical text always occur with *-tit*. However, it may also be that *hiau* first appears with *tit*, and the modal *e* was reanalyzed and merged into the lexicalized item: *e-hiau-tit.*

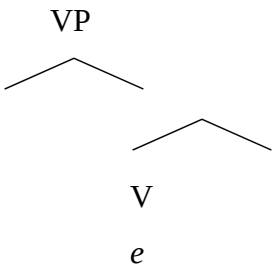
2. Reanalysis of hiau-e. Huang (2007: 125) notes that in *Zhuzi*, *hiau-e* does not have an obligatory *tit*, whereas *e-hiau* is always accompanied by *-tit*. This finding together with the development of *tit* is crucial in the reanalysis of *e*.

[75] *Ling* is possibility, and *su*/*iao* are necessity modals.

Hiau is a near synonym of *e* 解. As stated in the diachrony section of this chapter, the lexical use of *hiau* was much more prevalent, and the modality system in *e* was well established in the same historical text *Zhuzi*. This means that for some speakers the lexical *e* was losing its semantic features, which triggered the appearance of *hiau*.

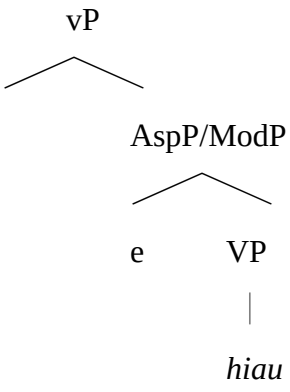
For the abilitive *hiau-e* 'can' order, *e* is aspectual just like *tit* 'obtain', and *hiau* is a renewal.

(64) *e* as a lexical verb

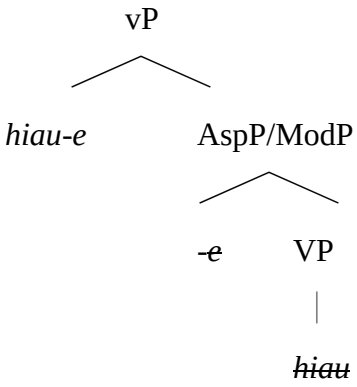


e: [understand; know] (semantic features)

(65) loss of features in *e*; *hiau* as a renewal



(66) *-e* as aspect in *hiau-e*



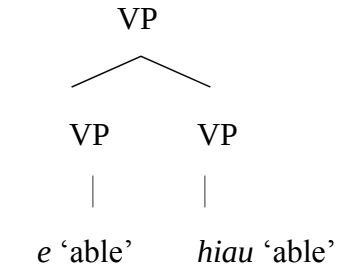
hiau: [comprehend] (semantic features)

e: [iF: aspect]

The advantage of my analysis is that it also accounts for the fact that *hiau-e* didn't occur with *tit* because *hiau-e* is already aspectual, which does not necessitate a telicity marker *tit*.[76]

3. Reanalysis of e-hiau. I show a possible analysis in (67).

(67) *e* and *hiau* appear in a verb sequence



Initially, the lexical semantics are equally weighted in *e* and *hiau*. The intermediate stage is when *e* is in the little v: the lexical verb *e* becomes reanalyzed as a abilitive modal, sitting in v.

[76] The notion that *e-hiau* is accompanied by *tit* is not accurate, given that *hiau-tit* is mostly likely one unit before *e* occurred in the string *e-hiau-tit.*

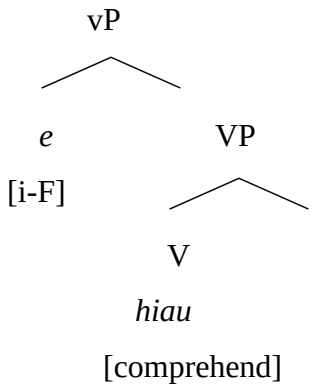
(69) 我想袂曉你哪會那麼虛華。[77]

gua	siunn	**be**-hiau	li	na	**e**	hiah-ni	hi-hua.
1sg	*think*	*not.able*	*2sg*	*how*	*FUR*	*that*	*ostentatious*

'I can't understand how you can be so ostentatious.'

I suggest that the reanalyzed *e* sits in v, and the renewal *hiau* makes it a head in the V.

(68) feature loss in *e*



A renewal 曉 *hiau* as an abilitive modal is the key to interpreting the grammaticalization of *e*. Note however that the reanalysis process under Economy is not accomplished through one generation.

The loss of features also accounts for the vagueness of *e*, in that *e* may have undergone another feature loss process in a higher head position, that is: [i-F] > [i-F], the latter [i-F] resulting in an epistemic reading in *e*. I discuss this in section 4.4.5. Note that [i-F] indicates features loss and the features are different.

[77] The sentence is a line from a popular Taiwanese song. I analyze *e-hiau* 'able to comprehend' as a verb here in a sequence with *siunn* 'think'. Both abilitive and epistemic *e/be* are used in this line. The characters assigned to each are not random, as song writing does not follow a transcription system.

Briefly, *e* began as a lexical verb, meaning 'know, comprehend'. Over the course of time, *e* is taken out of the lexicon with fewer or different features. That is *e* began to lose its semantic features, leading *e* to be reanalyzed. Gradually an additional synonym *hiau* 'to know' came into being as a renewal of abilitive *e*. When *e-hiau* becomes base-generated in the modal head, the reanalysis in a new grammar is completed.

4.4.4 Reanalysis of *e-sai* as deontic. [78]

As noted, *sai* 使, *thang* 通 and *ing* 用 were lexical verbs, each of which means 'make', 'pass' and 'use', respectively. The new deontic modal paradigm in TSM is that *e* is accompanied by either one of these three bound morphemes, to form a multi-syllabic modal.

Under Economy Principles, the loss of permissive features in *e* results in a necessity of a renewal such as *sai* to mark deonticity. *E-sai* is then reanalyzed as one unit in the grammar of the new generation. We thus observe *e-sai* in TSM. I do not discuss in detail the reanalysis process of *e-sai*, to which I assume a resemblance of *e-hiau* applies.

One last issue is that the deontic modal string *e*-X-*tit* is still undergoing changes in modern TSM. Lien (2010) claims that the *tit* 得 is often fused, which I present as follows:

(70) *e-ing-**tit*** > *e-ing*-**Y**, where Y can be *li*, *leh*, *cit*, *e* or ∅

[78] According to van der Auwewa and Plungian (1998), the deontic doublings may also belong to their participant-external non-deontic sub-category. I do not intend to go into details for this issue. I focus on the reanalysis of *e* from abilitive to deontic (participant-internal to participant-external in their terms).

I show some examples below in (71)-(73) from the corpora I make use of.

(71) 按呢袂用 li0

an-ne	**be-ing**	**li**
this-way	*not.allow*	*PAR*

'It cannot be done this way.'

(72) 無共教袂用咧

bo	kah	ka	**be-ing**	**leh**
NEG	*PREP*	*teach*	*not.allow*	*PAR*

'(We) must teach him.'

(73) 袂用 e0 啦，我卜和你鬥陣啦

be-ing e	lah,	gua	beh	ham	li	tau3-tin	lah.
not.allow	*PAR*	*1sg*	*want*	*with*	*2sg*	*be-together*	*PAR*

'I cannot agree/No way. I want to be with you.'

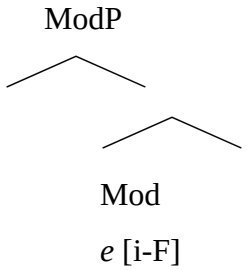
My corpus findings on *be* show that fusion often takes place when *tit* is placed at the end of the sentence, accounting for 65-73% of the *e-ing*-X and *e-sai*-X data.[79] Presumably, the sentential final position makes *tit* less noticeable phonologically and thus it is where semantic features are gone eventually.

4.4.5 Reanalysis of *e* as an epistemic modal.

Let us examine the third category of *e*. Recall that *e* can be ambiguous between an abilitive and epistemic reading. There are two grammars. In one grammar, where speakers exclusively use the monosyllabic *e* as epistemic, *e* is base-generated in Mod; *e* has [i-F: 'will'].

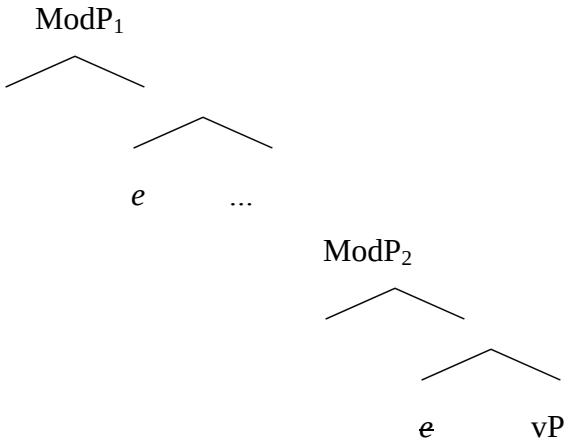
[79] While Lien and I use the same corpus, I analyze *be* and *tit*.

(74) The epistemic *e* as a reanalysis [80]



On the other hand, *e* has two separate entries for some speakers. Under the minimalist approach, the same morpheme *e* is hypothetically taken from the lexicon with different features. When *e* is taken out of the lexicon with the features [i-F: ability, futurity], the learner sees it as abilitive first. When *e* moves to a higher Mod head, it is epistemic (futurity); see (75). I am agnostic about this futurity *e* future moving up to T.

(75) The unspecified case of *e*



[80] I only present one ModP projection for convenience. I adopt the two ModPs (chapter two), but do not put T, as most accept that the Chinese language does not express tense through grammatical means.

4.4.6 Concluding Remarks.

To sum up, *e* 'know' originated in the big V as a full-fledged verb, and was reanalyzed as occupying the little v when it became grammaticalized. With the occurrence of *hiau*, a renewal, we see *e-hiau* as indicating abilitive modality.

Not only is *e* reanalyzed from a V to a modal, expressing ability, but it also undergoes a similar path to express deonticity. Possible renewals are *sai*, *tang* and *ing*. Thus, the multi-syllabic modals *e-sai*, *e-tang* and *e-ing* are used to express permission or deontic possibility.

Finally, *e* is no longer in the VP. This *e* is not attached by any morpheme. *E* with an *ability* meaning shows that *e* has reanalyzed into a modal, whereas the so-the epistemic *possibility e* exhibits further grammaticalization, located higher up in the tree.

Theoretically, van Gelderen's (2008; 2011) feature economy predicts such a change with some modifications. Renewals are evident in the grammaticalization of *e*. However, the root morpheme *e* never disappears; rather, it combines with a renewal and forms a doubling: abilitive *e-hiau* or deontic *e-sai*. English however uses a single modal *can* for all the various types of modality: ability, permission and probability.

The literature on typological modality (Bybee et al. 1991, among others) suggests a path as V > ability > possibility. The unidirectionality of grammaticalization is apparent by the fact that *e* is reanalyzed in each stage "higher up in the tree" (van Gelderen 2004; Roberts and Roussou 2003).

4.5 Comparative Studies

I first address a typological account on the grammaticalization of abilitive sources. I then compare Southern Min *e* with English *can*; Mandarin and Hakka are also investigated. Nonetheless, I do not attempt to discuss all modals of these Sinitic language varieties in this dissertation. My comparison focuses particularly on divergence as well as issues less addressed in the literature.[81]

4.5.1 Cross-linguistic data.

A similar typological pattern to Southern Min *e*/*be* can be found in other languages as well. For instance, Bybee, Perkins, and Pagliuca (1994: 188) point out two routes for the grammaticalization of ability concepts as follows: [82]

(76) ability > root possibility > epistemic possibility

(77) ability > root possibility > permission

This is also evident in Southern Min *e*. Historically, the category of *e* changes from the verb of 'knowing', to the verb of 'being able to comprehend', and to the modal 'can' with abilitive, deontic and epistemic denotations in *Zhuzi*.

As addressed in Section 4.4, the monosyllabic abilitive *e* has lost its semantic features, leading to the emergence of a reanalyzed form *e-hiau*. The deontic sense in *e* also becomes weakened to the point that it is accompanied by another verb *sai*, forming *e-sai*. *E* maintains the same form for its epistemic use. The

[81] I refer my reader to previous studies such as Hsieh (2002) for a more comprehensive modal system in Mandarin, and to Huang (2007) for a comparison between Mandarin 會 *hui* and Southern Min 解 *e*, to Hsin (1999) and Zhang (1999) for Southern Min modality, and to Lieu (2000) for Hakka modals.

[82] Chapter three defines root modality.

permissive use *e-sai* does not seem to be historically derived from abilitive *e-hiau*. All of these show a divergence among the three types of modality in *e*: abilitive, deontic and epistemic.

The lexical sources of 'ability' often come from verbs like *finish*, *know* (how to), *get*, *obtain*, or *arrive* (Bybee et al. 1994: 188). This is also true in the Southern Min case. There are three such morphemes involved in dynamic abilitives: 解 *e*, 曉 *hiau* and 得 *tit* in TSM. *Hiau* 'to know; to understand' is a near synonym of 解 *e*. The third morpheme 得 *tit* means 'to get; to obtain', which often appears after the verb.[83]

4.5.2 The English *can*.

The development of modern English *can* is analogous to Southern Min *e*. English *can* has an origin in Old English as a lexical verb: *cunnan* 'know; be able'.

(78) hwæt þær foregange, oððe hwæt þær æfterfylige, we ne **cunnun**. Bede
'What came before, or what comes after, we do not **know**.' (Lightfoot 1979: 98)

(79) *ne **con** ic noht singan*. Bede
'I cannot sing.' (Lightfoot 1979: 99)

As *can* is no longer a verb in modern English, (77) is thus ungrammatical.

(80) **He **can** Hakka*.
Int. 'He knows about Hakka./He understands Hakka.'

As Lightfoot notes, "*cunnan* (> NE *can*) used to mean 'to have the mental or intellectual capability to, to know how to'" (Lightfoot 1979: 100). *May* needs attention too, as *may* and *can* are both used as possibility modals. Lightfoot points

[83] 得 means 'to get; to obtain'; see Sun (1996: 108-162) for its grammaticalization.

to another interesting fact: in contrast to *cunnan*, *magan* meant 'to have the physical capability to', yet a permission reading has developed for modern *may* (Lightfoot 1979: 100). This shows that in English abilitive and permissive modality are connected. Similarly, MSC epistemic *ke.neng* 可能 'may; maybe' and permissive *ke.yi* 可以 share *ke* 可.

The English possibility modals are shown below, within which *can* and *may* are almost interchangeable.[84]

Table 4.5
English possibility modality paradigm

	possibility
epistemic	***may****; can*
participant-internal	***can***
participant-external (non-deontic)	***can****; may*
deontic	***may***

An brief overview is demonstrated in (81)-(84), where the English modal *can* is used for four types of modality (Palmer 2001: 10).[85]

(81) *He **can't** be in his office now*. (epistemic)

(82) *He **can** run a mile in five minutes.* (dynamic; participant-internal)

(83) *He **can** escape.* (dynamic; participant-external non-deontic)

(84) *He **can** go now*. (permissive; participant-external deontic)

[84] Collins (2009) argues that *may* is replacing *can* for deontic uses in American English.

[85] Sentences are Palmer's; however, the classification is based on van der Auwera and Plungian (1998).

4.5.3 Dynamic abilitives.

I show next how abilitive modals in modern Chinese languages differ from one another. I also examine English *can*. Let us discuss the lexical uses first.

E is not a lexical verb in TSM; (85) is not found in my corpus.[86]

(85)	*i	**e/be**	keh-ue.	Min
	3sg	*can/cannot*	*Hakka*	
	Int.: 'He understands/does not understand Hakka.'			

Example (86) illustrates abilitive verbs in the three Sinitic languages.[87]

(86)	i	**e-hiau; be-hiau**	kheh-ue.	TSM
	gi	**voi; m-voi**	hag-fa.	Hakka
	gi	**hiau-ded; m-hiau(-ded)**	hag-fa.	Hakka
	ta	**hui; bu-hui**	kejiahua.	MSC
	3sg	*know*	*Hakka*	
	'He understands/speaks Hakka.'			

Southern Min uses a disyllabic *e-hiau* as its dynamic lexical verb. Hakka has a different system, which patterns with MSC. The Hakka lexical verb *voi* can be used the same way as MSC *hui*; however, another verb *hiau-ded* functions the same in Hakka. *Hui* and *voi* can still be used as verbs. The verbal use in MSC and Hakka differs from English *can* and TSM *e*, neither of which is a verb.

---

[86] Yang (2001), however, argues for the survival of lexical uses in *e* in some Min sub-dialects.

[87] For convenience, I leave out the positive/affirmative comparison for the rest of the examples. Unless cited otherwise, Hakka transcription follows the system suggested by the Minitry of Education in Taiwan; the Hailu accent (海陸腔) is considered.

Nevertheless, Hakka *voi* is equivalent to MSC *hui* 會 and TSM *e* 解 in modality. In spite of same semantics, they have different origins.

Lieu (2000) argues that Hakka *voi* is not phonologically associated with Mandarin *hui*. Yang (2001) analyzes the writing of 解 and 會 as used in colloquial and formal documents, respectively. Lien (1997: 174), however, claims that 會 is a loan character for the meaning of Southern Min *e* 解. This means that these morphemes may come from different historical or linguistic strata. Yang (2001) suggests that TSM abilitive *e* has preserved the use of 解, while other dialects including MSC *hui* and Hakka *voi* have adopted the modal 會.

Unlike TSM abilitive *e-hiau* and permissive *e-sai*, *hui* and *voi* did not develop into multiple syllabic modals. Also note that the negative form for each language is different (86). While TSM uses *be* as the negative counterpart of *e*, Mandarin and Hakka use *bu* or *m* to negate their modals.

We now turn to abilitive modality among the three languages. The disyllabic *e-hiau* is used in TSM. Hakka, however, uses both *voi* and *hiau*. MSC again uses a monosyllabic *hui*. They are equivalent to English abilitive modal *can*. The modal use in these languages resembles their lexical verb counterparts in (86).

(87)	i	**e-hiau**	kong	kheh-ue.	TSM
	gi	**voi/hiau**	gong	hag-fa.	Hakka
	ta	**hui**	shuo	kejiahua.	MSC
	3sg	*know*	*speak*	*Hakka*	

'He **can** speak Hakka.'

Note that Hakka and MSC are at intermediate stage where *voi*/*hui* can be inserted in V (86), or in Mod (87).[88]

In Hakka, *hiau-ded* 曉得 is another form other than *voi* for abilitive modality.

(88) 佢曉得看地理 Hakka; Lieu (2000: 36)

ki	**hiau-tet**	khon	thi-li.
3sg	*can*	*see*	*geomancy*

'He can understand geomancy.'

It is not surprising for *hiau-ded* to be used as 'capability', as we recall the different abilitive verbs discussed in *Zhuzi yulei*; 曉得 *hiau-tit* (TSM pronunciation) is one of them. Different historical strata reflect in the three Sinitic languages of modern times. In addition to phonology, each language variation may have adopted different morphology or syntax.[89] *Hiau* also serves as a modal.

(89) 佢曉聽頭牲講話啦 Hakka; Lieu (2000: 36)

ki	**hiau**	then	theu-sang	kong-fa	la
3sg	*can*	*listen*	*livestock*	*speak*	*PAR*

'He can understand what the livestock speaks.'

However, the use of *hiau* 曉 in Hakka differs from that of TSM or MSC.[90]

---

[88] MSC has another abilitive *neng* 能, but its semantics differs from *hui*, and *neng* can't be lexical. Nothing hinges on this, as the primary topic of this dissertation is negation and my research on modality is only descriptive.

[89] The choice of *e-hiau* in Min or *hiau-ded* in Hakka is an example of morphological differences, but initially it may be related to syntax in verb series (SVC) such as 解-曉 and 曉-得; see section 4.3.

[90] 曉得 *xiaode* is used differently in MSC than Hakka *hiau-ded* 'able.to'.

wo	**xiaode**	zhe	jian	shi. 我曉得這件事。
1sg	*know.about*	*this*	*CL*	*matter*

(90) *i **hiau** (曉) kong kheh-ue. TSM

*ta **xiao** (曉) shuo kejiahua. MSC

3sg *can* *speak* *Hakka*

Int. ‘He can speak Hakka.’

4.5.4 Hakka deontic.

This section contributes to our knowledge about Hakka deontic modals, given that previous research has not fully addressed this topic from a historical or typological perspective.

Unlike TSM, Hakka deontic modals are not derived from an ability source such as *voi*. Nevertheless, the shared root is permission-related morphemes.

There are at least five permissive negative deontic modals in Hakka: *mo-ho* 無好, *m-ded* 毋得, *sii-m-ded* 使毋得, *m-sii-ded* 毋使得, and *zo-m-ded* 做毋得 ‘cannot’, as in Table 4.6.[91]

Table 4.6
Hakka permissive deontic modals

affirmative	negative
	無好 *mo-ho* ‘not-good’
	毋得 *m-ded* ‘not-obtain’
使得 *sii-ded*	使毋得 *sii-m-*(*ded)* ‘make-not-obtain’
	毋使得 *m-sii-*(*ded)* ‘not-make-obtain’

‘I know/knew about this matter.’

[91] I analyzed *sii-ded* and *m-sii-ded* as an affirmative and negative deontic pair and *ded* being omitted in some cases although Lieu (2000: 30) claims that *m-sii* has no affirmative counterpart in Hakka. For the clitic-like *ded*, see Sun (1996) on Chinese 得 *de* and Lien (2010) on TSM 得 *tit* .

做得 *zo-ded*	做毋得 *zo-m-ded* ‘do-not-obtain’

I address some interesting observations from the above table. First, *mo* or *m* are negative markers of the permissive modals.[92] There is no positive form for the first two entries; *ho* or *ded* individually is not an affirmative modal in Hakka.[93] Next, there are two orders for *m*: *m-sii-*(*ded)* or *sii-m-*(*ded).*

Also, Hakka relies on *ded* 得, initially meaning ‘to obtain’, for both abilitive and permissive uses. As noted previously, the bound morpheme *ded* in these words used to be a full-fledged verb. Recall that *hiau-ded* is used as an abilitive (modal) verb in Hakka, which suggests that *ded* alone may have once been used as an abilitive and/or permissive modal. This then leads to a postulation that *ded* follows the same grammaticalization path as TSM *e*. Their features are like (91) and (92).

(91) TSM *e* 解: [ability; permission; futurity]

(92) Hakka *ded* 得: [ability; permission]

The last items, *sii-ded* 使得 *and zo-ded* 做得, are interesting. I first examine the third entry in the table: *sii-ded*. Hakka *sii* 使 ‘to make; to order’ shares the same origin as *sai* in TSM permissive *e-sai*. Yet, the morphology of these two

[92] The Hakka *mo* functions like Southern Min *bo*; chapter seven.

[93] Yet, *ho* ‘good, alright’ can be used to allow/agree with somebody to do something.

languages differs. *Sii* is the first element in Hakka *sii-ded*, whereas *sai* is a renewal in in TSM *e-sai*.[94]

(93) *sii* 'make' + *ded* 'to obtain' > *sii-ded* (Hakka permissive modal)

(94) *e* 'know' + *sai* 'make' > *e-sai* (TSM permissive modal)

There are two negative counterparts for *sii-ded* 使得: *sii-m-ded* or *m-sii-ded*, where the negative morpheme is either an infix or prefix. Examples of the use of *sii*-(*m*)-*ded* are as follows (Lieu 2000: 40):

(95) **sii-tet** chia ngai hiet jit jia mo? Hakka
can borrow1sg rest one night Q
'Is it possible for me to take a rest here for a night?'

(96) lia kai van **sii-m-tet** piang phet o. Hakka
this CL bowl cannot throw PHET PAR
'It is not possible (for you) to throw away this bowl.'

Historically, *sii* 'to make' and *ded* 'obtain' may have been individual lexical verbs in a sequence, and the infixal negation *m* may have appeared before the prefix *m*, based on Shi's (2002) analysis.[95]

(97) *sii* ***m*** *ded* > ***m*** *sii-ded*

I also investigate *zo-ded* 做得. The reanalysis of *zo-ded* is similar to that of *sii-ded*. *Zo* 做 means 'to do'; therefore, *zo-ded* means 'allowed to do something'.

(98) *zo* 'to do' + *ded* 'to obtain' > *zo-ded* 'allowed (to do something)'

The negative counterpart for *zo-ded* is either *zo-m-ded* or *m-zo-ded*; this resembles the previous Hakka deontic modal *sii-ded*.

[94] TSM *e* is the root, whereas the root in Hakka of the same category is *ded*.
[95] I return to this topic in word order change of negation; chapter seven.

(99) *zo* 做 'to do' + *m* + 得 *ded* 'to obtain' > *zo-m-ded*: 'not allowed'

Examples are provided below in (100) through (102).

(100) ngai m-hi **m-tso-tet**. Hakka; Hashimoto (1973)
1sg not.go not.possible
'That I don't go is not allowed.' (I must go.)

(101) **m-tso-tet** sit to. Hakka; Hashimoto (1973)
not.allow eat too.much
'(You) are not allowed to eat too much.'

(102) **tso-m-tet** ngip hi? Hakka; Lo (1988)
not.allow come in
'(I am) not allowed to come in?'

Table 4.7 summarizes the system just discussed.

Table 4.7
Hakka modal systems

verb	modal		
	Dynamic abilitive	Epistemic futurity	Deontic permission
voi 'know'	*voi* 'can' *hiau(-ded)* 'can'	*voi* 'will'	*sii-ded* 'can' *zo-ded* 'can'

There are two sub-systems of Hakka modals: *voi* and V-*ded*. Recall that when acting as a lexical verb, *voi* means 'know'. *Voi* can also be used as abilitive 'can'; *voi* can express futurity 'will'. However, *voi* does not yield deontic modality; the V-*ded* system is used, instead, such as *sii-ded* or *zo-ded.* Note that V-*ded* also expresses ability, as in *hiau-ded*. Yet, *ded* in abilitive *hiau-ded* is optional,but is obligatory in the deontic permission *sii-ded*/*zo-ded*.

Table 4.8 shows the negative counterparts of the modals in Table 4.7. As seen, the negative *m* is used for both *voi* and V-*ded* systems in Hakka.

Table 4.8
Hakka negative possibility modals

verb	modal		
	Dynamic abilitive	Epistemic futurity	Deontic permission
m-voi	***m**-voi* ***m**-hiau; **m**-hiau-ded*	***m**-voi*	*sii-**m**-ded; **m**-sii-ded* *zo-**m**-ded; **m**-zo-ded*

Two more issues need to be addressed in Table 4.8. The first topic centers around the use of one deontic modal over another. The literature has treated *sii-ded* and *zo-ded* as alternatives. Interestingly, there were only three examples with *sii-ded* and nine instances of *sii-m-ded* (*sii-m-tet* in his transcription) in Lieu's (2000) corpora, where 303 tokens of Hakka modals from his fieldwork were recorded, and where *voi* accounts for the largest portion. While Hashimoto (1973) and Lo (1988) list both uses: *sii-ded* and *zo-ded*, Lieu (2000) does not address the use of *zo-ded* or *zo-m-ded*.

My Hakka consultants do not use the *sii-ded*/ *sii-m-ded* set as modals. *Sii* 'use' is still used as a verb.

(103) cien **sii** 使/rhung 用 m **ded**. Hakka
money use/ use NEG able
'The money, you cannot use it.'

One consultant pointed out the slight phonological difference in *ded*. This reflects the degree of grammaticalization, in that *ded* 得 has not become a fixed

unit with the verb *sii* or *rhung* ‘to use’ and the negation *m*. This *ded* is different from *ded* in the negative abilitive modal *sii-m-ded* ‘can.not’. The online dictionary of Hakka shows that *sii-ded* is used in one sub-dialect (*Xixian* 四縣) whereas *zo-ded* is used in another (*Hailu* 海陸).[96] It was consistent with my findings, as my consultants speak Hailu Hakka.

The other point is the affixation of negation. My consultants did not use the prefix *m* version; the infixal *zo-m-ded* is the only option. Diachronically, infixal negation is developed earlier than the pre-fixal type.[97]

In some cases, the fronting of *m* may not have taken place in syntax, thus making the infixal (*zo-m-ded*) the only option in morphology when these morphemes became one unit. This fact results in parametric differences among the Sinitic languages in their modal morphology. As explained, this morpho-syntax is only parametric, since the morphemes used in each language share the same or a similar origin.

4.5.5 A comparison of deontic modals.

Before moving to a larger scale of comparison among the three languages, I first address the fact that the pattern in Hakka deontic pair *sii-ded*/*m-sii-ded* can also be found in the other two languages, which I summarize in Table 4.9.

[96] The online Hakka dictionary: http://hakka.dict.edu.tw/hakkadict/index.htm

[97] Same as Footnote 87.

Table 4.9
A comparison of permissive deontic modals

TSM	Hakka	MSC
會使(得) *e-sai-(tit)*	使得 *sii-ded*	*使得 *shi-de*
袂使(得) *be-sai-(tit)*	毋使得 *m-sii-ded*	
	使毋得 *sii-m-ded*	使不得 *shi-bu-de*

Two morphemes are crucial in Table 4.10. As previously discussed, 得 can be the source of abilitives. 使 means 'to make' and is pronounced as *sai*, *sii*, and *shi* in Southern Min, Hakka and Mandarin, respectively.

I first address the affixation of *tit, ded* or *de*, three of which share the same character 得. Historically, this morpheme as a lexical verb means 'to get, to obtain'. *De* has undergone changes (Sun 1996; Wu 2006). In its modern use, *de* behaves like a clitic.[98]

Below I first investigate Southern Min data. As noted, *e* 解 'know; comprehend' and *tit* 得 'obtain' are sources of ability in typology. TSM has two abilitive modals: *e-hiau* and *e-hiau-tit* although *tit* is often dropped. The same affixation applies to its deontic modal alternatives: *e-sai* and *e-sai-tit*.

[98] The word 得 in Mandarin is now used as a potential complement. *De*/*Bu* is placed postverbally but it precedes the resultative complement; see examples below. This special word order certainly has to do with the diachrony of 得 (Sun 1996; Wu 2006).

(i)	zhongwen	bu	nan,	wo	xue	**de**	hui.
	Chinese	*NEG*	*difficult*	*1sg*	*learn*	*DE*	*able*
	'Chinese is not too difficult to learn.'						
(ii)	zhongwen	hen	nan,	wo	xue	**bu**	hui.
	Chinese	*very*	*difficult*	*1sg*	*learn*	*NEG*	*able*
	'Chinese is too difficult to learn.'						

In the middle column of the table, we see the Hakka modal *sii-ded* 使得. TSM and Hakka are alike in composing their deonticity. One similarity is that the deontic use of TSM *e* and Hakka *ded* develops from their abilitive origins. The apparent difference lies in affixation. TSM has *sai* 使 as a renewal attaching to *e*, making *e-sai*, whereas Hakka uses *sii* 使 as a prefix in *sii-ded*.

(104) *e* 'to know' + ***sai*** 'to make' > *e-sai* (deontic) TSM

(105) ***sii*** 'to make' + *ded* 'to obtain' > *sii-ded* (deontic) Hakka

Another difference between TSM and Hakka is the additional preverbal *e* in TSM *e-sai-tit*, probably due to the loss of features in the post-verbal element *tit* (Lien 2010). In contrast, there is no such prefix in Hakka.

We now turn to MSC in the rightmost column of Table 4.8. MSC has a comparable term 使不得 *shi-bu-de*, with no affirmative like *使得 *shi-de*.[99], [100]

(106) 使不得給她太大的壓力。 MSC

shibude	gei	ta	tai	da	de	yali
cannot	*give*	*3sg*	*too*	*big*	*GEN*	*pressure*

'(We/You) cannot give her too much pressure.'

(107) 這萬萬使不得。 MSC

zhe	wanwan	shibude.
this	*definitely*	*cannot*

'This (definitely) cannot be done this way.'

[99] The affirmative form s*hi-de* in Mandarin is causative. To express 'you can give her pressure', the modal *ke-yi* is used.

[100] Note that for my MSC consultants, *shi-bu-de* is too formal or old-fashioned. Some have rarely heard of the use of (107) in everyday speech.

In brief, we learn that the MSC phrase 使不得 *shi-bu-de* patterns like its counterpart *be-sai* and *sii-m-ded* in TSM and Hakka, respectively.[101] The literature, however, has not addressed this topic. Rather, much has been written about MSC modals such as *hui* 會, *neng* 能, and *keyi* 可以, which are in general equivalent to the permissive deontics of TSM or Hakka. I show MSC modal system in Table 4.10. However, I do not intend to include all complexity. [102, *103*]

Table 4.10
Mandarin possibility modal systems

verb	modal		
	dynamic abilitive	epistemic futurity	deontic permissive
hui	*hui* *neng* *keyi*	*hui*	 *bu-neng* *keyi*

In a nutshell, the morphology of Hakka deontic modals provides evidence of diachronic similarities among the Chinese languages. Despite that the three languages make use of a different morphology to mark deonticity, their sources and grammaticalization paths are similar. Three patterns are found:

[101] The deontic *shi-bu-de* 使不得 is less colloquial than the other modals that express permission such as *bu-keyi* 不可以 or *bu-neng* 不能 'cannot'.

[102] I refer my reader to Lin (2003) on Mandarin and Hsin (1999) on Southern Min for further readings.

[103] When *neng* 能 is used as deontic, it can only be used in the negative form *bu-neng*. Other alternatives are *bu-xing* 不行 *bu-cheng* 不成. The three morphemes are typically not used as modals:

*ni	**neng/xing/cheng**	likai	le.
2sg	*can*	*leave*	*PAR*

Int. 'You can leave now.'

(108) V > V-V_2, where V_2 is a renewal, e.g. *sai* in TSM deontic *e-sai* 解使

(109) V_1+ V_2 > V-clitic, where *tit* is the clitic, as in Hakka deontic *zo-ded* 做得

(110) V_1 + Neg+ V_2 > V-Neg-V as a compound; e.g. Hakka *sii-m-ded* and MSC *shi-bu-de* 使不得

4.5.6 Deontic modals.

Finally comes a review of the deontic modals in the three Sinitic languages. As discussed, *e-sai* 解使 is a deontic modal in Southern Min, much like the English permissive *can*. However, Hakka *voi* 會 does not express deonticity. Similarly, there is no permissive deontic modality in MSC *hui* 會. Instead, *keyi* 可以 is a possible candidate.[104]

(111)	li	**e-sai**	li-khui	ah.	TSM
	ngi	***voi**	hang-koi	leh.	Hakka
	ni	***hui/keyi**	likai	le.	MSC
	2sg	*can*	*leave*	*PAR*	

'You **can** leave (now).'

4.5.7 Epistemic modals.

The last category I shall also address is epistemic modality. The epistemic use of *e* is similar to that of Mandarin *hui* and Hakka *voi*.

(112)	sui-si	**e**	loh	hoo.	Southern Min
	sui-shi	**voi**	log	shui.	Hakka
	suishi	**hui**	xia	yu.	Mandarin

[104] The negator *bu* 不 is typically used for modals in MSC, and thus the negative counterpart of *ke.yi* is *bu-ke.yi*.

any.time *FUR* *fall* *water*

'It will rain any time soon.'

Below are two more examples for Hakka epistemic *voi* or *m-voi*.

(113) tsii jiu sa-shiak **voi** jie lok loi. Hakka
just *have* *grit* *FUR* *toss* *fall* *come*
'There will be grit thrown down.' (Lieu 2000:57)

(114) phet-sa jian **m-voi** shiau la. Hakka
others *just* *NEG-FUR* *laugh* *PAR*
'(You) will not be laughed at by others.' (Lieu 2000:57)

Interestingly, the epistemic sense of *voi* comprises the largest portion of Lieu's (2000) corpora, accounting for 80% of his *voi* tokens. Recall that TSM *e* is mainly used as epistemic too. The grammaticalization pace of both languages is comparable.

I summarize my findings in Table 4.11. The morphemes of *e*, *voi*, and *hui* are used in Southern Min, Hakka and Mandarin, respectively.[105]

Table 4.11
Possibility modals in Southern Min, Mandarin and Hakka

	verb	modal		
		dynamic	epistemic	deontic
English	--	*can*	*will*	*can/may*
TSM	*e-hiau*	*e or e-hiau*	*e*	*e-sai, e-tang,* or *e-ing*
MSC	*hui*	*hui*	*hui*	**hui*
Hakka	*voi*	*voi*	*voi*	**voi*

[105] This table only shows the previously noted abilitive modals in the three languages. The fact that MSC *hui* and Hakka *voi* are not used as deontic does not mean that these two languages do not have deontic modals.

		hiau *hiau-ded*		

There are some similarities and differences. The similarity is that the epistemic modals are all monosyllabic in the three Sinitic languages. I compare each modal system below.

TSM is special in its full range of sub-categories, as seen in Table 4.11. TSM has *e* 'know; comprehend' as a lexical source and exhibits three major types of modals: abilitive, deontic and epistemic, with renewals observed in its abilitive and deontic modal uses such as *e-hiau* and *e-sai*. As for negation, *be* is the negative counterpart of *e*. The negative marker *bu* 'not' is used in MSC, and *m* 'not' for Hakka.

Unlike TSM, Hakka deontic modals are not morphologically associated with the abilitive *voi*. In Mandarin there are only two types of usage in *hui*: dynamic and epistemic.[106] Likewise, Hakka uses *voi* for these two. In other words, deontic modality is lacking in Mandarin *hui* and Hakka *voi*. These two languages use other words for deontic modals. In contrast, English *can* covers the three types.

In addition to *voi*, *hiau-ded*, is another candidate for Hakka abilitive modals. Their negative counterparts are *m-voi* and *m-hiau-ded*, respectively. Similar to Hakka *m*, MSC makes use of a grammatical marker *bu* to express negation of its modals, such as *bu-hui* 不會 'not-able' and 'will.not'.

As seen, there is not necessarily a one-to-one relationship in modal expressions among the investigated languages; nevertheless, their

[106] There are other modals in MSC, but I do not intend to cover them all.

grammaticalization path is nearly identical and the lexical sources are typologically similar. The English possibility modal system shares similarities with TSM *e* in that *can* originates as a verb, meaning 'know' and the modal *can* is used in three types of modality: abilitive, permissive and epistemic. However, *can* as epistemic is not the same as TSM *e* 'will' as well as its counterparts *voi* and *hui* in the other two Sinitic languages.[107]

4.5.8 Differences in word order.

The last topic covered in this t comparison section is word order of the modals. First, let us examine abilitive modals. Like English *can*, the Sinitic abilitive modals appear before the verb.

(115) abilitive modals; pre-verbal

i	**be**	kiann	ah.	TSM
gi	**m-voi**	hang	leh	Hakka
ta	**bu-hui**	zoulu	le	MSC
3sg	*cannot*	*walk*	*PAR*	

'He can't walk any longer.'

However, there is another word order for abilitive modals. The negative is placed between the verb and the resultative complement; negation only scopes over the resultatives.[108]

[107] As will be introduced in the next chapter, the epistemic use of TSM *e/be* is used as English 'will' rather than 'can'.

[108] I use *zuolu* instead of *zuo* in (115) simply because *zuo* can also mean 'to leave', which will result in another reading 'He will not leave'.

(116) abilitive modals; between V and resultative

i	kiann	**be**	tin-tang	ah.	TSM
gi	hang	**m**	ded	leh.	Hakka
ta	zou	**bu**	dong	le.	MSC
3sg	*walk*	*not*	*move*	*PAR*	

'He can't walk any longer.'

Despite the fact that the examples (115) and (116) can express a loss of walking ability, only the latter can mean that a person can't walk, for instance, due to temporary fatigue.

Also, note that the structure of MSC example in (116) is not V + *bu-hui* + resultative; the abilitive modal *hui* has to be eliminated, leading to a V-*bu*-resultative string. The negative *bu* here is not a pure negative; it is associated with abilitive modality. The same applies to Hakka *m*. That is, *bu* or *m* in this specific construction carries both negation and modality.[109]

There are also two word orders for deontic modals. They can be preverbal or occupy the final position of a sentence.[110]

(117) deontic modals; pre-verbal

li	**be-sai**	bo	tsiah	png.	TSM
gni	**zo-m-ded**	m	shid	pon.	Hakka
ni	**bu-neng**	bu	chi	fan.	MSC
2sg	*not.possible*	*NEG*	*eat*	*rice*	

'You cannot not eat/You must eat.'

[109] This modality *bu*/*m* is in contrast to the traditional view that *bu*/*m* are pure negatives for stative verbs and modals.

[110] Note that single negative sentences do not work as well as the double negative ones, shown above, particularly the word order in (118). I leave the question as to why for future research.

(118) deontic modals stranded

li	bo	tsiah	png	**be-sai**.	TSM
gni	m	shid	pon	**zo-m-ded**.	Hakka
ni	bu	chi	fan	**bu-neng**.	MSC(?)
2sg	*NEG*	*eat*	*rice*	*not.possible*	

'You cannot not eat/You must eat.'

The pre-verbal modal verb position and the fronting of the clause are both observed. However, preferences differ among three languages. In (118), the Southern Min and Hakka data are just as good as their preverbal counterparts of (117); however, the MSC example *bu-neng* 不能 in (118) is less preferred. My consultants chose other words such as *bu-keyi* 不可以, *bu-cheng* 不成 or *bu-xing* 不行, for the stranded modal cases.[111]

There is only one word order for epistemic modals. The epistemic *e* in TSM is always preverbal and so are Hakka *voi* and MSC *hui*.

(119)

i	**be**	tso	kong-kho.	TSM
gi	**m-voi**	zo	gong-ko.	Hakka
ta	**bu-hui**	zuo	gongke.	MSC
3sg	*not.FUR*	*do*	*homework*	

'He will not do his homework.'

Note that there is an ability interpretation in Hakka and MSC (119) as 'He doesn't know how to do his homework', given that Hakka *voi* and *hui* are less grammaticalized than *e*. To get the abilitive reading, TSM *be-hiau* is used.

[111] *Bu-cheng* and *bu-xing* are not modal verbs.

However, with an additional *qu* ‘go’ between the modal and the verb *zuo* in the MSC example, *hui* only means ‘will’. The deictic *qu* reinforces the futurity reading.[112] The same applies to TSM and Hakka (120), as *be* and *m-voi* also serve as futurity.

(120)	i	**be**	khi	tso	kong-kho.	TSM
	gi	**m-voi**	hi	zo	gong-ko.	Hakka
	ta	**bu-hui**	qu	zuo	gongke.	MSC
	3sg	*not.FUR*	*go*	*do*	*homework*	

‘He will not do his homework.’

4.6 Conclusion

This chapter covers a comprehensive list of topics regarding *e* and its negative counterpart *be* in Southern Min from both synchronic and diachronic perspectives. Southern Min *e* originates as a lexical verb ‘to know, to comprehend’, which is often one of the sources for ability-related modals cross-linguistically. The other modals derived from *e* include abilitive *e-hiau*, and deontic *e-tang*, *e-ing* or *e-sai*. The negative of *e* is *be*, which is believed by many to be the fusion of *m* ‘not’ and the affirmative modal *e*.

In this chapter I first reviewed previous research on *e*/*be* and then presented my corpus analysis on *be* in order to prepare my reader for the theoretical account for the grammaticalization of *e*/*be*. Based on the diachronic development, I explain the grammaticalization of Southern Min abilitive *e/be* modal pair using

[112] MSC directional words *lai* ‘come’ and *qu* ‘go’ express futurity just like the English infinitive *to*, but the use of *lai*/*qu* as ‘to’ is restrictive. The same applies to the other two languages under investigation.

Minimalist Economy Principle, particularly feature loss, which results in the reanalysis of an element in a higher head position. Last, I provide a sentence-to-sentence comparison of possibility-based modals (ability, permission, and probability) among the three Sinitic languages, focusing on parametric divergence that is under-researched.

Much morphology and syntax is observed in the Southern Min *e/be* pair in its formation of abilitive and deontic modals. Also witnessed yet less addressed in the literature is the rich historical stratification in the morpho-syntactic process of TSM abilitive *e/be* and its Hakka counterparts. This polysyllabic phenomenon is distinctive from other Sinitic languages, particularly MSC, which basically utilizes monosyllabic modals. For example, MSC doesn't have the combinations of *jiexiao* 解曉 or *xiaode* 曉得 as abilitive modals. Neither does MSC use 解使 *jieshi* or 使得 *shide* for deontic modals.

The epistemic paradigm is not as simple as it first looks: TSM *e*, Hakka *voi* and MSC *hui*. These abilitive modals do not behave the same as English *can*. *Can* moves quite freely between epistemic, abilitive, and deontic interpretations, and may be interchangeable with *may* in some cases. Sinitic abilitive modals typically are used for ability and permission, but also extend its uses to futurity, the latter use of which is equivalent to English *will*.

My major contributions in this chapter are as follows: I discuss a full range of reanalyses found in Southern Min abilitive *e/be* pair. I provide a theoretical ground for the multi-morphemic modals derived from *e/be*. I suggest a different gloss for epistemic *e/be* in TSM as FUR. I show how the Hakka deontic paradigm

relates to the other two Sinitic languages from a historical respective. I include modality and negation into morphology.

Chapter 5

THE VOLITIONAL MODALS BEH AND M

This chapter centers around the grammaticalization of the volitional modal pair *beh* and *m,* meaning 'want' and 'not.want', respectively. Multiple categories can be applied to *beh*/*m*, ranging from lexical verbs, modals (both deontic and epistemic), to discourse markers.[113] The Economy Principles are adopted to account for linguistic change in *beh/m*. Results show that the Sinitic languages have similar grammaticalization processes for volition markers.

This chapter is divided into five parts: I first provide basic information about the affirmative/negative volitional pair *beh/m*. Section 5.2 discusses the synchronic status of *beh*/*m,* followed by its diachronic development in Section 5.3. I account for the grammaticalization of *beh*/*m* in Section 5.4. The last section covers key parametric differences for the volition markers among three Sinitic languages. English *will* and *want* are also discussed.

5.1 Introduction

Southern Min negative *m* has received extensive attention in the literature. A fascinating fact about this morpheme is that *m* bears both volition and negation; however, *m* can also be a pure negator; compare (1) and (2).

(1) i beh/**m** tsiah png.
3sg want/not.want eat rice
'He wants/doesn't want to eat (meals).'

[113] Note that the title "volition" is used for convenience, as we shall see in this chapter that more categories are applied to *beh/m*.

(2)	i	**m**-si	m	tsiah	png.
	3sg	*not-COP*	*not.want*	*eat*	*rice*

'It is not the case that he doesn't want to eat (meals).'

Whether there are two *m*'s or only one *m* remains debatable. Some linguists (Teng 1992; Tang 1994; Lin 2004) suggest that *m* is the default negative in Min, and other forms are the result of the phonetic fusion of *m* and another element. Others propose that there are two *m'*s (Li 1971; Lin 1974). In this study I assume that m_1 is the negative modal of *beh* 'want', whereas m_2 is a pure negator.

Before I conduct a more in-depth investigation of volition *beh/m* in Southern Min, I provide English data below, some of which will be further visited in the section of comparative studies. The concept of *desire* expresses "internal volitional conditions in the agent with respect to the predicate action" (Bybee et al. 1998: 178). The authors provide an example from Coats (1983: 212), where *would* means 'wanted to'.

(3) *Juan Ortiz called to them loudly in the Indian tongue, bidding them come forth if they* ***would*** save their lives.

Tracing further back, Bybee et al. (1998: 178) suggest the diachrony of modern English *want* as: Old Norse 'to lack or miss' > 'need' > 'desire' (since 18th century). Interestingly, English *will* is also from a 'desire' source in Middle English.

5.2 Synchrony of *beh/m*

Both *beh* and *m* have been discussed in the literature (Lien 2008; Chang 2009). I focus on what has not been addressed or has received less attention. A negator can be added to *beh* 'want', giving rise to the negative *bo-beh*/*bo-ai* 'not-want'. Another modal auxiliary *ai* 愛 (originally, 'desire; love') is discussed here, as it is also used in the volition paradigm. Table 5.1 shows the categorical status of the negative *m* in modern Taiwanese Southern Min. For instance, *m* is not a verb and another option *bo-beh* or *bo-ai* is used both as a verb and a modal. All the three words on the leftmost column are also used to express negation, but only *m* can be used as yes/no interrogative markers.

Table 5.1
Categorial status of *m*

	verb	*TAM*	*NEG*	QM
m 'not.want'		√	√	√
bo-beh 'not-want'	√	√	√	
bo-ai 'not-want'	√	√	√	

Traditionally, *m* 'not.want' and its positive modal counterpart *beh* 'want' form a systematic pair to denote volition. However, asymmetry is observed in the contemporary TSM corpora.

5.2.1 *beh*/*m* as lexical verbs.

There are three key points in the lexical use of volition in contemporary Southern Min. I have observed an interesting asymmetry between *beh* and *m* in their usage as a verb. In (4), *beh* is a verb, meaning 'to want', while the negative

m does not serve as a verb. Instead, a negation *bo* and verb *ai* are used to contrast with the affirmative volitional verb *beh*, as shown in (5).

(4) i beh lin-go; ***m** kam-a.
3sg want apple not.want tangerine
Int. 'He wants apples, but not tangerines.'

(5) i beh lingo, **bo** **ai** kam-a.
3sg want apple not want tangerine
'He wants apples, but not tangerines.'

There are other changes in the lexical verb *beh* too, to which I will come back in section 5.3, when diachrony of *beh/m* is addressed.

5.2.2 *beh* as a modal.

The affirmative modal *beh* is multi-functional as opposed to the negative *m*. Lien (2008) suggests three meanings for *beh*: (a) 'want' as in (6), (b) 'approach' as in (7), and (c) 'approximate' as in (8). Lien points out that *tih beh* in (7) and *beh oa* in (8) clarify ambiguity.

(6) **beh** tshua boo. 卜娶某 TSM; Lien (2008: 1)
want marry wife
'(He) wants to get married.'

(7) (tih) **beh** am ah. TSM; Lien (2008: 1)
about approach dark PAR
'It's approaching dusk. '

(8) **beh** (ua) tsap kin. TSM; Lien (2008: 1)
approximate close ten half-kilogram
'It's almost 5 kilograms.'

The use of *beh* is not this simple, however. *Beh* can also be used for immediate future 'going to'; see (9), which is modified from (6). Note that there are two changes: the semantics of *beh* and the additional *a*, which marks inceptiveness.

(9) i **beh** tshua boo ah.
3sg going.to marry wife PAR
'He is going to get married.'

Chang (2009: 70) associates the future sense in *beh* with an inanimate sentence subject and glosses it as 'will'. I disagree with this analysis. Example (9) shows that *beh* can be used with a human subject *i* 'he', and 'will' does not show the immediate feature of *beh*. With the marker *a*, *beh* is forced to read as future. Sentence (9) shows how aspect interacts with modality.

Beh can induce a necessity reading too, as in (10).

(10) ma m tsai **beh** to tsit hang sing pan.
also NEG know need which one CL first do
'I don't know which I need to do first.' (Chang 2009: 73)

In addition to *beh*, *ai* 愛, originally 'love', is also used as volitional. *Beh* and *ai* are often interchangeable, but they differ both in category and interpretation, less so in syntax.

Briefly, whereas *beh* has epistemic readings, *ai* doesn't, as in (7)'.

(7)' *(tih) **ai** am ah. TSM; Lien (2008: 1)
about approach dark PAR
int. 'It's approaching dusk.'

On the other hand, *ai* yields deontic necessity ‘should, ought to, must’, but *beh* doesn’t, as in (11).

(11) li **ai** tshua boo.
2sg ought.to marry wife
‘You ought to get married/have a wife (speaking to a male).’

Two other forms, *siunn-beh* 想欲 and *siunn-ai* 想愛 (literally think-want/think-like), are also heard among speakers of modern TSM.

(12) *siunn-beh* ‘think-want’/ *siunn-ai* ‘think-desire’ > ‘want’

Table 5.2 summarizes a list of words derived from *beh* or *ai*. I adopt van der Auwera and Plungian’s (1998) modal classification. Note that *ai* overlaps in both ‘need’ and ‘want’ systems, which I address in chapter six.

Table 5.2
The distinction between *beh* and *ai*

	beh	*ai*
epistemic	*beh* ‘going to’	
participant internal	(*siunn-*)*beh* ‘want’	*ai* ‘want’ (*siunn-*)*ai* ‘want’ [*ai* ‘need’]
participant external (non-deontic)	**beh*	[*ai* ‘need’]
participant external (deontic)	**beh*	[(*tioh-*)*ai* ‘should, must’]

5.2.3 *m* as a modal.

Lien (2008) suggests that *m* is volitional when followed by a dynamic verb or a stative verb, as in (13) and (14). (Translation and glosses are mine.)

(13) 卜食閣毋討趁。 Lien (2008, p.11, (125))

beh tsiah ko **m** tho-than.

want eat but unwilling earn

‘(He) wants to make a living but is unwilling to make effort.’

(14) 你攏毋對我好。 Lien (2008, p.11, (128))

li long **m** tui gua ho.

2sg LONG not.willing PREP 1sg good

‘You are not willing to treat me well.’

Lien notes that *m* can be substituted for by *bo-beh* or *bo-ai*. A closer look reveals that the disyllabic negatives each consist of a negative and a desiderative modal. A phonetic fusing of *bo-ai* (*bai*) can also be used; see (16).

(15) *bo-beh* = *bo* ‘not’ + *beh* ‘want’

(16) *bo-ai* = *bo* ‘not’ + *ai* ‘desire; love’ > *bai*

These three negative modals (*m*, *bo-beh* and *bo-ai*) are thus competing forms (Lien’s term) in modern TSM, although they are not completely interchangeable. I provide two examples below. The following question to be asked is how the three negative modals differ.

(17) i **beh** khi Taipak. (affirmative)

3sg want go Taipei

‘He wants to go to Taipei.’

(18) i **m/bo-beh/bo-ai** khi Taipak. (negative)

3sg not.want go Taipei

‘He doesn’t want to go to Taipei.’

To show the differences, Lien (2008: 13) demonstrates the occurrence of the three alternative negative volitional modals, which I summarize in Table 5.3. The left-most column shows the verbs following the negative marker.

Table 5.3
The competing forms for 'not.want' in TSM

	monosyllabic	disyllabic		Total
	毋 *m*	無卜 *bo-beh*	無愛 *bo-ai*	
食 *tsiah* 'eat'	**12 (67%)**	2 (11%)	4 (22%)	18 (100%)
挃 *tih* 'to get'	**6 (43%)**	**7 (50%)**	1 (7%)	14 (100%)
共 *ka* 'with'	**27 (54%)**	8 (16%)	15 **(30%)**	50 (100%)
去 *khi* 'to go'	**19 (70%)**	3 (11%)	5 (19%)	27 (100%)

I discuss three topics left unaddressed by Lien (2008). First, *m* still remains as the most frequently used negative volitional modal, based on Lien's data. Frequencies however vary depending on the verb. For instance, the distribution of *m tih* and *bo-beh tih* (the 2nd entry) is approximately of ratio 1 to 1 in his data.

I provide examples below to demonstrate the alternatives. Recall the lexical 'want'; contrasting examples in (4), *m* cannot appear alone as a verb.

(4) i beh lin-go; ***m** kam-a.
3sg want apple not.want tangerine
Int. 'He wants apples, but not tangerines.'

(19) and (20) show that both *m tih* and *bo-beh tih* are equally acceptable.

(19) i beh (-tih) lin-go, **m** tih kam-a.
3sg want get apple not.want get tangerine
'He wants apples, not tangerines.'

(20) i beh (-tih) lin-go, **bo-beh** (**-tih)** kam-a.
3sg want get apple not.want get tangerine
'He wants apples, not tangerines.'

Although the percentage of another alternative *bo-ai* with *tih* is relatively low (7%) in Table 5.3, *bo-ai-tih* in (21) sounds as good as (19) or (20) for my consultants. One consultant pointed out that when *tih* is not attached in the second phrase, *bo-ai* sounds better than *bo-beh*.

(21) i beh(-tih) lingo; **bo-ai** (**-tih)** kam-a.
3sg want (-get) apple not.like(-get) tangerine
'He wants apples, not tangerines.'

Second, according to my consultants, *m* and *bo-beh*/*bo-ai* are not entirely interchangeable. One needs further information to know which word is more appropriate. For instance, in (22), with *m*, the sentence means that someone does not have the intention of eating beef.

(22) i **m** tsiah gu-bah.
3sg not.want eat beef
'He doesn't intend to eat beef.'

The above can be also used in a complaint, where someone doesn't eat beef although his mother cooks beef well. The sentence can also give rise to a habitual reading, indicating that this person chooses not to eat beef, such as for religious beliefs; 'he doesn't eat beef'. *Bo* can be used to replace *m*, as in (23).

(23) i **bo** tsiah gu-bah.
3sg not eat beef
'He doesn't eat beef.'

(23)' i tsit tng **bo** tsiah gu-bah.
3sg this meal not eat beef
'He didn't eat beef for this meal.'

With *bo-beh* as in (24), the meaning is similar to that of (22), but for a particular instance. For example, today for a particular meal, a person does not feel like having beef.

(24) i tsit tng **bo-beh** tsiah gu-bah.
3sg this meal not-want eat beef
'He doesn't intend to eat beef for this meal.'

Lastly, when *bo-ai* is used, the 'liking' of *ai* is very strong for several of my consultants. Example (25) means that a person tends to avoid eating beef for preference reasons, perhaps because beef to this person is not tasty.

(25) i **bo-ai** tsiah gu-bah.
3sg not.like eat beef
'He doesn't like to eat beef.'

The above-mentioned slight differences among (22)-(25) can be explained by the fact that the positive counterpart *beh* and the word *ai* 'love; like; desire' are undergoing change as well. Consequently, some ambiguity may arise, as in (26). *Beh* shifts between desire and futurity, the latter of which is more grammaticalized.

(26) gua **bo** beh khi Taipak. TSM; Wu (2009: 26)
1sg not BEH go Taipei
a. 'I don't want to go to Taipei.' (Wu's translation)
b. 'I'm not going to Taipei.'

To disambiguate between the interpretations, *siunn* 'think' is often added to make the volitional reading more clear; see (27). *Siunn* forces a volitional reading.

(27) gua bo **siunn**-beh khi Taipak.
1sg NEG think-want go Taipei
'I don't want to go to Taipei.'

The two interpretations of *bo-beh* in (26) echo Chang's (2009) findings about the grammaticalization of *beh*: its loss of volition and gain in futurity. When the meaning of *beh* shifts, the system of its negative counterpart *m* changes accordingly.

The shift can also be observed in questions. For example, in (28), the affirmative volitional modal *beh* is used in questions, and *m* is used to negate *khi* 'go' in the answer in (28a).[114] *M* can appear alone as an answer, but *bo-beh* cannot, as shown in (28b) and (28c). While *bo-ai* can be used as an answer, *bo-beh* has to be accompanied by the verb *khi* 'go'; see (c) and (d). This means that *bo-beh* is less modal-like.[115]

(28) li **beh** khi Taipak bo? Wu (2009: 34)
2sg want go Taipei Q
'Do you want to go to Taipei?'

a. **m** khi.
not.want go
'I don't want to go.'

b. **m**.
not.want
'I don't want to.'

[114] The question marker *bo* in (28) is not canonical; typically, *m* is chosen over bo. We thus see multiple ways in the answer.

[115] Note that a TSM modal can serve as an answer.

c.	***bo-beh./ bo-beh** khi.	d.	**bo-ai** (khi).
	not-want/ not-want go		*not-want go*
	'I don't want to go.'		'I don't want to.'

5.2.4 The pure negative *m*.

Among the five basic negative elements in TSM, *m* is unique in its m_1 versus m_2 distinction. The pure negative *m* is often labeled as m_2 in the literature, as opposed to m_1 'not.want', discussed previously. There has been a lot of discussion on m_2 and its verbal selection restrictions. For instance, Li (2007) suggests that m_2 is used to negate a fact or status. Crosland (1998: 261) demonstrates that only a limited number of verbs occur with m_2 (chapter three).

Lien (2008) shows that there are three major categories with which the pure negative m_2 is compatible. I chose examples from Lien, shown in (29)-(32) for further explanations; transcriptions and translation are mine. These three are in principle parallel to those in Crosland's (1998) system.

1. *m* with stative verbs: 是 *si* 'be', 著 *tioh* 'correct', or 知 *tsiann 'to know'*

(29) siah **m** tioh khi a. 寫毋著去啊Lien (2008: 9, (108))
write NEG correct go PAR
'(someone) wrote (something) incorrectly.'

2. *m* with the experiential marker *bat*

(30) 師傅仔根本毋捌共講過這句話 Lien (2008: 10, (118))

su-hu-a	kun.bun	**m**-bat			
master	*basically*	*NEG-EXP*			
ka	kong	kue	tsit	ku	ue.
PREP	*say*	*EXP*	*this*	*CL*	*sentence*

'Our master did not ever say such a thing.'

3. *m* with modals, such as 通 *thang* ‘can’, 肯 *khing* ‘willing’, or 敢 *kann ‘dare’* [116]

(31) 千萬毋通用手去摸 Lien (2008: 10, (119))

tshian.ban	**m**-thang	iong	tshiu	khi	bong.
certainly	*NEG-allow*	*use*	*hand*	*go*	*touch*

‘Definitely do not touch (this) with (your) hands.’

(32) 伊麼毋敢倒轉去 Lien (2008: 10, (120))

i	ma	**m**-kann	to	tng	khi.
3sg	*PAR*	*NEG-dare*	*back*	*return*	*go*

‘He did not dare to return (home).’

We need to treat *m* in the above modal cases, as the pure negative m_2, in that the following combinations are simply unavailable.

(33) **beh-tang* intended: ‘allow’
**beh-kan* intended: ‘allow’
**beh-kenn* intended: ‘willing’ (*beh* is the affirmative counterpart of *m*.)

It is problematic that m_2 only negates a limited selecting verbs. As a pure negator, m_2 should be relatively free with whatever accompanies it. Another puzzle is that if m_2 is pure negation for modals in TSM, why is *bo-beh* or *bo-ai* with a different negative *bo* also possible? I address this topic in chapter seven, when *bo* is discussed.

[116] Khing and kann are modals in TSM; the translation is for semantics only.

5.2.5 Other categories.

This section addresses other uses of *m* and *beh*. *M* can also be found in the CP level, such as to confirm, to call attention or to assert. There is no specific meaning in *m* in (34); *m* may be translated as ‘and this is it’ or ‘you know’. I am agnostic about if this *m* is the same morpheme.

(34) 啊就彼个囝仔掠去關啊毋

a-to	hit	e	gin-a	liah	khi	kuainn a	**m**
PAR	*that*	*CL*	*kid*	*catch*	*go*	*prison PAR*	*M*

‘That..it is that the kid was sent to prison, you know.’

Also, one can find *m* attached to a modal or adverb for emphatic purposes. Examples are (35) through (37).

(35)

tsit.si	sit	tsi	**m**	**bian**	uan.than.
temporarily	*lose*	*hope*	*M*	*need.not*	*sadden*

‘You need not feel saddened due to your temporary loss of hope.’

(36) 你做人的牽手，

li	tso	lang	e	khan-tshiu,	ang-sai
2sg	*do*	*person*	*GEN*	*wife*	*husband*

翁婿若有做啥物毋著的代誌，

na	u	tso	m-tioh	e	tai-tsi,
if	*ASP*	*do*	*not-correct*	*REL*	*thing*

你毋就小可共伊苦勸一下

li	**m-tioh**	sio-khua	kah	i	khoo-khng	tsit-e
2sg	*M-tioh*	*a bit*	*PREP*	*3sg*	*advise*	*a bit*

‘As a wife, your husband, if he does something wrong, you should give him a bit of advice.’

(37) 啊毋才轉世來予彼个先生做子毋

a	**m**-tsiah	tsuan-se					
CONJ	*M-then*	*reincarnate*					
	lai	hoo	hit	e	sian-sinn	tso	kiann	**m**
	come	*PASS*	*that*	*CL*	*sir*	*do*	*son*	*M*

'(someone) then reincarnated and became son to that sir.'

M in (35)-(37) does not give rise to a negative reading. Lien (2008) suggests the use in (35) as negative concord. I, however, argue against his negative concord proposal; see chapter six.

Now, we examine *beh*. *Beh* can be a C. Examples (38) and (39) show how the conditional *beh* 'if' is used. Note that *beh* is often used in the form *na-beh* 若卜 and/or together with a copula *si*.

(38)

beh	gua	tsiah	sann	kang	to	thiam	a.Chang (2009: 76)
if	*1sg*	*eat*	*three*	*day*	*then*	*tired*	*PAR*

'If it were me, I'd get sick after eating (…) for three days.'

(39)

na-**beh**(-si)	gua,	(gua)	tsiah	sann	kang	to	thiam	a.
if-if(-COP)	*1sg,*	*1sg*	*eat*	*three*	*day*	*then*	*tired*	*PAR*

'If it were me, I'd get sick after eating (…) for three days.'

na 若 and *beh* 卜 can be separable as in (40), where we also see a contrast between *bo-ai* and the pure negative m_2.

(40) 有人若講卜

u	lang	na	kong	**beh**
exist	*person*	*if*	*say*	*want/if*

叫你做啥物工課，

kio	li	tso	siann-mih	khang-khue,
ask	*2sg*	*do*	*what*	*work*

你就無愛做，毋願意啊，

li	tioh	**bo-ai**	tso,	**m-guan**-i	a.
2sg	then	NEG-want	do	NEG-willing	PAR

'If someone asks you to do some work, you often do not want to do, with no intention (at all).'

5.2.6 Concluding remarks.

In conclusion, *beh* and *m* are a volitional pair, meaning 'want' and 'not.want'. *Beh* has a near synonym *ai*, which functions as a substitute in some cases, but not always. Southern Min distinguishes m_1 from m_2, with m_1 serves as volition negation 'not.want' and m_2 as a pure negative. However, m_2 only occurs with copular and stative verbs or modals. In addition to *m*, two other forms, *bo-beh* and *bo-ai*, are used as negative volitions. Finally, *m* also functions as a discourse marker, and *beh* can appear as a conditional complementizer, often in the form of *na-beh* 'if-if'.

5.3 Diachrony of *beh*/*m*

This section begins with the origin of *beh* and *m*, followed by a review of previous studies on the affirmative *beh* and its near synonym *ai*, meaning 'love, desire' originally. Corpus data are examined to provide additional evidence to argue against existing findings.

5.3.1 The origin of *beh/m.*

1. on beh. The affirmative *beh* 'want' is from a different origin than 欲 and 要. The MSC *Pinyin* for the latter two morphemes are *yu* and *yao*. The historical text *Zhuzi yulei* consists of six volitional verbs as in Table 5.4.[117] As

[117] The number of tokens is in brackets; I added modern TSM pronunciation and English translations.

seen in the transcription, no word in this table shares a similar pronunciation as *beh* in modern TSM.

Table 5.4
Volitional verbs in *Zhuzi* (adapted from Wu 2004a: 74-76)

肯 [56] *khing* 'be willing'	**要 [212] *iau*** 'want'
欲 [143] *iok* 'want'	要得 [2] *iau-tit* 'want'
願 [2] *guan* 'hope, desire, be willing'	敢 [10] *kann* 'dare'

The table shows that *iok* 欲 and *iau* 要 comprise of the most frequently used volition words in this text. TSM *beh* is not close to either in terms of pronunciation. Also, in modern TSM, the morpheme 欲 in 欲望 *iok-bong* 'desire'.[118] Nonetheless, the character 欲 is suggested by Taiwan Ministry of Education to represent *beh*, for semantic reasons. Yet, another character 卜 may be chosen by scholars too.

Chang (2009: 57; footnote 5) clarifies that *beh* is not a cognate to the Chinese 欲 or 要 'to desire, to want'. What is the source of *beh*? There are two lines of postulation (Chang 2009: 79). One postulation points to a result from dialectal contact. The other possibility is that *beh* is a borrowing.

2. on m 毋. The character 毋, pronounced as *wu* in modern Mandarin, is often chosen by scholars to represent the concept of Southern Min *m* 'not.want'. However, I didn't find any entry from the available sources that corresponds to volition for 毋. Pulleyblank (1995) notes the *m*/*w* initials in negation modality. As

[118] The writing for Mandarin Chinese is 慾望.

m does not have a vowel, any *m*/*w* negative in archaic Chinese can be a candidate for *m*; however, none of the *m*- negatives in his list means 'not.want'.

The dictionary *Shuowen* defines 毋 as 'to stop (it)', and thus it can be used for advising or prohibitives, 'not to; do not'.[119] This prohibitive 毋 may carry deonticity, but it is not volition. In other cases 毋 is a negator, equivalent to *bu* 不 'not', or to *wu* 無 'not have'.

The morpheme 毋 is not a common negative in MSC, as it is mostly used in frozen expressions (41). The prohibitive 毋 does not survive to this date, either.

(41) **wu** yong zhi yi 毋庸置疑
NEG *use/need* *place* *doubt*
'without doubt'

One of the dictionary definitions for 毋 is 'nobody'; see (42). This instance is interesting, as the English negative *not* comes from 'no creature'.

(42) 郡中毋聲，毋敢夜行。《史記》*Shiji* (109-91 BCE)
jun zhong **wu** sheng,
place *center* *not.have* *sound*
wu gan ye xing
nobody *dare* *night* *walk*
'There is no sound (somewhere), and nobody dares to walk at night.'

The last use of 毋 from the dictionaries appears in the beginning of a sentence and it does not carry semantics. This point is crucial as we have seen *m*

[119] 《說文》：“毋，止之也。人　人女，有奸之者。”

as emphatic without a specific meaning. This phenomenon is also found in TSM *be* (chapter 4) and *bo* (chapter 7).

5.3.2 Development of *beh.*

The morpheme *beh* is by no means an unfamiliar topic for researchers. Many have worked on either the categorial status or the diachrony of *beh*, such as Cheng (2003), Chang and Chen (2003), Lien (2008), and Chang (2009). I use Chang's (2009) summary, illustrated in Table 5.5, as an overview of the diachrony of *beh* (classifications are hers; highlights mine.) Chang provides good examples; I however look at the categorial shift of *beh* and its system of affirmation and negation.

Table 5.5
Diachronic development of *beh* (Chang 2009: 77)

		16-19th cy.	late 19th-early 20th cy.	1995-1997
1.	*want* of an entity	46 (6.3%)	**43 (11.6%)**	1 (0.5%)
2.	*want* for something to happen	**440 (60.3%)**	**240 (64.5%)**	**132 (64.7%)**
3.	future	65 (8.9%)	**35 (9.4%)**	**34 (16.7%)**
4.	necessity	**76 (10.4%)**	14 (3.8%)	13 (6.4%)
5.	proximative	11 (1.5%)	8 (2.2%)	18 (4.8%)
6.	conditional	**85 (11.6%)**	23 (6.2%)	6 (1.6%)
7.	others	7 (1%)	9 (2.4%)	0 (0%)
Total		730	372	204

The table shows that *beh* has been used for various meanings during the three time periods chosen by Chang, with her 1995-1997 representing modern

TSM. The use of *beh* has shifted from one period to the next, yet the modal usage of *beh* (item 2) has remained the most prominent. *Beh* as a verb 'to want something' (item 1) has become less frequently used in modern days, but its use as futurity marking 'going to' (item 3) has been maintained. The decrease in the use of necessity *beh* (item 4) is associated with the rise of necessity *ai*, whose development is discussed immediately after this subsection. The conditional use (item 6) of *beh* 'if' has dropped throughout the past five decades.

Lien (2008) uses modern Taiwanese Southern Min databases for an investigation of *beh*. The categories covered for modern *beh* in the two scholars' work are much alike, except that Chang adds necessity and conditional usages.

Table 5.6 shows that negation of *beh* is shaped in different forms.

Table 5.6
Affirmative and negatives of *beh*

	affirmative	negative
volition	*beh* 'want'	*m 'not want'; bo-beh* 'not-want'
necessity	*beh* 'need'	*bian* 免 'need.not'
futurity	*beh* 'going.to'	*bue* 未 *'not.yet'*
conditional	*na-beh* 若欲 'if'	--

For instance, the negation for volitional *beh* 'want' can be either *m* 'not.want' or *bo-beh* 'not-want', but other uses of *beh* cannot be negated the same way. For instance, *bue* is the negation of future *beh*, and *bian* 'not.need' serves as the negation for necessity *beh*.

The negation system of *beh* is demonstrated in the table. First, *beh* and *m* are initially considered to be affirmative and negative volition counterparts (Li 2007 and Lü 2003), and now *bo-beh* 'not.want' comes into the system. I have explained this phenomenon in previous sections.

Secondly, *tioh* 'need' and *bian* 'need.not' are a necessity pair (chapter six), but now *beh* can have *bian* as negation. In other words, the paradigm of volition (*beh/m*) is interacting with that of necessity (*tioh/bian*).

(43) beh/**bian** pan toh tsit hang?
need/need.not deal.with which one CL
'Which one does (not) have to be dealt with?'

Thirdly, 'future' *beh* cannot be negated by *m* or *bo-beh*. A possible candidate is *bue*, which is an aspectual negative morpheme for perfective; see (44) and (45).

(44) thinn **beh** kng ah. 天卜光矣
sky around brighten PAR
'It's around daybreak.'

(45) thinn (iau) **bue** kng. 天猶未光
sky yet not.yet brighten
'It's still dawn.'

The above three examples point to an existing asymmetry between the affirmation and negation systems; I demonstrated in Table 5.7. The original affirmative-negative counterparts are highlighted. No research has addressed this asymmetry before.

Table 5.7
The complex of *beh* and its negation

modality	affirmative	negative
volition	***beh* 'want'**	***m* 'not.want'** *bo-beh* 'not-want'
necessity	*beh* 'need' ***tioh* 'need'**	*m-beh 'not-need' **bian 'need.not'**
futurity	*beh* 'about to, going to' --	*******m-beh* 'not-about to' **bue 'not.yet'**

5.3.3 Development of *ai.*

The morpheme *ai* 愛 is now taking some of the same roles as *beh* in contemporary Taiwanese Southern Min. *Ai* originates as the word for 'love' in Classical Chinese; see (46).[120]

(46) 愛人者人恆愛之 (孟子 *Mengzi*; the 4th cy. BCE)

ai	ren	zhe	ren	heng	**ai**	zhi
love	*person*	*NML*	*person*	*forever*	*love*	*PRON*

'He who loves others is constantly loved by them.'

While the lexical use (both verb and noun) of *love* in *ai* has been preserved to this date, *ai* can also express modality: volition and deontic necessity. The development of *ai* can be captured in Table 5.8.

[120] Translation is James Legge's; glosses are mine.

Table 5.8
Diachronic development of *ai* (Chang 2009: 65)

	16-19th cy.	late 19th-early 20th cy.	1995-1997
love/like/hope	184 (**92.9%**)	127 (**76.5%**)	63 (30.3%)
prediction	13 (6.6%)	1 (0.006%)	--
necessity	1 (0.005)	38 (22.9%)	145 (**69.7%**)
Total	198	166	208

As seen, the *love/like/hope* sense of *ai* is decreasing in numbers through the course of time, from 93%, 77%, to 30% in contemporary TSM. About 70% of tokens of *ai* in the most recent data (dated 1995-1997) are used in the necessity sense. The prediction notion by Chang is futurity. *Ai* is no longer used to express future. I show examples from Chang below for each use in Table 5.8.[121]

1. 'love/like/hope'

(47) 阮是愛月來到只 Chang (2009: 60); 1615 AD

guan	*si*	*ai*	*gueh*	*lai*	*kau*	*tsia*
1sg	COP	love	moon	come	arrive	here

'I came here because I love the moon.'

2. future

(48) 啞公莫急, **愛**易老 Chang (2009: 61); 1566 AD

a-kong	*mok*	*kip,*	***ai***	*i*	*lo.*
grandpa	NEG	hurry	**will**	easy	age

'Sir, don't be in such a hurry. (Otherwise), (you) will get old easily.'

Note that Chang cites Bybee et al. (1991: 32) about the future sense in SM volition. She relates the prediction use of 'will' to futurity in *ai* and *beh* (Chang 2009: 61-62, 70-71).

[121] I provide TSM transcription for (47)-(51) and (59).

(49) *beh/ai*: 'want' > intention > prediction [+future] (Chang 2009: 55)

3. necessity

The necessity use of *ai* is important. I use Chang's examples in (50)-(52) to show its diachronic development.

(50) 治家法各**愛**尊卑 Chang (2009: 63); 1566 AD

ti	ke	huat	kok	**ai**	tsun	pi
manage	*family*	*rule*	*each*	*need*	*superior*	*inferior*

'(When speaking of) rules to keep a family, (an important rule is that) the inferior need to respect the superior.'

(51) 君子報冤**愛**三年 Chang (2009: 64); late 19th-early 20th cy.

kun-tsu	po-uan	**ai**	sann	ni
gentleman	*revenge*	*need*	*three*	*year*

'It takes a gentleman three years to take revenge.'

(52) 後日**愛**上班 Chang (2009: 64); modern TSM

au-jit	**ai**	siong-pan
the.day.after.tomorrow	*need*	*work*

'(He) has to work the day after tomorrow.'

Chang states that (52) may yield a liking reading although she does not explain why. Her other examples of *ai* 'need' such as (53) are interesting data.

(53) 牽許台車就**愛**保養費 ne Chang (2009: 64); modern TSM

khan	hit	tai	tshia			
drag	*that*	*CL*	*car*			

'(If you) buy that car,'

tioh	**ai**	po-iong	hui	neh!
need	*need*	*maintenance*	*fee*	*PAR*

'you will need to pay for the maintenance fee!'

Note that example (53) has double necessity marking: *tioh* and *ai*. Wherever *tioh* ‘need’ and *ai* co-occur, *ai* can only express necessity, a topic to which I come back in chapter six.

I now address the negation of *ai*. In modern times, the negative *bo* is to negate *ai* only in the sense of ‘want’; the negation of necessity *ai* is *bian* ‘not.need’. Again, this asymmetry has not been discussed in the literature.

Table 5.9
Affirmative and negative uses of *ai*

	affirmative	negative
volition	*ai* ‘want’	*bo-ai* ‘not-want’
necessity	*ai* ‘need’	*bian* ‘need.not’

Finally, let us investigate the relationship between *ai* and *beh*. Chang (2009: 78) suggests that *ai* and *beh* are complementary. She points out that necessity accounts for the major use of *ai*, and that *beh* is not often used as necessity ; rather, *beh* is mainly for volition. Her claim for the complementary distribution between *ai* and *beh* is too simple, given that both *ai* and *beh* still overlap in volition.

To conclude, I add the morpheme *ai* to Table 5.7 (on *beh*), resulting in a more complex system (Table 5.10).

Table 5.10
The complex *beh* and its negation

modality	affirmative	negative
volition	*beh* '**want'** *ai* 'want'	***m* 'not.want'** *bo-beh* 'not-want' *bo-ai* 'not-want'
necessity	*beh* 'need' *ai* 'need' **tioh 'need'**	***bian* 'need.not'**
futurity	-- *beh* 'going to' *ai	***bue* 'not.yet'**

5.3.5 Development of *beh-ai/ai-beh.*

Historically, the volition negatives (*bo-beh* and *bo-ai*) have appeared in the 16-17th century Min play *Lijing ji*. There are six instances of *bo-beh* and 30 of *bo-ai*. Out of the six cases of *bo-beh*, only one use is connected to volition 'want'; the other five are for discourse marking, in which cases *bo* and *beh* are not a phrase.

(54) *bo* 'or; otherwise' + *beh* 'if'

Bo-ai, on the other hand, shows two instances of 'love' usage and the rest carry a sense of 'liking'. In other words, ai is still associated with 'desire/love' meaning in the text dated in the 16-17th century. This means that the volition sense of 'want' in *ai* has not yet evolved. From these facts, I assume that the negative forms *bo-beh* and *bo-ai,* as opposed to *m* 'not.want', are developed later.

In the next section, I investigate other volitional uses.

5.3.5 Development of *beh-ai/ai-beh.*

Recall that *bo-beh* and *bo-ai* 'not-want' are competing forms of *m* 'not.want' in volition. *Beh* and *ai* seem to be interchangeable. Below I show evidence to

support this analysis and to associate it with the grammaticalization of volitional modals in Southern Min.

Examining synchronic TSM data, I found instances of both *beh-ai* and the reverse order *ai-beh*, with the former (38 tokens) outnumbering the latter (11 tokens).

(55) 你卜愛啥，我予你

li	**beh-ai**	siann,	gua	hoo	li.
2sg	*want/need*	*what*	*1sg*	*give*	*2sg*

'What do you need/want? I'll give it to you.'

(56) 愛卜娶某的人家已去尋對象

ai-beh	tshua-boo	e	lang	
want	*get.married*	*REL*	*person*	
	ka-ki	khi	tshue	tui-siong
	self	*go*	*look.for*	*partner*

'For those of you who want to get married, go look for your significant other by yourselves.'

The first order *beh-ai* is associated with two deontic meanings: volition and necessity. 30 out of 38 instances of *beh-ai* mean 'want' in the *beh-ai* with a nominal phrase construction; see (55). Five out of the eight remaining cases are used as modal auxiliary 'want': *beh-ai* + VP. The other three sentences express *beh-ai* as necessity, an example of which is given in (57).

(57) 伊講卜愛較緊 e

i	kong	**beh-ai**	khah	kin	e.
3sg	*say*	*must*	*more*	*quick*	*PAR*

'He said it had to be quick.'

On the other hand, the second order *ai-beh* mainly expresses modal 'want' (58).

(58) tse **ai-beh** tsuann kong. 這愛卜 cuann9 講?
this want how say
'What do you want me to explain?'

Back to the categories of *ai*, *ai* can be used in both volition and necessity meanings, with various forms, as shown in Table 5.11.

Table 5.11
The categorical distributions of *ai* in modern TSM

		lexical	modal
ai	volition	'love', 'want'	'want'
beh-ai, ai-beh	volition	'want'	'want'
(tioh-)ai	necessity	--	'need'

One may ask how has *ai* used in earlier days? Interestingly, the historical Min play *Lijing ji* records the use of *ai-beh*, but not *beh-ai*. The use of *ai-beh* in this text is mainly for 'want', with only few instances (34 tokens) out of the 338 tokes of *ai*. Below is an example of *ai-beh*.

(59) 心中愛卜共你相結義 Chang (2009: 60); 1566-1884 CE
sim tiong ai beh kah li
heart center ***love*** ***want*** *with 2sg*
siong kiat-gi
each.other become.sworn.brothers
'I'd love to become a sworn brother of yours from the heart.'

From these facts, I postulate that *beh-ai* or *ai-beh* is relatively more recent forms to express 'want'. This path follows grammaticalization, as one morpheme

becomes reanalyzed from a lexical to a functional category, moving from semantics to interpretable features, [i-F], another near synonym appears as reinforcement or renewal, such as *beh* and *ai* for each other.[122]

In the previous chapter, the ability *e-hiau* 'can' and the deontic possibility *e-sai* (i.e. the permissive 'can') are observed. More such as the *tioh-ai* (literally 'need-need') doubling in the paradigm of deontic necessity will be discussed.

To conclude, despite that Chang (2009) briefly notes a compound *beh-ai* as 'want' in contemporary Taiwanese Southern Min, but nothing hinges. I compared modern data with the 16th-17th century Min play texts, coming up with a conclusion that *beh-ai* and *ai-beh* are the byproduct of the diachrony of *beh* and *ai*. The choice of *beh-ai* over *ai-beh*, or vice versa, may have to do with sub-dialects, also noted by Cheng (2003). My consultants and I favor *beh-ai* over *ai-beh*.

5.3.6 Development of *beh-tih*.

The following paragraphs attribute to syntactic changes in the lexical verb *beh* 'to want'. For some speakers, *tih* 拄 'to obtain' is usually added between *beh* and the nominal phrase, as shown in the first part of the sentence in (60), where *beh-tih* and *m-tih* are matched.

(60)	i	**beh**	**(-tih)**	lin-go,	**m**		**tih/*(-tih)**	kam-a.
	3sg	*want*	*get*	*apple*	*not.want*		*get*	*tangerine*

'He wants to get apples, but not tangerines.'

[122] I do not mean that modals don't have semantics. The term "semantic features" are used to associate semantic bleaching from lexical use of verbs/nouns to a grammatical category.

While *beh* is relatively freer (it can occur with or without –*tih*), *m* has to be accompanied by -*tih*. This again indicates that *m* is not a full-fledged verb, on the one hand. On the other hand, under the circumstances in which –*tih* is attached to *beh*, *beh* can be a verb or a modal. Semantically and syntactically, *beh* loses its verbhood when another morpheme -*tih* is added, as in (60).

As *beh* is more likely to be used as a modal, based on previous literature, I examine the use of *beh* 卜 together with *tih* 得 'to obtain'. Surprisingly, there are only ten tokens of *beh-tih* in the contemporary Southern Min corpora. Below are two examples of such. In all cases containing *beh-tih*, a nominal phrase is often followed. This means *beh-tih* is a verb.

(61) 卜得彼的錢

beh	tih	i	e	tsinn.
want	*get*	*3sg*	*POSS*	*money*

'wanting his money'

(62) 如果伊若是卜得著這塊地裡，卜發展

ju-ko	i	na-si				
if	*3sg*	*if-COP*				
	beh	tit	tioh	tsit	te	te-li,
	want	*get*	*attach*	*this*	*CL*	*land*
		beh	huat-tian			
		want	*develop*			

'If he wants this piece of land for development'

Below is the search result for another writing 卜挃 *beh tih*. There are only 23 tokens of *beh-tih*, a fairly small number in the contemporary TSM corpora. My assumption for the less frequent co-occurrence of *beh* and *tih* is that *beh-tih*,

literally ‘want to get’, is more specific. There may be other factors such as age or regional differences, which is however beyond the scope of this study.

Diachronically, the combination of 卜得 also appears in *Lijing ji*. One out of the eight instances contains the ‘obtain’ reading; see (63). The other seven are the same line as (64), where 得 *tih* can be read as either ‘obtain’ or telicity. Sentence (64) is interesting, as 卜 can be read as either ‘want’ or ‘if’. *Tih* ‘obtain’ adds telicity to the verb ‘know’. As noted previously, the conditional complementizer is one of the categories developed later for *beh*.

(63) 再卜得桃是來年 S. Min; 16th-17th cy.

tsai	beh	tit	tho	si	lai	ni
again	*about/want*	*obtain*	*peach*	*COP*	*coming*	*year*

‘The next time to obtain peaches will be next year.’

(64) 爹媽若卜得知 S. Min; 16th-17th cy.

tia-ma	na	beh	tit	tsai
parents	*if*	*if*	*obtain*	*know*

‘If (my) parents know this, …’

If we look further back, only two instances of *yaode* 要得 , literarally ‘want-obtain’, *Zhuzi yulei* were attested, compared to *yao* 要, which consists of 212 tokens (Wu 2004a: 74-75). I show one example below; translation and transcription are mine. Recall that 要 is the writing for Chinese ‘want’, and 卜 often serves as a substitute for Min ‘want’.[123]

(65) 他只是要得恁地虛靜 (13th cy.; Wu 2004a: 75)

ta	zhi-shi	yao-de	zhendi	xujing

[123] MSC transcription is provided for (65).

3sg only-COP want-obtain freely peace
'He only wants to obtain a peaceful mind.'

The relatively rare use of *tih* with *beh* in the historical texts reveals that *beh* was stronger in its verbhood at the time than its contemporary use. The attachment of renewal *–tih* to the morpheme *beh* typically in present-TSM further indicates that *beh* is experiencing grammaticalization from a full-fledged to a modal auxiliary.

5.3.7 Development of *siunn-beh/siunn-ai.*

There are various ways in English to express volition, including *desire, feel like, long for, love, want, would like* and so forth. Likewise, *siunn beh* 想欲 or *siunn ai* 想愛 (*siunn* literally 'think') is also heard among speakers of Taiwanese Southern Min, along with the use of *beh-ai* or *ai-beh*. Out of 1350 tokens of *siunn* 想 'think' in the contemporary TSM corpora, *siunn-beh* 'want' accounts for 119 tokens and *siunn-ai* for 9 tokens.

Let us look further into examples with *siunn-beh*. First, the volitional *beh* can be replaced by *siunn-beh* 'think-want', the latter of which is however used as a modal in most cases. Below is a case where *siunn-beh* is used as a lexical verb, the only case out of the 119 *siunn-beh* tokens in the contemporary TSM corpora. The rest of *siunn-beh* are modals; see (67)-(68).

(66) 心肝想卜彼間廟

sim-kuann	**siunn-beh**	hit	king	bio.
mind	*think-want*	*that*	*CL*	*temple*

' Someone wants that temple. /(Someone's) mind is on that temple.'

Second, the conversation lines in (67) show that *beh* and *siunn-beh* are interchangeable expressions. *Siunn-beh* in (68) can be translated as ‘in order to’.

(67) 想卜過來共提安呢，

siunn-beh	kue-lai	kah	the	an-ne
think-want	*cross-come*	*PREP*	*get*	*PAR*

卜過來共提啦，

beh	kue-lai	ka	the	la.
want	*come*	*PREP*	*get*	*PAR*

‘thinking of coming to get (it)…wanting to get (it)’

(68) 去日本讀冊，想卜做醫生

khi	Jit.pun	thak-tsheh,	**siunn-beh**	tso	i-sing
go	*Japan*	*study*	*think-want*	*do*	*doctor*

‘Going to Japan to study, and wanting to become a doctor’

Example (69) shows that *siunn-beh* can take an adjectival complement.

(69) 你有想卜好額無？

li	u	**siunn-beh**	hoo-giah	bo?
2sg	*ASP*	*think-want*	*rich*	*Q*

‘Do you want to become rich?’

The other use, *siunn-ai*, differs more in semantics than in syntax in comparison with *siunn-beh*. Not only does *siunn-ai* place more limitation on the verb following it, but it is not used as often. For example, *siunn-ai* is usually followed by a verb such as ‘eat’, ‘sleep’, or ‘laugh’ in the corpora; see (70) as an example. This means that the desire meaning is still preserved in *ai*.

(70) 我想愛食竹筍仔啦

gua	siunn-ai	tsiah	tik-sun-a	lah.
1sg	*think-desire*	*eat*	*bamboo.shoots*	*PAR*

‘I feel like eating bamboo shoots.’

However, one common characteristic for *siunn-beh* and *siunn-ai* is that they are mostly used as modals, thus less compatible with nominal complements. The combination of *siunn-beh-ai* is also possible.

(70)’	gua	**siunn-beh-ai**	tsiah	tik-sun-a	lah.
	1sg	*think-want-desire*	*eat*	*bamboo.shoots*	*PAR*

‘I feel like eating bamboo shoots.’

I have so far addressed the possible candidates for volition ‘want’ in TSM: *beh*, *ai*, *beh-ai*, *ai-beh*, *siunn-beh*, *siunn-ai*, and perhaps *siunn-beh-ai*. Their categorial status or compatible complement is not exactly the same, nor is their semantics, which involves different degrees of volition. I provide two examples below; however, I do not intend to delve into this puzzle in this dissertation.

(71)	li	u	**beh**	khi	Taipak	bo?
	2sg	*ASP*	*BEH*	*go*	*Taipei*	*Q*

a. ‘Are you going to Taipei?’ (futurity)

b. ‘Do you want to go to Taipei?’ (volition)

(72)	li	u	**siunn-beh/siunn-ai**	khi	Taipak	bo?
	2sg	*ASP*	*think-want*	*go*	*Taipei*	*Q*

‘Do you want to go/think of going to Taipei?’ (volition)

We turn to the discussion of negation. As noted previously, *beh* ‘want’, *siunn* ‘think’, and *ai* ‘desire’ are often combined to form disyllabic volitional modals. Given that *bo-beh* and *bo-ai* are used among speakers of TSM, *bo-siunn-beh* or *bo-siunn-ai* should be possible as well. Below is one example from the corpora.

(73) 較早耍的囝仔伴

khah-tsa	sng	e	gin-a-phuann
early	*play*	*REL*	*childhood-friend*

攏嘛無想卜和伊耍矣

long	ma	**bo**	**siunn-beh**	ham	i	sng	a
all	*PAR*	*NEG*	*think-want*	*PREP*	*3sg*	*play*	*PAR*

'His childhood friends no longer want to play with him.'

I found no *bo-siunn-ai* in the corpora, but one of my consultants provided a sentence below.

(74)

gua	tsit-ma	**bo**	**siunn-ai**	tsiah	mi.
1sg	*now*	*NEG*	*think-desire*	*eat*	*noodle*

'I don't feel like having noodles now.'

Note that *bo* in the cases just discussed above in (73) and (74) is used as a pure negator; however, m_2 has been widely considered a generic/pure negator for stative verbs in Southern Min, just like Hakka *m* or Mandarin *bu*. What is going on here on *bo*? I leave this topic in chapter seven, where the grammaticalization of *bo* is investigated.

5.3.8 Concluding remarks.

To sum up, *beh* and *ai* are used together to represent volitionality although they have different sources. The grammaticalization paths for *beh* and *ai* look like (75) and (76).

(75) *beh*: 'like/want' > 'intend to' > 'going to/about to'

(76) *ai*: 'love' > 'want' (volition); 'need' (necessity)

Table 5.12 summarizes my findings for *beh*/*ai* and their negation. The complexity first comes from the cross-categorical modality in *beh* or *ai*, going vertically (to participant internal/deontic from epistemic, in the case of *beh*) and horizontally (volition to necessity, in the case of *ai*), based on van der Auwera and Plungian's (1998) modal system. [124]

Table 5.12
beh/*ai* in TSM

	volition	necessity
epistemic	*beh* 'going to'	[*tiann-tioh 'must'*]
participant internal	(*siunn-*)*beh* 'want' *ai* 'want'	 *ai* 'need' [*tioh* 'need']
participant external		[(*tioh-*)*ai* 'need'/'should/ ought to']

In the affirmative paradigm, another morpheme may be used to shift one category to a different one. One example is the epistemic *tiann-tioh* 'must', which is a combination of *tiann* 定 'definitely' and *tioh* 著 'need' (initially 'to attach'). Another case is the deontic necessity *tioh-ai* 著愛 'need', where *ai* is cross-listed in volition 'want' and necessity 'need'. With the additional *tioh*, the participant-internal meaning of 'need' is no longer available in *tioh-ai*. Details about the words in the brackets are provided in chapter six.

Secondly, negation of *beh* is also complex. Overall, other than the fused form *m*, volitional modals have developed their independent negation marking, using the negative *bo*, such as *bo-beh*, *bo-siunn-beh* or *bo-siunn-ai* 'not-want'.

[124] I use the terms vertically and horizontally to explain the interactions.

When it comes to the necessity modals, negation may be from another system, such as *ai* ‘need’ vs. *bian* ‘need.not’, the latter of which has an affirmative counterpart *tioh* ‘need’, however.

Next, the cross-categorical modal verbs are also intertwined with tense, such as *beh*, which can mean both ‘want’ (volitional) and ‘going to’ (futurity). The newly developed compounding forms, such as *beh-ai*, *ai-beh*, and *siunn-beh*, are more specific than *beh* in expressing volitional modality. The deontic necessity in *beh* is much less preferred than *ai*.

Lastly, a near synonym *ai* is more specific than *beh*, and may serve as a substitute for *beh* ‘want’ from time to time. *Beh-ai* ‘want-want’ is used more often than *ai* alone. Likewise, within the necessity system of *ai*, the same change occurs: the morpheme *tioh* is often accompanied by reinforcement *ai* ‘need’ to ensure necessity. The doubling phenomenon, which occurs in TSM positive modals, indicates a move from semantic to interpretable features in the morpheme involved. This feature loss-regain phenomenon is part of grammaticalization.

5.4 Grammaticalization of *beh*/*m*

I explain the grammaticalization of *beh/m* using the Minimalist Econony Principles to account for the verb serials in the TSM affirmative-negative volitional words. Also accounted for is the categorial shift in *beh* and *m*.

Table 5.13
TSM volitional paradigm

Affirmative volition 'want'	Negative volition 'not want'
beh(-ai); *ai(-beh*); *siunn(-beh/-ai*)	*m* ***bo**-beh, **bo**-ai, **bo**-siunn-beh, **bo**-siunn-ai*

5.4.1 *beh*: V > T.

While *beh* 'want' can be lexical and modal, its negative *m* 'not want' is only modal in contemporary TSM. Based on its historical development, *beh* has the following features. [125]

(77) *beh*: [desire/liking, intention, volition, proximity]

The change from V to T in *beh* takes shape in two ways. One is when *beh* changes from a lexical verb to a modal auxiliary 'want', and the other is *beh* as indicating temporal proximity 'going to'.[126]

The Economy Principles provide a good device to explain the reanalysis from v to V in syntax. The framework of grammaticalization also speaks for the reanalysis, "up the tree", phenomenon (van Gelderen 2004).

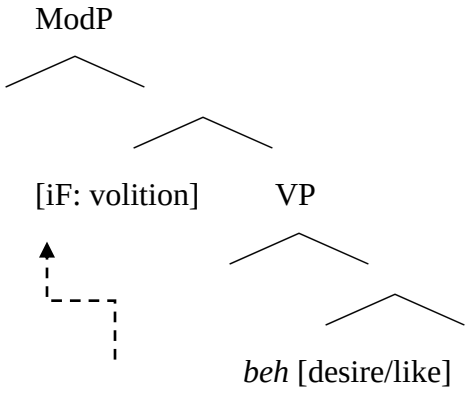
First, I assume that the semantic features of desire/like sets *beh* in the V (I ignore the VP shell for now). When *beh* gradually loses its lexical features, it becomes reanalyzed higher in the modal head, carrying [i-F: volition].[127]

[125] Some may see the features in (77) as denotations. I however use the term feature in the same way as Feature Economy.

[126] Note that TSM *beh* 'want' is not the same as English *want*.

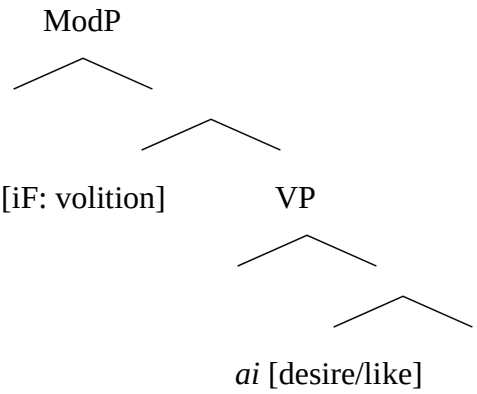
[127] I use [i-F] only to represent that the verbhood of *beh* is lost; I do not meant that

(78) Reanalysis of *beh as a modal*



When the V position is empty after *beh* is reanalyzed, another stronger semantic verb (e.g. *ai*) fills in, thus giving rise to a doubling *beh-ai* 'want'; see (79). *Ai* presumably is base-generated in V, and moves to v.

(79) Reanalysis of the lexical *beh-ai*



(80) i **beh-ai** kam-a.
3sg *want-want* *tangerine*
'He wants/wanted tangerines.'

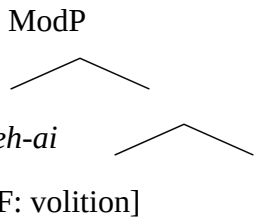
---

modals carry no semantics.

The choice of *ai* is not random, given that *ai* is a near synonym of *beh*. Also, the ordering can be vice versa. That is *ai* can be placed in the ModP head, inverting *beh*, and thus make another format: *ai-beh*.[128]

I assume that moving from V to T the volitional modal *beh-ai* follows the same grammaticalization path as *beh* in Figure 5.1.[129] Thus, *ai* is left-adjoined to *beh*, forming a disyllabic modal verb *beh-ai*. The V position can be filled by a verb such as *tih* 'to obtain' as in (82), which takes a nominal phrase.

(81) Reanalysis of modal *beh-ai*



(82)	i	**beh-ai**	tih	kam-a.
	3sg	*want-love*	*get*	*tangerine*

'He wants/wanted tangerines.'

The verb head can possibly be occupied by another volitional synonym if we begin with *siunn* 'think' and stack *beh* and *ai* below in the linear order. Other combinations include *siunn-beh* with a verb *ai* or *siunn-beh-ai* plus another verb.

[128] For this order, I assume that *beh* is a verb for some speakers. As my consultants and I do not have *ai-beh* in our lexicon, this issue needs further researching.

[129] I use T in a general term. That is, I see Mod or Asp as in the T. adopting the notion that Chinese does not express tense by grammatical means, I simply ignore TP in the tree.

(83) i **siunn-beh-ai** tsiah kam-a.
3sg *want* *eat* *tangerine*
'He wants to eat tangerines.'

For this order, I assume that *siunn* 'think' is in another (higher) ModP, given that *think* is epistemic (I adopt the cartography of two ModPs; chapter two). The composition of *siunn-beh* or *siunn-ai* is possibly different from that of *beh-ai* or *ai-beh*. I postulate that *siunn-beh* is a reduced form of two verbs from a matrix and subordinating clause containing a complementizer *kong*. The evidence comes from (84).

(84) gua siunn **kong** beh ka i khi.
1sg *think* *say* *want* *PREP* *3sg* *go*
'I wanted to go with him.'

When the C *kong*, literally 'say', is reduced, *siunn* and *beh* become adjoined, both of which are further reduced into one unit. *Siunn-beh* is more likely to be a case of lexicalization; nothing hinges on this.

(85) [$_{VP}$ *siunn* [$_{CP}$ *kong* [$_{TP}$ *beh*…]]]
> [$_{VP}$ *siunn* [$_{TP}$ *beh*…]]
> [$_{TP}$ *siunn-beh*…]

I have shown possible developmental paths for verb doublings in Southern Min. To summarize, the serial doubling or tripling can be accounted for by means of the Economy Principles. In the Southern Min cases presented here, the first element loses semantic features becoming [i-F] (interpretable features), but the second element (often newer) has semantic features. Evident is that *beh-ai* has a stronger sense in *ai* 'desire' than *beh*. The word *siunn-beh* 'want' has a core focus

on *beh* ‘want’ than *siunn* ‘think’. This in a way indicates that the first (often older) verb is weakening and likely has [i-F] as a modal auxiliary, instead. As is evident diachronically, *beh* as ‘want’ appeared before *ai*, and when *ai* later became grammaticalized from to volition ‘want’, *beh-ai* or *ai-beh* came into existence.

The above paragraphs discuss the use of *beh* as a volitional modal. I assume it is located in the lower TP, closer to the VP, as volition is participant-internal and highly connected to agency of the (animate) grammatical subject. I assume that this lower ModP is closer to the VP. There should be different projections for the two types of T (*beh* as modal and future): the former is more verb-like, whereas the latter is tense-like. So, ‘future’ *beh* occupies a higher position.

We shall proceed to discuss the projection for the other T (*beh* as future). As noted, *beh* as temporal proximity cannot be negated by *m* or *bo-beh*. The negation of this *beh* is the aspectual *bue* ‘not yet’. In a way, this *beh* may be in T, assuming a split TP, accommodating T, Mod and Asp.[130]

(86) thinn **beh** am ah.
sky about.to dark PAR
‘It’s getting dark.’

(86)’ *thinn **m/bo-beh** am ah.
sky not.going.to/not-going.to dark PAR
int. ‘It is not going to get dark.’

(87) thinn iau **bue** am.
sky yet not.yet dark
‘It has not become dark yet.’

[130] I do not intend to answer the question whether or not ‘future’ *beh* is a modal, moving to T. Under the general notion that Chinese does not express tense by means of T, I leave this topic open now.

I assume that the temporal *beh* is higher than the volitional ModP, based on the English data. See the relative position of deontic and epistemic modals in (88) and (89). These show that when aspect is involved such as (89), a modal is most likely to be read as epistemic. Hsin (1999) has also noted the same in TSM.

(88) *She **should** eat beef.* (deontic)

(89) *She **should** be eating beef.* (epistemic)

Along the same lines, *beh* in (90) is higher than the progressive aspect *tih*, thus this temporal *beh* should be reanalyzed higher than its volitional counterpart.

(90) 天欲慢慢仔 tih 變暗 a.

thinn	**beh**	ban-ban-ah	**tih**	pinn	am	ah.
sky	*beh*	*slowly*	*ASP*	*become*	*dark*	*PAR*

'It's going to slowly get dark.'

Another reason to assume a higher position for the temporal *beh* is from (91). There are two *beh*'s in (91), where the temporal *beh* and the volitional *beh* occupy a different position. I tentatively assign T and Mod to each.

(91)

i	**beh**	ma.siong	siunn-**beh**	li.khui.
3sg	*going.to*	*immediately*	*want*	*leave*

'He is going to want to leave right away.'

The sentence (91) is not ungrammatical, but (92) is more likely uttered by speakers of TSM.[131]

(92)

i	**e**	ma-siong	**siunn-beh**	li-khui.
3sg	*will*	*immediately*	*think-want*	*leave*

'He will want to leave right away.'

[131] The interaction between the paradigms of *beh* and of *e* is demonstrated in the next subsection.

Briefly, the V to T in *beh* can be conceptualized as follows:

(93) *beh*: V (volitional verb)
> Modal (volitional modal)
> Tense (future)

5.4.2 *m*: V > T > C.

The grammaticalization of *m* resembles that of *beh*, but differs in the fact that *m* is further reanalyzed in the CP layer. I assume that *m* is a fused form of negation and volition. Tang (1994) treats m_1 as a fusion from m_2 and *beh*, just like the other negatives; (94) and (95). Under such a proposal, m_2 is treated as a pure negator; the phonetic twins m_1 and m_2 have different semantics.

(94) m_1 'not.want' < m_2 + *beh* 'want'
(95) *be* 'cannot' < m_1 + *e* 'can'

I focus on the volitional m_1 'want'. There is no evidence for which character is used for *m* in Chinese, but the combination of a negative and a volitional verb such as (96) can be found in historical texts.

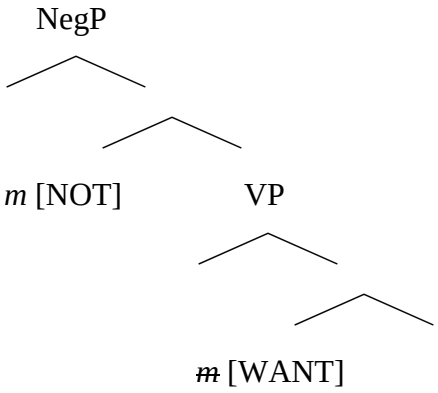
(96) 己所不欲，勿施於人。《論語》(the *Analects*; 475-221 BCE)

ji	suo	**bu**	yu,	wu	shi	yu	ren.
self	*SUO*	*NEG*	*want*	*NEG*	*do*	*PREP*	*person*

'Don't do unto others what you don't want others do to you.'

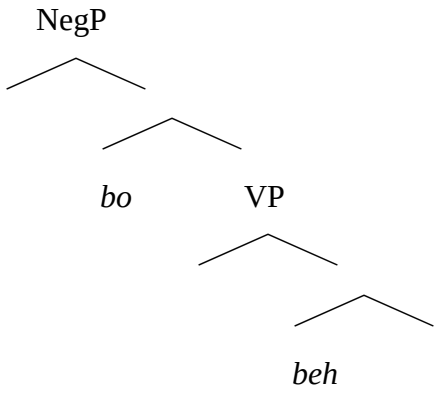
Recall that the lexical use of *m* is not attested in contemporary TSM, but its affirmative counterpart *beh* is. If *m* were a lexical verb before, the tree should look like (97).

(97) The negative *m*



The competing negative *bo-beh* or *bo-ai* ‘not-want’ has two projections (NegP and ModP); see (98).

(98) The negative *bo-beh*



The VP projection changes to ModP for the modal use of *m* or *bo-beh*. The reanalyzed *m* in the CP layer can at least take two directions: one is in questions and the other is in discourse, with *m* being in the left periphery of an utterance marking speakers’ mood.

One special note about *m* in C is that *m* has to check its modality in the ModP, as the question marker *m* often matches with the affirmative *beh* ‘want’, as in (99). This matching mechanism is also observed in other interrogatives.

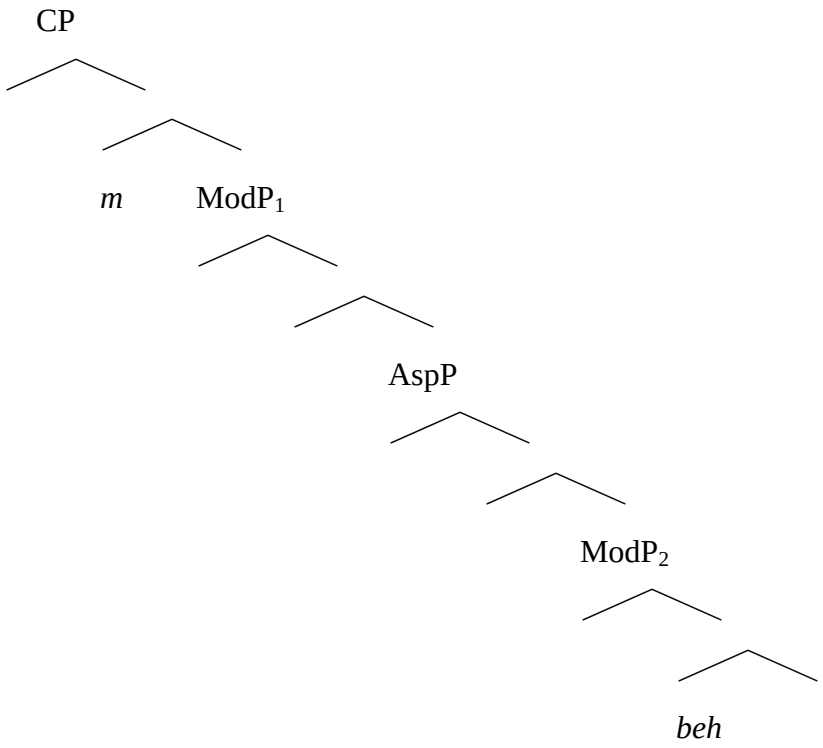
(99) i **beh** khi **m**? TSM

3sg *want* *go* *Q*

'Does he want to go?'

How is matching in (99) presented? I adopted a modified cartography as (100), where $ModP_1$ accommodates epistemic modals, AspP is in between, and $ModP_2$ is for volitional *beh*.

(100) *m* in C



The old paradigm for *m* as a question marker requires the positive counterpart *beh* in the declarative clause. This indicates that *m* carries interpretable modal features that have to be checked off. I assume that C [u-Mod; u-Int] probes down the tree and finds the Goal of *m*.

(101) *m*: [iF-modality; iF-interrogative]

However, a shift has taken place in the *m* interrogative paradigm. In many cases, *bo* can substitute for *m* in yes/no questions, so (102) is observable in contemporary TSM. This means that the interrogative *bo* is base-generated in C, serving as a non-modal question marker.[132] I revisit this topic in chapter eight.

(102) i **beh** khi **bo**?
3sg *want* *go* *Q*
'Does he want to go?'

The use of *bo* in questions with volitional modality is not a coincidence. Crucially, the negation of *beh* can take the shape of *bo* plus the affirmative modal *beh*. It is intriguing that the participation of the aspectual *bo* in both the negation and questions of the volitional *beh/m* system, given that m_2 is believed by many to be the universal negator for modal verbs. In contemporary TSM, the negative form *bo-beh* exists in the volitional system rather than **m-beh*. But now, *bo* can be a pure negative for volitional *beh*, and an interrogative marker in the C, with no uninterpretable modality features needed to be checked.

In this section, I ignore the other *m* (labeled as m_2) as it is a negative with no modality. I do not intend to discuss whether or not m_2 participates in the grammaticalization of m_1. I assume that it is a functional category projecting a NegP or IntP.

[132] Bo is an aspectual negative 'not.have', and is often paired with *u* 'have' when *bo* is used as an interrogative.

5.5 Comparative Studies

This section begins with a volitional typology and proceeds to each subcategory to which Southern Min *beh* applies. Like other types of modality, volition in general can be expressed across various categories, including words/phrases such as *want*, *intend*, *desire*, *love*, *like*, *feel like*, *would like*, *will*, *be willing*, *will power*, and *dare* in English. In this study, I limit volition to modal verbs. This section revolves around the use of Southern Min modal verbs *beh* and *ai* 'want', with a comparison with their counterparts in two other Chinese languages. Also included are English *want* and *will*, as both of which can convey volition, according to the literature.

5.5.1 Volition.

Verplaetse (2003: 152) views volition as "interconnected with two other categories [possibility and necessity]." With his propositional versus event modality, Palmer (2001) groups volition and ability as dynamic, together with the traditional deontic system, under the event category. This makes sense as volition and ability involve agency. Bybee and Fleischman (1995) also classify *desire* and *ability* as agent-oriented modality. Lyons (1977), however, regards volition as part of deontic necessity, assuming that desideratives (e.g. '*I want to have the book*') comes from directives (e.g. '*Give me a book*'). van der Auwera and Plungian (1998) mainly address modal distinctions between possibility and necessity, but exclude volition.

In this study, I classify volition as a third category, because volition has many overlapping areas shared with the possibility or the necessity system, based

on van der Auwera and Plungian (1998), introduced in chapter three. I do not, however, intend to say that this three-way distinction is better. The main purpose here is to provide empirical data to show that Chinese has a different volitional paradigm than English.

Bybee et al. (1994: 240) suggest typological grammaticalization paths for the concept of *desire*. I adopt two lines that are relevant to my study.

(103) desire > intention > future > come to want, order

(104) desire > intention > future > probability > come to think; concessive

I address the use of English *will* and *want* for two reasons. For one, Li (2003) translates Mandarin *yao* as 'will', 'need', and 'must', but never 'want'; however, *yao* in many of his examples are in fact equivalent to English *want*.[133] The other reason is that English *want* and *will* (and/or be going to) are frequently discussed by scholars, as these words share overlapping functions. For example, based on his corpus findings, Verplaetse (2003: 155) proposes that volition in English is shaped in three forms: the modal *will*, the quasi-modal *be going to*, and modal verb *want to*. Below I provide the grammaticalization path for the morphemes to be discussed in the following sections, including English *will* and *want*, and Chinese *yao* 要.

English will. The English *will* originated as **willan* in Old English. The online OED defines *will* as "desire, wish for, have a mind to, 'want' (something) [, and]; sometimes implying also 'intend, purpose'." Many other words based on

[133] I do not see this as a dialectal difference in that 'want' is the core use of *yao*. I assume that Li does not include the meaning of 'want' in his discussion of modal *yao* because *want* in English is still verb like.

this meaning come about in modern English, such as the adjective *willing* and the noun *will-power*.

The lexical verbal use of *will* only takes a fairly small portion in modern English, and is typically in a mental sense. The instance of (100) also shows a use of *want*.

(105) *I **will** him to do what I **want** him to do*. (James Berry, p.c.)

In present-day English, *will* is used as a modal in two major ways: prediction and volition; see (106) and (107). For other uses, see Coats (1983) and Gotti (2003: 285-289).

(106) ***Will** you marry me*? (Do you want to marry me?)
*Of course, I **will***. (I really want to.) Gotti (2003: 286)

(107) *John **will** mend the hole in the pipe*. Gotti (2003: 288-289) (the reading 'I predict that John will mend the hole', rather 'John is willing to mend the hole')

Note that the deontic reading is also crucial to *will*, as in (108) and (109).

(108) ***Will** you stop talking*! (Stop talking, please) (Gotti 2003: 287)

(109) *The successful candidate **will** have a university degree and be fluent in French*. (*will* = is required to) (Gotti 2003: 288)

Diachronically, the deontic use of *will* used to take up a large proportion, roughly about a half of the Middle English, but decreased to smaller than one third in early Modern English (Gotti 2003: 290-291). The prediction use in *will* however becomes the most prominent, accounting for 60% of Gotti's data, compared to the 24% of volitional use. This distinction generally matches with

Coats' (1983) modern English data, where a half of *will* is for prediction and one third is for volition.

English want. The categorial status of English *want* is controversial. Some agree that *want* is a modal auxiliary, while others don't. *Want* is often classified as a deontic verb, as opposed to *think*, which is often considered an epistemic verb. The modern definition for *want* in the OED is: 'to desire, wish for, often with an infinitive *a*s object' or 'to desire (a person) to *(*do something)'. According to the online OED, the etymology of English *want* probably comes from Old Norse *vanta* 'to be lacking or missing'. The sense of lacking is still in use in present-day English; see (110) and (111) (George Oliver, p.c.).

(110) *There's something **wanting** in her verbal communication.*
(111) *As a father of ten, he works hard so that his children are free from **want**.*

Boudin (2009: 333) suggests that *want* bears dual semantics between volition and necessity, and that the distinction is contextually sensitive; see his examples below.

(112) *You **want** to see her again, right*? (want = wish; volition)
(113) *You **want** to be careful*. (want = ought, need; deontic)

The following sentences show the use of *want* in the deontic necessity realm in a fairly strong sense.

(114) *I **want** the homework to be typed and stapled*. (order)
(115) *I **want** that the homework be typed and stapled*. (subjunctive mood)

However, under certain situations such as (116) and (117), *want* is used as a hedge. By using 'want', the utterance is less strong in terms of directiveness.

(116) *You will **want** to study hard, or you'll regret it*. (James Berry, p.c.)

(117) *You're going to **want** to make a first left at the intersection*. (George Oliver, p.c.)

My consultants feel that using *want* in (116) is to provide advice, which is less strong than the use of 'ought to' or 'should', or even 'must' in terms of deonticity. In the case of (117), *want* is to used to soften the directiveness of the imperative sense in 'Make a first left'.

Want is commonly used. In his study on English volition where sentences with the first person as the subject are examined, Verplaetse (1999: 111) found two thirds of data from *will* and the rest shared equally by *be going to* and *want to*. Verplaetse (2003: 179) concludes that "the expression of volition with the form *want to* is becoming more internalized in the grammar and taking an increasingly important place in contemporary English".

***Chinese yao* 要.** One of the meanings in Southern Min *beh* 欲 and *ai* 愛 is 'want'. I discuss *yao* here because the two TSM morphemes are somewhat equivalent to Mandarin *yao* 要 and Hakka *oi* 愛. Among the three Chinese languages, Mandarin *yao* and Hakka *oi* behave more alike in their usage, whereas Southern Min makes use of both *beh* and *ai*, and of disyllabic morphemes, such as *beh-ai* 'want' and *tioh-ai* 'should, must'. I have addressed *beh-ai* in this chapter; *tioh-ai* will be discussed in chapter six. The grammaticalization of *yao* is discussed below.

Cheng (2003: 124) suggests that *yao* originates as a noun, meaning 'essence and key point', as in (118).[134]

(118) 不可為典要 11^{th}-6^{th} cy. BCE

bu	ke	wei	dian	**yao**
NEG	*can*	*serve.as*	*book*	*essence*

'(They) cannot be essential rules.'

Chang and Chen (2003: 8-9) provide a more detailed categorial status for *yao*, shown below in (119) and (120).

(119) pre-Middle Chinese (2^{nd} BC-3^{rd} CE)

noun: 'waist', 'essence; key point; 'contract'

Adj: 'destitute'

Verb: 'to pursue a goal; to get'; 'to ask somebody to do something'; 'to threaten'; 'to invite/to sign a contract with'; 'to have to'

(120) Early Middle Chinese (3^{rd}-6^{th} CE)

Noun:	'essence; key point
Adj:	'destitute'
Verb:	'to invite'; 'to ask; pursue'; 'to have to'; 'want'
Aux:	'be going to'

As seen, the verbal *yao* carries deontic necessity as it is used to indicate 'to have to'. The *be going to* sense in *yao* is interesting in that in modern TSM the volitional *beh* can also be used as immediate future 'be going to; about to'.

[134] I changed her glosses into Pinyin.

(121) 陶又自要起同坐　　Cheng and Chen 2003: 9; 3rd-6th cy. AD

Tao	you	zi	**yao**	qi	tong	zuo
(name)	*again*	*self*	*want/going.to*	*rise*	*together*	*sit*

'Tao was going to stand up and sit with (him).'

As pointed out by Chang and Chen (2003), the meaning of 'want' and 'be going to' in *yao* 要 appeared in the early Middle Chinese era. The hypothetical 'if' for *yao* emerged in the late Middle Chinese era (7th-13th cy. CE) and was predominantly used in the Ming-Qing Dynasties (14th-17th cy. CE).

(122) 要不做底事，便不做

yao	bu	zuo	de	shi,	bian	bu	zuo
if	*NEG*	*do*	*DE*	*thing*	*therefore*	*NEG*	*do*

'If he doesn't want to do something, then he won't do it.'

Chinese ai 愛. Although Hakka *oi* is likely a cognate to Chinese 愛, 愛 *ai* in modern Standard Chinese (Mandarin) is mainly a lexical verb 'love, like' and not used the same way as does Mandarin *yao*. Based on Chang (2009: 65), Southern Min *ai* has undergone a development path, from lexical 'love/like/hope' to deontic necessity, despite the fact that these two usages co-exist in modern TSM.

The following subsections investigate each category covered by Southern Min *beh* and its counterparts in Mandarin and Hakka.

5.5.2 The lexical *beh.*

TSM *beh*, Mandarin *yao* and Hakka *oi* can all be used as verbs.

(123)	gua	**beh(-tih)**	kam-a.	TSM
	ngai	**oi**	gam-er.	Hakka
	wo	**yao**	juzi.	MSC

1sg *want* *tangerine*

'I **want** tangerines.'

As noted, *-tih* 'to obtain' can be added to *beh* 'want' to show one's desire, but no equivalent is found in the other two Chinese languages. In the English cases, *want* expresses verbal volition in present-day English and *will* is not a lexical verb; see the ungrammatical sentence in (124).

(124) *I **will** tangerines.

The negation of (123) is (125) where a negator scopes over the verb.

(125)	gua	**bo**-beh(-tih)	kam-a.	TSM
	ngai	**mo**-oi	gam-er.	Hakka
	wo	**bu**-yao	juzi.	MSC
	1sg	*NEG-want*	*tangerine*	

'I **don't** want (to eat) tangerines.'

5.5.3 The epistemic *beh.*

The epistemic system shows a parallel consistency among *beh*, *yao* and *oi*, yet the other volitional source *ai* 愛 in Southern Min cannot be used, as the second line of (126) shows. Mandarin *yao* may be replaced by an adverb such as (*ji*-)*jian* (即-)將 'about to', the latter of which is much less common in everyday speech.

(126)	**beh**	loh-hoo	ah.	TSM
	***ai**	loh-hoo	ah.	TSM
	oi	log-shui	leh.	Hakka
	yao	xiayu	le.	MSC
	a*bout*	*rain*	*PAR*	

'It's going to rain (pretty soon).'

Southern Min *ai* does not have epistemic meanings. It is, rather, a deontic necessity modal expressing obligation.

(127) #**ai** loh-hoo. TSM
must *rain*
intended: '(You) must rain.'

We shall also examine how English *want* or *will* behaves as epistemics. *Want* contains both lexical and modal categories, but only in the deontic sense. As seen in (128), *want* cannot be used as immediate future.

(128) **It* ***wants*** *to rain*.
Int. It's going to rain (soon).

The agency in *want* is strong, and the theta role of Agent in *want* cannot be assigned to the inanimate subject 'it' in (126). On the contrary, the epistemic *beh* is compatible with a human subject *gua* 'I' or inanimate non-human subject *hue* 'flower'; see (129) and (130) in which *beh* cannot be glossed as 'want'. In a way, English *want* is less grammaticalized than *beh*.

(129) gua mas-iong **beh** li-khui ah. TSM
3sg *immediately* *going.to* *leave* *PAR*
'I'm leaving immediately.'

(130) hue ma-siong **beh** khui ah. TSM
flower *immediately* *going.to* *bloom* *PAR*
'Flowers are going to bloom.'

On the other hand, English *will* is not equivalent to epistemic *beh*, either. The modal *will* in (131) shows prediction, and the most likely translation in Southern Min is *e*, as in (132).

(131) *It **will** rain tomorrow*. (prediction)

(132) bin-a-tsai **e** loh-hoo. TSM
tomorrow *will* *rain*
'It will rain tomorrow.'

Moving from the use of *beh* to *e*, we are now facing a puzzle. Considering Southern Min *e* is in the possibility paradigm (chapter four), how can *e* come into the volitional system, assuming *will* as a source of volition in English?

Example (133) shows that just like Southern Min *e*, Mandarin ability *hui* 會 and Hakka *voi* also occur in a similar fashion. We need to account for the use of *e*, *hui* and *voi* in the three Chinese languages to express prediction 'will'.

(133) bin-a-tsai **e** loh-hoo. TSM
tien-gong-ngid **voi** log-shui. Hakka
mingtian **hui** xiayu. MSC
tomorrow *will* *rain*
'It will rain tomorrow.'

I see the diachronic development of *hui* 會 as a reference for a possible source of volition in the Chinese language, as Southern Min *e* and Mandarin *hui* share a similar grammaticalization path, and *hui* and Hakka *voi* are considered cognates.

As Liu (2003) suggests, Chinese *hui* 會 originates as 'to meet, to merge' in *Shiji*, complied by Sima Qian (ca. 145 or 135 BCE – 86 BCE). The sense of 'comprehension' and of 'futurity' emerged in *Shishuo xinyu* 世說新語 (roughly CE 420-589). In *Zutang Ji* (the Nantang period, 937-975 CE), the lexical use of *hui* 'knowing/understanding' takes the largest proportion (97%), compared to the

lower frequency in the 'merge' meaning, futurity and modal use of *hui*. Not until *Zhuzi yulei* (13th cy. CE) did the use of 'understanding' (as in *li-hui* 理會) and 'ability' in *hui* begin to receive more attention.

(134) *hui*: 'to merge' > 'to comprehend' > futurity

Liu (2003) does not address the use of *hui* as volition. Intriguingly, Old English *willan* once gained the meaning of 'potentiality, capacity, or sufficiency: can, may, able to, is capable of –ing; is (large) enough or sufficient to' in the 14th century (Li 2003: 82). I regard this point as relevant in explaining the intertwined relationship between the volition and possibility systems.

Note that English immediate future *be going to* and prediction *will* are closely related. It is then not surprising to see that Mandarin *yao* and *hui* are somewhat interchangeable.

(135) huiqu **yao** bei wo ma ma de. MSC
return going.to PASS 1sg mom scold PAR
'I'm going to be scolded by my mom once I get back home.'

(136) huiqu **hui** bei wo ma ma de. MSC
return going.to PASS 1sg mom sold PAR
'I'm going to be scolded by my mom once I get back home.'

With these data, I disagree with Li's (2003) treating Mandarin epistemic *yao* as equivalent to English *will*. Mandarin epistemic *yao* is immediate future, while English prediction *will* is more like Mandarin *hui*. However, Li treats *hui* as 'may' in the possibility modal system, which I think is also problematic (see chapter 4).

In brief, the epistemic use in Chinese is parallel among SM *beh*, Mandarin *yao* and Hakka *oi*. English *want* has no epistemic usage and therefore is not

equivalent to SM immediate future *beh*. English *will* is more often used as an epistemic than volitional, but it differs from *beh*, as the former is for prediction and latter for immediate future. English *will* is not equivalent to *beh*; rather, *e* from the possibility paradigm should be used as the gloss for 'will'.

I have presented the interaction between volition and the possibility paradigms. We shall soon see how volition is intertwined with the necessity paradigm in the next subsection.

5.5.4 The volitional *beh*.

The volitional 'want' in TSM is expressed by means of *beh*, *ai*, *beh-ai*, *ai-beh* or *siunn-beh*. The words listed are not terribly interchangeable and neither are they an exhaustive list, however.

The two basic volition forms for Southern Min 'want' are *beh* and *ai*, to which Mandarin *yao* and Hakka *voi* are equivalents; see (137).

(137)	gua	***beh***/**ai*	khi	seh-ke.	TSM
	ngai	***oi***	hi	rhiu-gai.	Hakka
	wo	**yao**/*ai	qu	guangjie.	MSC
	1sg	*want*	*go*	*shopping*	
	'I want to go shopping.'				

Note that Mandarin *ai*, although written as 愛, is not in the system shown above. Mandarin *ai* basically means 'love' or' liking'.

We shall also examine the use of *e/be* as volition and its counterparts in Mandarin and Hakka. The volitional use of *will* often comes about in first person in declarative, such as (138), or second person in questions.

(138) gua **e** pang li sia. TSM
ngai **voi** pong ngi sia. Hakka
wo **hui** bang ni xie. MSC
1sg *will* *help* *2sg* *write*
'I will help you write (something).'

For third person, *e* as 'will' may not be as clear as it can. For instance, the 'will' in the translation line may indicate volition or prediction.

(139) i **e** pang li sia. TSM
3sg *will* *help* *2sg* *write*
'She will help you write (something).'

The 'will' paradigm is not that simple. For instance, *e* in (138) cannot be volitional, possibly due to the effect of passivization. English is the same.

(140) gua **e** hoo gun ma ma. TSM
1sg *will* *PREP* *my* *mom* *nag*
'I'll be nagged by my mom.'

The interpretation of *will* also involves verb types. To express a statement such as 'I am a teacher', the copula *shi* is used in Mandarin, as in (141).

(141) wo shi laoshi. MSC
1sg *COP* *teacher*
'I am a teacher.'

However, with a modal *will* an English sentence may be read in two ways. MSC makes use of two words, however. (143) and (144) are possible translations for the English sentence (142).

(142) *I **will** be a teacher in the future.*

(143) wo yihou **yao** dang laoshi. (volition)
1sg *future* *will* *COP* *teacher*
(144) wo yihou **hui** shi laoshi. (prediction)
1sg *future* *will* *COP* *teacher*

Yao in (143) expresses volition, whereas *hui* in (144) denotes futurity. The copula *dang* in (143) has the dynamics of 'to be/to become', while *shi* in (144) is simple a linking verb without semantics. Notice that *dang* and *shi* are used with different modal verbs.

Again, Mandarin *hui* is not necessarily prediction, *will* in promise involves volition; see (145). The promise 'I will' can be translated as (146).

(145) A: *Say hello to John.* B: *I* ***will***.
(146) wo **hui** de. MSC
1sg *will* *ASST*
'I will'

Lastly, under certain situations, *will* may tend to be read as volition, as in (147).

(147) A: ***Will*** *you marry me*? B: *I* ***will***.

The above issues regarding volitional *e* have not been fully addressed in the literature. To the best of my knowledge, Zhang (1999: 43-44) may be the only study listing the volitional use of TSM *e/be*. Nevertheless, he does not go into any in-depth discussion. The topic of English *will* as volition is debatable; I leave this issue to future research.

5.5.5 The deontic necessity in *ai.*

We have so far seen *beh* as epistemic and volitional as well as its counterparts in the other two Sinitic languages. However, *beh* is not the same as

Mandarin *yao*, particularly in the respect of necessity. For instance, *beh* does not express deontic necessity as in (148), but *ai* does. Hakka *oi* functions similarly to Mandarin *yao*.

(148)	li	**ai**/***beh**	tshing	kah	kao	e.	TSM
	ngi	**oi**	zhog	ha	shau-non	e.	Hakka
	2sg	*need*	*wear*	*more*	*heavy*	*PAR*	
	ni	**yao**	chuan	hou	yidianer.		MSC
	2sg	*need*	*wear*	*heavy*	*a.bit*		

'You need to wear warmer (clothes).'

Within Southern Min, the morpheme *beh* is used across two categories in the system: epistemic and internal participant volitional. *Ai* differs from *beh* in at least two ways. First, *ai* does not have epistemic usage. Second, whereas *ai* can express deontic necessity, *beh* cannot. *Ai* can be accompanied by another deontic necessity modal *tioh* 'need' (chapter Six). In other words, *ai* can express both participant internal volition and external deontic necessity.

Table 5.14
Beh vs. *ai* in TSM

SM	*beh*	*ai*
epistemic	(*tih*-)*beh* 'going to'	--
Participant internal	*beh*(-*ai*)/(*ai*-)*beh* 'want'	(*beh*-)*ai*/*ai*(-*beh*) 'want' *ai* 'need'
Participant external	--	(*tioh*-)*ai* 'should, must'

Li (2003) glosses Mandarin *yao* as 'will' (for epistemic use), and 'need' or 'should' for deontic use. He does not include the use of 'want' in *yao*. As demonstrated in Table 5.14, TSM *beh* does not cover all usages that Mandarin

yao or Hakka *oi* contains. Yet, TSM *ai* complements some categories lacking in *beh* in its system but available in Mandarin *yao* or Hakka *oi* 愛.

As for English, the morpheme *desire, love* or *like* does not extend to the deontic necessity sense as the Chinese languages do. There is however some tendency, as shown in (149), although the phrase *would love* or *would like* is polite and sounds more like an invitation.

(149) *I **would love/would like** you to do that.*

Another interesting topic in English is its deontic sense in *want*. Compare the following sentences (James Berry, p.c.).

(150) *You (will) **want** to study hard* (*, or you'll regret it.*)
(151) *You **should** study hard.*
(152) *You **must** study hard.*

The deonticity differs in degree. With *want* in (148), the speaker, often someone who has the authority, is in principle offering advice: 'I want you to study hard, but I can't force you'. The use of *want* here is in a way for hedging. Next, *should* in (149) is stronger than *want*, and *must* in (150) has an even stronger demand, close to an order. I do not find a close connection between (*tioh-*)*ai* and the three deontic modals listed above in Table 5.14. The degree distinction in TSM is typically made by tones or reinforced by an additional deontic adverb.

This English deontic use of *want* is often seen in second person as illustrated above, more examples below, where *want* is used as a hedge (George Oliver, p.c.).

(153) *You're going to **want** to make a left at the intersection.*
(154) *You may **want** to do this.*

This strategy can be seen in the Chinese languages, yet one may or may not find Mandarin *yao* in every such sentence, however. My Mandarin consultants feel that yao has a strong volitional meaning.

Below are Mandarin translations for (153) and (154), where *yao* only occurs in (155), but *bu.feng* is a hedge in Mandarin as in (156). Using *yao* in (155) makes one feel a strong necessity. In other words, *yao* may not be a hedge word like English *want*. Yet, changing it to interrogative *yao.bu.yao* softens the tone, as in (156)'.

(155) ni **yao** zai shizilukou zuo zhuan. MSC
2sg want LOC intersection left turn
'You're going to **want** to make a left at the intersection.'

(156) ni **bufang** zheme zuo. MSC
2sg not.hurt this do
'You may **want** to do this.'

(156)' ni **yao-buyao** zheme zuo? MSC
2sg want.not.want this do
'Would you like to do this?'

5.5.7 Concluding remarks.

The Southern Min necessity paradigm cannot do without *ai*, if one wants to see a system with (a) epistemic, (b) participant internal volition, and (c) participant external deontic necessity. Mandarin or Hakka simply makes use of one morpheme for all the three categories.

Table 5.15
Comparison of volition

	SM	MSC	Hakka
epistemic	(*ti-*)*beh* ‘going to’	(*kuai-*)*yao* 快要 ‘going to’	*oi* 愛 ‘going to’
Participant internal	*beh*(*-ai*)/ai(-beh)/*siunn-beh* 想欲 ‘want’ *su-iau*/*ai* ‘need’	*yao*/*xiangyao* 想要 ‘want’ *yao*/*xuyao* 需要 ‘need’	(*siong-*)*oi* 想愛 ‘want’ *oi* ‘need’
Participant external	(*tioh-*)*ai* 著愛‘ought to, must’	*yao* ‘ought to, must’	*oi* ‘have to, ought to, must’

One issue that I skipped in the previous paragraphs is the modal use of ‘need’ in *yao*. Li (2003) does not address the use *yao* as volitional ‘want’ although he touches upon *yao* as ‘need’ in expressing participant internal necessity.

The expression for ‘need’ in TSM is in fact the same as that of Mandarin, but pronounced in the literature reading as *su.iau* ‘need’ in TSM. As in (157), *ai* is also a possibility, but not *beh*.

(157) gua **su-iau/ai/*beh** khi be-tshai (ah).
1sg *need* *go* *grocery.shopping* *PAR*
‘I need to do the shopping.’

Just like English *want* and *will*, Southern Min *beh* and *e* both involve volition. This also means that *e* is across the possibility and another paradigm. I single out the use of *e* as ‘will’ in the middle for convenience of comparison.

Table 5.16
Two systems: possibility and volition

	possibility	*e*	volition
epistemic	*kho-ling e* ‘may, can’	prediction: *e* ‘will’	*beh* ‘going.to/about.to’
Participant internal	*e-hiau* ‘can’	volition: *e* ‘will’	*beh*; *ai* ‘want’
Participant external	*e-sai* ‘can’		*ai* ‘want’

Table 5.16 shows the Southern Min modal systems go vertically as modality does (across both epistemic and deontic). However, *e* is also found in the horizontal direction, which is cross-listed in both the possibility and another system. For instance, the English modal auxiliary ‘can’ can be epistemic, participant-internal (ability) and participant external (permission). TSM *e* behaves similarly, but it also goes to the English ‘will’ system, as shown in Table 5.16. Also, unlike TSM *e*, English *will* is not in the possibility system, under which another modal *can* plays an essential role. TSM *e* does not mean epistemic ‘may’ or ‘can’; instead, the adverb *ko-ling* from the literary linguisitc layer is used.

Another difference is that *want* cannot be epistemic, thus not appearing in Table 5.17. I am agnostic about the categorial status of *will* as volition, and I distinguish *will* from *want* because they behave differently.

Table 5.17
English *will* and *want*

	will	want
epistemic	I **will** eat soon. (prediction)	--
Participant internal	I **will** do this for you. (volition)	I **want** to eat. (volition)
Participant external	--	You will **want** to make a left. (to advise) I will **want** to listen carefully. (weak deontic) I **want** that this paper be finished by Monday. (deontic necessity)

Cross-linguistic studies have been conducted on volitional modal systems. This study focuses on the differences between English and the three Sinitic languages under investigation. In principle, like English *will* and *want*, Chinese has two source lines for volition from words equivalent to 'will' and 'want'. However, there are two important differences. Chinese words for 'want' are more grammaticalized than English *want*, and the Chinese 'will' related words also appear in another modal system (possibility, chapter 4).

5.6 Conclusion

This chapter focuses on the use of *beh/m* in Taiwanese Southern Min. Volition is only one of the categories in *beh/m*. Doublings such as *beh-ai* 'want' and *siunn-beh* 'want' derive from the affirmative *beh*, just like *e* in the previous chapter. These doublings arise in language change: when the semantic features in a morpheme become interpretable [i-F], and a near synonym comes about, a disyllabic word is made. *Beh* can be used as marking immediate future, and can

serve as a conditional complementizer too. The grammaticalization path shows the reanalysis moving upwards in the tree, as evident cross-linguistically. The reanalysis shows that the epistemic modal is higher, and the volition one is lower but higher than the VP.

There is a distinction between m_1 'not.want' and m_2 'not'. The former is to negate *beh* 'want', whereas m_2 is for copular or stative verbs, including other volitional modals. The negation of volition does not rely on *m* 'not.want' solely. The other way to look at volitional negation is the alternative forms, *bo-beh* and *bo-ai*, although they are not completely interchangeable with m_1. *Bo* in these cases is a pure negative, perhaps this *bo* should be labeled in the same fashion as bo_2, as opposed to bo_1, the latter of which is aspectual negation 'not.have' (chapter seven).

My etymological research for the origin of *m* 毋 is not successful. From the use of *bo-beh* just noted, we may postulate that *m* 'not.want' has an abstract Neg head projecting right up the VP or ModP, where a verbal head 'want' is situated.

Not only is negation, but the interrogative system is also undergoing changes. The interrogative m_1 usually checks *beh* in the declarative utterance, but this question marker has been replaced by *bo*. Nevertheless, the newly developed negative *bo-beh* or *bo-ai* has not yet reanalyzed as an interrogative.

Mandarin *yao* 要 (initially 'essence, waist') is more similar to Hakka *oi* 愛 (initially 'love, desire') than TSM *beh*; however, three words originate from different sources. Ranging from the immediate future 'going to', participant internal volition 'need', to deontic necessity 'ought to', the above two morphemes

cover more categories than does Southern Min *beh*. In principle, *beh* has no deontic necessity usage, and *ai* (initially 'love, desire') fills this gap, and can be cross-listed in both the necessity and volition systems.

The English data are interesting too. I compare *will* and *want*, as they both express volition. Originating from *willan* in Old English, *will* is the source for 'desire' and functions as a volition modal, just like Southern Min *ai*. While the volition meaning in *will* exists, the prediction use is much more prominent in *will* in Present-day English. The two-way use of *will* is not captured by the Southern Min volitional modal *beh* 'want' or *ai* 'want', but *e* 'can'. *E* is the main morpheme in the possibility paradigm, as introduced in chapter 4. In other words, *e* can mean 'can' and 'will'.

Want originates as the Old Norse 'lacking, missing' and becomes a volition verb in English. This 'desire' source is interesting as it comes from 'not.having' to 'wanting (something)'. The English *want* is not equivalent to TSM *beh* 'want'. With regards to categories, *beh* is more modal than lexical, while *want* is the other way around. English *want* cannot be used to express immediate future as does TSM *beh* 'be going to'. *Beh* has no deontic necessity, but English *want* does, despite that *want* is now often used as a hedge. Briefly, TSM *beh* differs from *want*, although semantically they are both volitional.

To conclude, the modal system in Southern Min is complex. I have visited the volition and possibility systems in this and previous chapters. Some topics addressed in this chapter will also be revisited in the following chapter.

Chapter 6

THE NECESSITIVE MODALS TIOH AND BIAN

This chapter is on the last modal pair in Southern Min: *tioh* 'need' and *bian* 'need.not'. I have introduced two types of modal negation, namely abilitive and volitional in previous chapters, and this current chapter deals with a third type: necessity modality.

This chapter is structured as follows: the synchrony and diachrony of *tioh/bian* are presented in sections 6.2 and 6.3. I discuss the grammaticalization of *tioh/bian* in section 6.4, where theoretical accounts are laid out. Section 6.5 is on cross-linguistic necessity modality, followed by a concluding section.

6.1 Introduction

The third modal pair includes *tioh* 著 'need' and *bian* 免 'need.not'. The affirmative *tioh* has been well studied in the Chinese literature, yet its negative counterpart *bian* has often been neglected.

Tioh has an original meaning of 'to attach'. The necessity modality occurred in the time of Middle Chinese when *tioh* was used as a verb or as the modal 'need'. In contemporary TSM, *tioh* is not used as a verb, and its modal use is often accompanied by a renewal *ai*, originally meaning 'love'. Both *tioh* and *ai* are discussed in this chapter.

The negative *m*, when attached to the affirmative *tioh*, **m-tioh*, does not bear the meaning of 'not-need'. The negative counterpart of *tioh* is, rather, a different lexical entry: *bian*. *Bian* 免 has an origin in meaning 'to exempt; to escape'. Like

the other two negatives (*be* 'cannot' and *m* 'not.want') introduced in chapters four and five, modality and negation are fused in this signal morpheme *bian* 'need.not'.

In addition to *tioh* and *bian*, I also discuss other Southern Min modals in the necessity paradigm that are equivalent to English 'should', 'have to', or 'must'.

6.2 Synchrony of *tioh*/*bian*

This section discuses the use of affirmative *tioh* 'need' and *bian* 免 'need.not'.[135] I only introduce the necessity modality use of *tioh*, and ignore other categories in which *tioh* occupies a post-verbal syntactic position. Unless noted otherwise, all sentences are contemporary Taiwanese Southern Min in this section.

6.2.1 The lexical *tioh*.

Tioh as a lexical verb does not exist in TSM. There are 4,400 tokens of 著 from the TSM corpus.[136] I checked the first two hundred tokens among which I found no lexical use. I expected sentences such as (1), where *tioh* as a verb 'need' is predicated by a nominal phrase.

(1) *tse **tioh** tsinn.
this needs money
'To buy this, one needs money.'

My consultants supplied other verbs for the same sentence; see (2), where *ai* 愛 or *su-iau* 需要 'need' is used.

[135] I gloss all cases of *tioh* as 'need' for convenience although they may mean 'should', 'have to', or 'must' under different contexts. I treat the glosses of *bian* in the same fashion.

[136] 著 has a wider range of usage with different pronunciations; section 6.3.

(2) tse **ai/ su-iau** tsinn.
this needs money
'To buy this, one needs money.'

S*iu-iau* is from the literary linguistic layer. There are only 11 tokens of *su-iau* found in the corpus, including nouns, verbs and modals. *Ai* is a renewal for necessity modality; I discuss this function of *ai* in section 6.2.3.

Yang (1992) provides an example in which *tioh* functions as a verb, meaning 'need', as in (3). However, this use of *tioh* is in a question, co-occurring with its negative counterpart *bian* 'not.need'.

(3) **tioh** sann iah **bian**? 著衫也免？
need clothes or need.not
'Do (you) need clothes?' (Yang 1992)

One of my consultants thought that he might use (3) and heard it spoken by others. Yet, he provided two other versions, as (4) and (5). In (4), he uses the disyllabic *tioh-ai* as the verb, whereas *bo* replaces the interrogative *bian* in (5).

(4) **tioh-ai** sann iah **bian**?
need-need clothes or not.need
'Do (you) need clothes?'

(5) **tioh/ai** sann **bo**?
need/need clothes Q
'Do (you) need clothes?'

Sentence (6) with another verb *su-iau* 需要 'to need' is another option too.

(6) **su-iau** sann bo?
need clothes Q
'Do (you) need clothes?'

Briefly, the fact that *tioh* appears in a restrictive environment indicates that *tioh* 'need' is losing its verbhood. We observe grammaticalization taking place in necessity *tioh*; alternative necessity *ai* 愛 is often used.

6.2.2 The modal *tioh.*

Another category of *tioh* is necessity modal, yet this use of *tioh* is not productive. There is nearly no modal use found among the first hundred tokens of *tioh* in the corpus. Checking 100 more tokens, I only discovered three instances of *tioh* as a modal, with two cases appearing as *tioh-ai*; see (8) and (9).[137]

(7) 我那著救你的命。

gua	na	**tioh**	kiu	li	e	mia.
1sg	*why*	*need*	*save*	*2sg*	*GEN*	*life*

'Why do I have to save you?'

(8) 家己仔著愛小心。

ka-ki-a	**tioh-ai**	sio-sim
self	*need*	*careful*

'You need to be careful.'

(9) 妳毋著愛趕緊說。

li	m	**tioh-ai**	kuann-kin	kong.
2sg	*M*	*need*	*hurry*	*say*

'You should speak now.'

My consultants provided three options. As in (9), *tioh* is often accompanied by *ai*, although *ai* can stand alone without *tioh*. The pragmatics may change from one usage to another, but situations vary because tone also plays a role.

[137] I will discuss the function of *m* in (8) in section 6.2.8.

(9) li **tioh/tioh-ai/ai** tshing khah tse sann.
2sg need/need-love/need wear than more clothes
'You need to wear heavy.'
'You are advised to wear heavy.'

6.2.3 *Ai* as necessity modality.

I discuss *ai* as lexical with the meanings of 'love' and as a volitional modal 'want' in chapter five. This current chapter adds a third use to *ai*, that is necessity modality, from which a disyllabic *tioh-ai* 'need' derives. TSM uses *tioh* 著, *ai* 愛 and *tioh-ai* 著愛 for necessity modality, yet each is characterized differently. I examined the first 100 tokens of each morpheme from the TSM corpus. The use of *tioh* as modality 'need' is much less in common; see (11).

(11) A: 你著愛救我的命，
li tioh-ai kiu gua e mia
2sg need save 1sg GEN life
'You must save me.'
B: 我那著救你的命。
gua na tioh kiu li e mia.
1sg why need save 2sg GEN life
'Why do I have to save you?'

I next investigate *ai*. As illustrated in Table 6.1, *ai* consists of three major meanings in the first hundred tokens examined.[138]

[138] There is one case that is unclear to me, so it is excluded.

Table 6.1
The meaning distribution of *ai*

meaning	Number of tokens
'need'	lexical verb: 3; modal verb: 66
'want'	11
'love; like'	V: 13; N: 3; ADJ: 3

The necessity modal use accounts for two thirds of the data; the remaining cases are *ai* as volitional 'want' and its lexical use of 'love'. Below is an example of *ai* as necessity verb.

(12) 是愛偌濟錢啦？

si	**ai**	gua-tse	tsinn	lah?
COP	*need*	*how.much*	*money*	*PAR*

'How much does (this) need?'/ How much is it?'

Secondly, I discuss the corpus result of *tioh-ai*. All the first hundred tokens of *tioh-ai* are used as necessity modals. *Tioh-ai* and *ai* may be used by the same speaker alternatively; (13) is one example.

(13) 著愛提伊做模範，

tioh-ai	theh	i	tso	boo-huan,
need	*make.use*	*3sg*	*do*	*role.model*

愛照伊安呢做。

ai	tsiau	i	an-ne	tso.
need	*follow*	*3sg*	*this.way*	*do*

'(Someone) needs to use him as a role model and follow him.'

Modality doubling for emphasis is also possible; *ai* appears with an additional adverb or another modal: *it-ting* 'definitely' in (14) and *ing-kai* 'should' in (15).

(14) 一定愛好好栽培這二个囝仔

it-ting ai	ho-ho	tsai-pue	tsit	nng	e	gin-a	
definitely	*need*	*well*	*cultivate*	*these*	*two*	*CL*	*son*

‘(Someone) must raise these two boys well.’

(15) 應該愛來尋這个目標

ing-kai	**ai**	lai	tshue	tsit	e	bok-phiau.
should	*need*	*come*	*look.for*	*this*	*CL*	*target*

‘(Someone) should begin to look for a target.’

The interchangeable *ai*, *tioh* and *tioh-ai* have been recorded in previous research such as Cheng (1980: 51) and Hsin (1999: 24); however, they do not connect the use of *ai* to another modality, namely volitional *beh*.

Recall that *ai* is used to express volition and is often attached to *beh* ‘want’ in the form of *beh-ai* ‘want’ (chapter five). *Tioh* is undergoing a similar reanalysis, resulting in the competing forms of *tioh*, *ai*, and *tioh-ai*.

The negation of *ai* ‘need’ is *bian* ‘not.need’, but not **m-ai* or **bo-ai*.

Table 6.2
The use of *ai* in TSM

ai	volition	necessity
affirmative	*ai* ‘want	*ai* ‘need’
negative	**m-ai* *bo-ai* ‘not-want’ *m* ‘not.want’	*m-ai*: prohibitive ‘do not’ **bo-ai* *bian* ‘need.not’

Last, there are two other possible candidates for necessity modals: *su-iau* 需要 and *bi-su* 必須. They occur, however, in small numbers, with only 11 tokens

of *su-iau* and two tokens of *bi-su*. Both words are from the literary linguistic layer, and are not often used in everyday speech.

6.2.4 *Tioh* as a conjunction.

Chen (2003: 53) regards *tioh* in the following case as a connective adverb.[139]

(16) i khuann gua ak kah kui sin-khu,
3sg see 1sg drench PREP all body
'She saw me drenched,'
tioh iong ui-ku-kin-a kah gua tshit thau bin.
TIOH use towel PREP 1sg wipe head face
'and (then) wiped my head and face dry with a towel.'

As seen in my translation, *tioh* provides a temporal sense of an event happening shortly after a previous one. Chen (2003: 51-52) provides five examples with *tioh-ai* and suggests *tioh* in those as functioning as a connector.[140] One example is (17).

(17) ki-jien beh tshua lan Gin-ti-a,
since want marry our (name)
i **tioh-ai** tann tsik-jim lah.
3sg TIOH-need carry responsibility PAR
'Since he wants to marry Gin-ti-a, he has to take responsibility.'

However, I do not consider *tioh* in (17) to be a temporal connector; rather, *ki-jien* 'since' is the conjunction. *Tioh* and *ai* together denotes necessity modality.

---

[139] I change her original translation as she does not translate the disposal marker *ka*. She seems to have translated *ka* as *hoo* 'give'. I also changed some part of her transcription and glosses, such as *men* 免> *bian*, and *ai* 愛 'must' > 'need'.

[140] I change all her transcriptions to fit with the system I use in this dissertation.

Chen analyzes *tioh* in (18) as a clausal connector.

(18) m si hioh-khun-jit,
NEG *COP* *holiday*
tioh-ai khi thak-tsheh,
TIOH-need *go* *study*
bian khi tshan-li
need.not *go* *field.inside*
'When it is not a holiday, (they) have to go to school, but to work in the field.'

Tioh in (18) can be a modal too, as *tioh* 'need' and *bian* 'need.not' are parallel in this utterance. A conjunction is not obligatory in order to connect two thoughts in the Chinese language. The first part can also be read as 'on a non-holiday', under which there is no need for a clausal connector.

Chen (2003: 51-52) argues that in (19), "when the condition … 'half an hour later' is fulfilled, then the event … 'to pick them up at the gate' will be undertaking.' But her translation does not show such a sequence 'I **then** need to pick them up at the gate'.

(19) pa-a bu-a sann-tiam puann beh lai,
father *mother* *three-o'clock* *half* *about.to* *come*
koh puann tiam-tsing **tioh** **ai** khi mng-khau
more *half* *hour* *TIOH* *need* *go* *gate*
tsiap in.
pick.up *them*
'Father and Mother are coming at three-thirty. In a half hour, (I) will need to pick them up at the door.'

I agree with the temporal sense of *tioh* being translated as 'then'. However, I see *tioh* as connecting the time adverbial 'in a half hour' to the necessity of 'picking

them up at the gate', rather than connecting '(their) coming in thirty minutes' to 'picking them up'. There is a possibility in which *tioh* and *ai* are one unit, indicating the necessity modal reading of 'need'.

It is however difficult to distinguish the modal *tioh* in *tioh-ai* from the temporal use of *tioh* 'then/soon after'; typically both share the same pronunciation and occupy a pre-verbal position.

6.2.5 The negative *bian*.

As noted in Table 6.2, the negation of *tioh*, *ai*, or *tioh-ai* 'need' is not **m-tioh*, **m-ai* or **m-tioh-ai*. *Bian* is the negation, but *bian* is not a phonetic fusion from negation plus its affirmative *tioh*.

(20) NEG + *tioh* 'need' ≠ *bian* 'need.not'

I look at both lexical and modal uses of *bian*. Just like its affirmative counterpart *tioh*, *bian* is rarely used as a lexical verb. Previous studies such as Li (2007) and Lien (2008) do not include the verbal usage of *bian*, but I found the lexical use of *bian* as in (22) and (23) from the TSM corpus. The use of *bian* can be interpreted as 'exempt from'.

(22) tse **bian** tsinn. 這免錢
this *exempt.from* *money*
'This is free.'

(23) li **bian** huan-lo. 你免煩惱
2sg *exempt.from* *worry*
'No worries.'

Bian in (22) and (23) is probably a set phrase with the noun. Many instances with *bian-tsinn* occur in the corpus; see (24).

(24) 圓仔湯食免錢的呼

inn-a	thng	tsiah	bian-tsinn	e	hoo
rice.ball	*soup*	*eat*	*not.need-money*	*ASST*	*PAR*

'Rice ball soup is free, right?'

Next, the modal *bian* denotes necessity 'need.not'. *Bian* in the same sentence in (23) can be read as 'need.not'. Below are two examples.

(25) li **bian** huan-lo. 你免煩惱

2sg	*not.need*	*worry*

'You don't have to worry.'

(26) 予你借去了後我就免生活…啊！

hoo	li	tsioh	khi	liau-au		
PASS	*2sg*	*borrowgo*		*after*		
	gua	tioh	**bian**	sing-uah	ah	
	1sg	*then*	*not.need*	*make.a.living*	*PAR*	

'After (the tool) was borrowed by you, (I) didn't have to make a living.'

Li (2007) suggests that the modal *bian* expresses obligation, such as in (27).[141]

(27) 下晡的會汝免去參加。 SM; Li (2007: 147)

e-po	e	hue		
afternoon	*GEN*	*meeting*		
li	**bian**	khi	tsham-ka.	
2sg	*need.not*	*go*	*participate*	

'You don't have to attend the meeting in the afternoon.'

6.2.6 The interrogative *bian.*

As noted, the negative morphemes are often used as interrogative markers.

[141] Transcription and translation are mine.

We have seen *be* ‘can.not’ and *m* ‘not.want’ in the previous chapters. However, I did not find any instance of *bian* as an interrogative in my corpus.

We have seen *bian* used in questions previously in section 6.2.1, when *tioh* is discussed. I repeat the sentence below for convenience. However, (28) is not from the TSM corpus.

(28) tioh sann a **bian**?
need clothes or need.not
‘Do (you) need clothes?’

Li (2007) in his grammar book on Southern Min provides similar examples, where *bian* appears at sentential final position; see (29) and (30).

(29) 卜請儂客著買魚也免？ SM; Li (2007: 161)
beh tshiann-lang-kheh **tioh** be hi a **bian**?
want host-guest need buy fish or need.not
‘Do (we) buy fish to host our guests?’

(30) 著曝較燋也免？ SM; Li (2007: 161)
tioh phak kha ta a **bian**?
need make.dry more dry or need.not
‘Do (I) have to dry it completely?’

One can see the pair *tioh* ‘need’ versus *bian* ‘need.not’, in these questions. My consultants agree with the use of (28)-(30). They, however, use *bo* as a Q for these questions. The productivity test from the corpora provides a hint, and the disjunctive use ‘need or not.need’ in these cases reveals that *bian* is still a negative. Unlike the other negatives, *bian* is not an interrogative marker.

6.2.7 The prohibitive.

Modality is connected to imperatives or prohibitives, which often take place in the 2nd person. *Mai* from the fusion of *m* 'not' and *ai* 'need' is also often used; (32) and (33).

(31) **bian** koh kha ah.
PROH again call PAR
'There is no need (for you) to call again.'

(32) **mai** koh kha ah.
PROH again call PAR
'Don't call (someone) again.'

(33) li **mai** luan kong.
2sg MAI messilysay
'Do not make up things.'

Mai is only used in the 2nd person subject, as (34) is ungrammatical.

(34) *i **mai** khi.
3sg PROH go
Int. 'He had better not go.'

Mai can appear with another modality, such as *siong-hoo* 'had better', with which the tone is softened.

(35) li siong-ho **mai** khi.
2sg the.best PROH go
'You had better not go.'

Another common prohibitive in TSM is *m-thang*.

(36) **m-thang** koh kong ah.
PROH again say PAR
'Don't say any more.'

(37) li **m-thang** bo khi hak-hau.
2sg *not-allow* *NEG* *go* *school*
'You cannot not go to school.'

6.2.8 *m-bian* as negative concord?

Li (2007) and Lien (2008) both suggest that *m* and *bian* involve negative concord. Li's reasoning comes from (38), where two negatives *m* and *bian* are used, but the interpretation of the sentence takes one negative only.

(38) 我著去唔？唔免，我家己去。 SM; Li (2007: 155)
gua tioh khi m?
1sg *need* *go* *Q*
'Do I need to go?'
m-bian, gua ka-ki khi.
M-BIAN *1sg* *self* *go*
'No, I myself will go.'

Li (2007) provides two examples with *m-bian*, and both are in the answer portion. Yet, Lien has examples where *m-bian* is a modal verb; see (39).

(39) 我毋免提你的工錢啦 TSM; Lien (2008: 10)
gua **m-bian** theh li e kang-tsinn la.
1sg *M-BIAN* *take* *2sg* *POSS* *labor-money* *PAR*
'I need not take money (wages) from you.'

Lien's (2008: 10) found 188 tokens of such usage in his modern TSM corpus, which indicates high productivity of *m-bian*.

The first question to ask is the status of *m* in these instances. The volitional m_1 'not.want' differs from *m* in (39). Is *m* in (39) the same as the pure negator m_2,

which is typically used with stative verbs and modals (chapter five)? The answer is no, because m_2 is 'not', but the *m* in (39) does not yield negation.

I provide two analyses. The use of *m* together with *bian* may be contributed to the denasalization of *b* in *bian* from *m*, which is the initial consonant of 免.

(40) *mian* > *m-bian*

If the above is not the case, then *bian* may be losing its negativity. This can be rephrased as whether or not *m* is a renewal for *bian*.

Interestingly, *m* is also used with the affirmative *tioh* without negativity, as in (41). That is, when *m* and *tioh* is used, the sentence has the same meaning as when *tioh* stands alone.

(41)	li	(**m**)	**tioh**	khah	tsa	khun	le.
	2sg	*M*	*need*	*more*	*early*	*sleep*	*PAR*
	'You have to go to bed earlier.'						

This phenomenon is also found in Lien (2008: 10), where he suggests that *m-tioh* is used to look for agreement from the listener. I found cases where *m-tioh(-ai)* shows impatience; see (42).

(42) 問你的話，妳毋著愛趕緊講

mng	li	e	ue,	li	**m**	tioh-ai	kuann-kin	kong.
ask	*2sg*	*GEN*	*word*	*2sg*	*M*	*need*	*hurry*	*say*

'(Someone) is asking you. You should speak now.'

Lien notes that when *m-tioh* precedes a modal, it is to provide suggestions.

(43) 你毋著毋通叫我去共你保你 TSM; Lien (2008: 10)

li	**m-tioh** m-tang	kio	gua
2sg	*M-tioh not-allow*	*ask*	*1sg*

khi kah li po li.
go *PREP* *2sg* *bail* *2sg*
'You had better not ask me to bail you out.'

As *m* in (42) and (43) can be dropped, I analyze *m* as an emphatic marker. Table 6.3 summarizes the various categories of *tioh* and *bian* in contemporary TSM.

Table 6.3
Categories of *tioh* and *bian*

	V	MOD	Discourse marker	INT
tioh	√	√	√	
bian	√	√		√

6.3 Diachrony of *tioh*/*bian*

In this section, I synthesize previous studies on *tioh*, in addition to my corpus analysis, and trace the origin of *bian* in the history of the Chinese language.

6.3.1 The multi-functional *tioh*.

The modal *tioh* is recorded as 著 in the Southern Min literature. The character 著 has various pronunciations, and carries a larger number of categories than the other verbs discussed in the previous chapters. The *Hanyu da cidian* has the following lexical entries for this morpheme. The pronunciation is in MSC.

Table 6.4
Definitions of 著 in Chinese

zhu	V: to make clear, to show, to establish
zhu	V: to stay; same as 伫
zhu	V: to store; same as 贮
zhuo	V: to attach; to wear; to put; to grow; to feel emotional attached; to

	spend
zhao	V: to ignite; post-verbal: to reach the goal
zhe	Auxiliary: progressive

Table 6.5 summarizes the various uses of 著 in contemporary TSM (adopted from Yang 1992). I organize the table by pronunciation.

Table 6.5
The multiple meanings of *tioh* 著 in TSM

pronunciation	meaning	pronunciation	meaning
tioh	V: 'to wear'	*tu*	V: 'to write'
tioh	V: 'to target at'; 'to undergo'	*tiau*	V: 'to attach'
tioh	V & Mod: 'need'	*ti*	V: 'to exist'
tioh	Adverb: 'then'	*ti*	LOC: 'be at'
tioh	verbal complement	*toh*	V: 'to ignite'

The preverbal use includes *tioh* 'to wear', *tiau* 'to attach', *toh* 'to ignite', the necessity modal 'need', and the adverbial *tioh* 'then'. The post-verbal *tioh* is a telicity marker, and *ti* shows location.

I only focus on two major uses of *tioh* in this dissertation. The first type characterizes *tioh* as post-verbal aspect. In (44) and (45), *tioh* provides the activity verb *tshue* 'look.for' with telicity.[142] In other words, *tioh* turns an activity verb such as 'look for' into a telic one 'find'.

(44) i tshue be **tioh** thau-loo. TSM
3sg look.for not.able obtain job

[142] Mandarin makes use of another morpheme *dao* 到 for such a function.

‘He cannot find a job.’

(45)	i	tshue	**tioh**	thau-loo	a	bue?	TSM
	3sg	*look.for*	*obtain*	*job*	*PAR*	*Q*	

‘Has he found a job?’

The other use of *tioh* is preverbal, expressing necessity modality; see (46). This usage is the focus of this section.

(46)	li	**tioh**(-ai)	khi	tshue	thao-loo.	TSM
	2sg	*need(-need)*	*go*	*look.for*	*job*	

‘You need to look for a job.’

As the modal use of 著 is the focus, more attention is given to the word order [著 *tioh* + V] rather than [V + *tioh* 著], 著 in the latter of which is aspectual. What follows is a history of *tioh* as discussed in previous research. I also review related uses of 著, including *Zhuzi yulei* and related Min studies.

6.3.2 Diachrony of *tioh*.

There have been a considerable number of studies on 著 about different Chinese language varieties.[143] However, the modal use of 著 has not received much attention. I single out this usage and re-organize it chronologically.

The origin of 著 can be traced back to the pre-Qing Dynasties (before 221 BCE) in which 著 has three lexical meanings: ‘to attach’, ‘to be conspicuous’ and ‘to write’ (Chen 2004).[144]

[143] For example, Sun (1998).

[144] Sentences are from Chen (2004: 43-47) and glosses are mine. All sentences are in MSC pronunciation; I transcribe the morpheme 著, based on its meaning in

(47) 矢著于莊門 春秋公羊傳 (*Gongyang zhuan*; 476-221 BCE)

shi **zhuo** yu zhuangmen

arrow attach LOC gate

'An arrow hit the gate.'

(48) 兵箸晉陽三年矣 戰國策 (*Zhanguoce*; the 3rd to 1st centuries BCE)

bing **zhuo** Jinyang san nian yi

troop attach (place) three year ASP

'Troops have besieged Jinyang for three years.'

(49) 桓公之信著乎天下 春秋公羊傳 (*Gongyang zhuan*; 476-221 BCE)

Huangong zhi xin **zhu** hu tianxia.

(name) GEN faith conspicuous LOC the world

'The good faith of Huan Gong is conspicuous to all the world.'

(50) 著於丹書 春秋左傳襄公 (*Zuo Zhuan*; compiled by 389 BCE)

zhu yu dan shu

write LOC red book

'Write down (the name of the criminal) in red'

In the West Han Dynasty, several new usages emerged, including 'to wear', which derives from 'to attach' (Chen 2004; Yang 1992).

Moving to Middle Chinese, during the Wei-Jin-Nan-Bei Dynasties, 著 further developed from a lexical to grammatical item. 著 as 'to target', 'to be at' and 'to reach' can be attested in *Shi shuo xinyu* 世說新語 (403-444 BCE), based on Chen (2004). Below is an example of 'to reach'.

(51) 可擲箸門外 *Shi shuo xinyu* 世說新語 (403-444 BCE)

ke zhi ZHE men wai

can throw reach door out

---

each case.

‘(It) could be thrown out of the door.’ (Chen 2004: 59)

More new functions such as ‘to persist in’, ‘to use’, and causative ‘to make’ are found in *Dunhuang bianwen ji* 敦煌變文集. 著 in (52) can also mean ‘feeling attached to and longing for’ (Chen 2004: 63).[145]

(52) 何需戀著海中財 敦煌變文 (*Dunhuang bianwen*)

he	xu	lian	**zhuo**	hai	zhong cai
why	*must*	*love*	*persist.in*	*sea*	*middle wealth*

‘Why must one pine for wealth in the ocean?’

Modality ‘need’ in 著 first appears in the literature around the Tang Dynasty (618-907 CE) in the North (Yang 1992: 14).[146]

(53) 鴻雁纔飛便著行 敦煌變文 (*Dunhuang bianwen;* Tang 618-907 CE)

hongyan	cai	fei	bian	**zhuo**	xing
swan.goose	*just*	*fly*	*then*	*need*	*go*

‘A swan goose, though having just taken flight, indeed had to go.’

(54) 亦須著精神好 祖堂集 (*Zutang ji*; 952 CE)

yi	xu	**zhuo**	jing	shen	hao
also	*need*	*need*	*essence*	*spirit*	*good*

‘Also demand that the essences and spirits be good.’

Note that *tioh* 著 in (53) is a modal ‘need to’, whereas it is lexical in (54). Strangely, there is no lexical use of *tioh* in the earlier text 敦煌變文 *Dunhuang bianwen* than *Zutang ji*, where the lexical *tioh* is attested (Chen 2004).

[145] Sentences are from Chen (2004: 63); glosses are mine. I modify some translation in (52)-(54).

[146] The two sentences are from Chen (2004: 69); glosses are mine.

Briefly, by the time of early Mandarin, 著 had developed into its modal usage. Chen (2004: 90) concludes that modal 著 follows a pattern of grammaticalization shown as in (55).[147]

(55) 著 [TSM: *tioh*]: 'to attach' > 'persist in' > 'need'

6.3.3 *Tioh* in *Zhuzi yulei*

In the following paragraphs, I pay special attention to two early Min texts: one is *Zhuzi yulei* and the other is *Lijing ji*.

Table 6.4 summarizes necessity modals in *Zhuzi* (adapted Wu 2004a: 77).

Table 6.4
Necessity (modal) verbs in *Zhuzi yulei*

	Number of tokens	
1.須 su	**401**	taking VP
2.須是 su-si	141	*si*: COP, *su-si* takes a CP
3.須得 su-tik	3	Only in negation and questions
4.須著 su-tioh	14	*tioh* 'need' -predicated by VP only; no negation; not in questions
5.直須 tik-su	3	same as item 4
6.必須 pit-su	10	same as item 5; *pit* 'necessary; need'
7.要 iau	**165**	negation is *put* 不; taking VP, AdjP, or CP
8.要須 iau-su	20	derived from item 7
9.須要 su-iau	4	derived from item 7
10.用 iong	15	'need'; taking VP
11.當 tong	135	'should'

[147] The other meanings of 'to use' and causative 'to make' of *tioh* may be associated with 'need' too. Further research is, however, needed for a firm conclusion.

Apparently *su* 須 is the major modal verb, expressing 'need', from which items two to six are derived. The negative for *su* is *put* 不 or *bi* 未. Among the disyllabic modals, the second item *su-si* 'need to be', consisting of 'need' and a copula *si*, is also productively used in this text. Wu (2004a: 71) explains that *su-si* differs from *su* in the fact that *su-si* takes a CP complement.

The fourth item *su-tioh* 'need-need' is worth attention as well. As noted, *tioh* first occurred in the Tang Dynasty as modality in earlier historical texts than *Zhuzi yulei*. In *Zhuzi*, the combination of *su* and *tioh* is attested.[148] Item 6 *pit-su* 必須 has survived to MSC, pronounced as *bi-xu*.

According to Wu (2004a), other than item 2, which takes a CP, items 3 to 6 are restrictive in use. For example, item 3only occurs in negation and questions, and items 4 through 6 only take a VP predicate, with no negative and interrogative form, as *不必須 *bo put-su* 'not need' is not a correct form.

Item 7 *iau* 要 is also important. Recall that in TSM, *iau* 'to want' denotes volitional modality (chapter five). Volition and necessity modality are related. Interestingly, *iong* 用, initially meaning 'to use', can be used as a necessity modal. This is relevant, as in MSC *bu-yong* 不用 'not-use' is one of the negative necessity modals. The affirmative form **yong* 'need' does not survive.

[148] *Tioh* is the most productive modal in contemporary TSM. It needs further research to answer the question whether *su* took over *tioh* as necessity modality in later texts such as *Zhuzi*. The use of *su* in *Zhuzi* may simply have to do with stylish or regional differences.

The difference between the two important modals *su* and *iau* in *Zhuzi yulei* is summarized in Table 6.7 (Wu 2004a: 77); brackets show the number of tokens.

Table 6.7
The overlapping modality in *Zhuzi yulei*

su 須 'must' *pit-su* 必須 'must'		*su* [401] 須 'need' *su-si* [141] 須是 'need to be'
	iau 要 [212] 'want'	*iau* 要 'need' [165]

The use of modality in *Zhuzi yulei* differs largely from that in contemporary TSM. However, *su* 須 and *iau* 要 (MSC transcription: *xu* and *yao*) have been adopted by MSC to this era.

6.3.4 *Tioh* in *Lijing ji.*

In the 16th century Min text *Lijing ji* 荔鏡記, necessity modality is mostly expressed by *tioh*.[149]

***Tioh* as a lexical verb.**

(56) 自古嫁娶著媒人 *Lijing ji*; Chung (2001: 40)

tsu-koo	ke-tshua	**tioh**	mui-lang
since old.times	*marriage*	*need*	*match.maker*

'Marriage has relied on match-makers since ancient times.'

(57) 打虎須著親兄弟 *Lijing ji*; Chung (2001: 40)

phah	hoo	su-**tioh**	tshin	hiann-ti.
hit	*tiger*	*need*	*real*	*brothers*

'Catching a tiger requires help from brothers.'

[149] Examples (55)-(60) are from Chung (2001); glosses and translation are mine.

***Tioh* as a modal verb.** There are also cases where *tioh* is used as a modal verb. Disyllabic modals also appear in this text; (58)-(60). As just noted, *su* 須, *pit* 必, and *tioh* 著 individually express modality 'need'.

(58) 你去路上著細膩 *Lijing ji*; Chung (2001: 52)

li	khi	loo-siong	**tioh**	se-ji.
2sg	*go*	*on.the.road*	*need*	*caution*

'You need to be careful on the way (there).'

(59) 須著趕路程 *Lijing ji*; Chung (2001: 52)

su-tioh	kuann	loo-ting
need	*hurry*	*mileage*

'(someone) needs to hurry on the way.'

(60) 三爹必須著只內去 *Lijing ji*; Chung (2001: 52)

sann-tia	**pit-su-tioh**	tsit-lai	khi.
(title)	need	enter	go

'(name) needs to come in (for something).'

I have discussed how *tioh* characterizes modality in *Lijing ji* by lexical and grammatical means in the above examples. Briefly, TSM necessity modals differ in shape, but historical traces are attestable; see Table 6.8. For instance, *tioh* can be seen in the epistemic *tiann-tioh* 'must'. The participant-internal necessity modal *su-iau* has appeared in *Zhuzi yulei*. Interestingly, *tioh* as a necessity modal is used in modern TSM, as opposed to *su* in *Zhuzi yulei*. I will also discuss *ai* 愛 later, as its necessity sense is a later development.

Table 6.8
Modern Southern Min necessity modals[150]

necessity
tiann-tioh 定著 'must' (epistemic)
su-iau 需要 'need' (participant internal necessity)
tioh 著 'need' (deontic necessity)
ai 愛; *tioh-ai* 著愛 'need' (deontic necessity)

***Tioh* as a complementizer.** We now move to another topic: *tioh* as a complementizer. Based on Chung (2001: 53-61), *tioh* can be in C too. She however only categorizes the use of *tioh* in embedded sentences without further separating the modal *tioh* from the conjunction *tioh*.

I use her examples to demonstrate that *tioh* has begun to be used as a C in *Lijing ji*. One type of complementizer appears in causal relationships as in (61) and (62).[151]

(61) 好花因著風雨滾 *Lijing ji*; Chung (2001: 55)

ho	hue	in-**tioh**	hong	hoo	kun.
good	*flower*	*because*	*wind*	*rain*	*turnover*

'Good flowers turn over because of wind and rain.'

(62) 為著人情到只處 *Lijing ji*; Chung (2001: 55)

ui-**tioh**	jin-tsing	kau	tsit	tshu.
because.of	*human.affection*	*arrive*	*this*	*place*

'I came here for (someone).'

[150] Hsin (1999) treats *tiann-tioh* as an adverb.

[151] Sentences are from Chung (2001: 55); glosses and translation are mine.

Tioh in the compounding conjunctions *in-tioh* 因著 and *ui-tioh* 為著 does not carry the semantics of necessity; rather, *in* 因 and *ui* 為 are typically clause connectors, meaning 'because/because of/for'. While Chung does not associate the above usage with C, she suggests *tioh* in the following sentence as a conditional conjunction.

(63) 今著叫一聲三哥即放 *Lijing ji*; Chung (2001: 55)

tann	**tioh**	kio	jit	siann	Sann-ko	tsiah	pang
now	*need*	*call*	*one*	*CL*	*(title)*	*then*	*release*

'You need to call me Third Elder Brother in order for me to let you go.'

I do not agree. Chung translates *tioh* as *dei* 得 in MSC, which means 'need to', but she argues that *tioh* is a conditional marker. I analyze *tioh* here as a modal.

She further explains that (63) is a case of the [*beh* X # *tioh* Y] conditional construction, where X and Y are clauses, with *beh* 'if' optionally dropped. This construction is similar to English 'if…then'. *Tioh* 'then' has an immediate temporal function. Another example from Chung is (64), where *tioh* means 'to attach' or 'to undergo'. As noted in chapter five, *na-beh* is the conditional connector rather than *tioh*.

(64) **na-beh**put kian, li **tioh**-tinn. *Lijing ji;* Chung (2001: 60)

if	*NEG*	*see*	*3sg*	*TIOH-intertwine*

'If (she) cannot be seen, you're in trouble.'

I argue that *tioh* in (64) does not function as a conditional marker. Also, many examples under her conditional category show *tioh* as necessity modality; see (65)-(66).

(65) 你不實說，定著討死 *Lijing ji;* Chung (2001: 60)

li	m	sit	sueh,	tiann-**tioh**	tho	si.
2sg	*NEG*	*honestly*	*say*	*must*	*receive*	*death*

'If you don't tell the truth, you must die.'

(66) 卜脫林大姻親，必須著投告恁。*Lijing ji;* Chung (2001: 60)

beh	thuat	Lim-taiin-tsin,	pit-su-**tioh**	tau-ko	lin.
if	*rid*	*(name) marriage*	*need*	*beg*	*2sg*

'To get rid of the marriage with Limtai, I need to beg you.'

Also, we see modality doublings, such as *tiann-tioh* 'definitely-need', and *pit-su-tioh* 'need-need-need'. Therefore, *tioh* in these cases should not be a C, as mistakenly suggested by Chung. The conditional marker *na* 'if' can be inserted in (65) for (67). This means that *tioh* in these cases is a modal.

(67)

li	**na**	m	sit	sueh…
2sg	*if*	*NEG*	*honestly*	*say*

'If you don't tell the truth...'

The same conclusion applies to her concession examples, one case of which is (68), in which *tioh* is also a modal, meaning 'need'. The complementizer can be *jim* 任 'however', or *ia* 也, translated here as 'regardless; nevertheless'.

(68) 任你口說出蓮花，也著嫁乞伊 *Lijing ji;* Chung (2001: 61)[152]

jim	li	khao-sueh-tsut-lian-hue,			
regardless	*2sg*	*whatever.reason*			
ia	**tioh**	ke	khit	i.	
also	*need*	*marry*	*PREP*	*3sg*	

[152] 口說出蓮花, literally 'lotus out of the mouth', has a metaphorical meaning of 'whatever reason'

'Regardless of any reason you come up with, you need to/must marry him.'

I agree that the categorial status of *tioh* ranges from V to Mod, and to C.[153] It is just that *tioh* as a necessity modal often connects two dependent/subordinating events/clauses. Only in the clausal relationship type does *tioh* behave like a C, as in (61) and (62).

6.3.5 *Tioh* in TSM.

I discussed TSM necessity modality in section 6.2. Table 6.9 outlines TSM necessity modal paradigm, including the affirmative and negative systems. As seen, historical traces are apparent in the morphology.

Table 6.9
TSM necessity paradigm

epistemic	*tiann-tioh* 定著 'must'	*ing-kai* 應該 'should' *ing-tong* 應當 'should'
Participant-internal/ Participant-external	*ai* 愛 ; *su-iau* 需要 'need' *bo-ai*; *bo-su-iau* 不需要 'not need'	
Participant-external deontic	*Tioh* 著; *ai* 愛; *tioh-ai* 著愛 'need' *bian* 免 'not.need'	*ing-kai* 應該; *kai* 該; *kai-tong* 該當 'should' *bo-ing-kai* 不應該 'should not' *put-kai* 不該 'should'

I found it difficult to match TSM modals with those in English. There are no individual words in TSM to match English 'should', 'need', 'have to', or 'must'.

[153] I am agnostic about *tioh* moving to T for the case of temporal *tioh* 'then'.

The semantics of *ai* is taken over by another modal *ing-kai* ‘should’; (69) is mainly for suggestions.

(69) li **ing-kai** **ai** khi. TSM
2sg *should* *need* *go*
‘You should go (somewhere).’

Tioh(*-ai*) ‘need’ is the major necessity modal in TSM. To express stronger directiveness, another modality adverb such as *i-tng* 一定 ‘definitely, absolutely’ is often utilized; see (70). The additional *kah gua*, literally ‘give me’, often indicates impatience and impoliteness.

(70) li **i-ting** **tioh/ai/tioh-ai** (kah gua) khi. TSM
2sg *definitely* *need* *PREP* *1sg* *go*
‘You must go (somewhere).’

6.3.6 The evolution of *tioh*.

As noted, *tioh* as necessity modality first appeared in the Tang dynasty. In *Zutang ji* and *Dunhuang bianwen*, *tioh* is used as lexical or modal ‘need’. One puzzle is that *su* 需 is the major necessity modal in *Dunhuang bianwen*, but *tioh* is not noted in the modal system by Wu (2004a: 37). *Su* in the later text *Zhuzi yulei* serves as the major necessity modal although *su-tioh* 須著 and other combinations also occur in the same text (Wu 2004b).

In the Min text *Lijing ji*, *tioh* 著 is the most productive modal for necessity, and *su* only appears in *su-tioh* 須著 or *pit-su-tioh* 必須著. The paradigm of necessity modality in contemporary TSM differs. *Tioh* remains as one of the three necessity modals and the other two are *ai* and *tioh-ai*. *Ai* as necessity modality

first appeared in the 19th to 20th centuries (Chang 2009). *Ai* as a renewal for necessity *tioh* is just as *ai* is a renewal for volition *beh* 'want' (chapter five).

I summarize the evolution of Southern Min *tioh* as necessity 'need' in (71). I show the time periods when *tioh* and *ai* first occurred as modality and also the dominating necessity modal during each period of time in the history. Apparently, *tioh* undergoes grammaticalization, as a renewal *ai* is often attached to *tioh*, resulting in *tioh-ai* 'need'.

(71) *tioh* 著; modality use appeared in the Tang dynasty (618-907 CE)
> *su* 須; *Dunhuang bianwen*; Tang (618-907 CE)
> *su* 須; *Zhuzi yulei* (1270 CE)
> *tioh* 著; *Lijing ji* (16TH cy.)
> *ai* 愛; modality use appeared 19th -20th cy.
> *tioh-ai* 著愛; contemporary TSM

6.3.7 Diachrony of *bian* 免.

I begin with dictionary definitions for *bian* 免. There are two entries in *Hanyu da cidian*, with the MSC pronunciations indicated as *mian* and *wen*. I discuss here the meanings of the first pronunciation, as it is more relevant.[154] The lexical use of *mian* includes five entries: 'to take off', 'to leave', 'to release', 'to escape', and 'to exempt'. I provide two examples below.

(72) 臨難毋苟免 禮記曲禮上 (*Liji*; 202-220 BCE)

lin	nan	wu	gou	**mian**
face	calamity	NEG	improperly	escape

'When you meet with calamity, do not escape from it by improper means.'

[154] Transcription is in MSC; glosses and translation are mine.

(73) 人情所不能免也 (*Liji*; 202-220 BCE)

renqing	suo	bu	neng	**mian**	ye
people.feeling	NMLZ	NEG	able	exempt	PRT

'It is what the nature of man cannot be without.'

As seen in these definitions, the use of *mian* 免 shows opposite semantics from 著 *zhuo*, which has an origin 'to attach'. It is not surprising that *bian* 免 is used as the negation of 著 *tioh* in TSM.

What's interesting is the negative use of *mian*. The dictionary suggests that *mian* as negation is like *bu* 'not' or prohibitive *bu-yao* in MSC. Below is the example from the *Hanyu dai cidian*. *Mian* as negation occurred in Middle Chinese; (74).

(74) 旦夕公歸伸拜謝，

dan	xi	gong	gui	shen	bai	xie
dawn	dusk	lord	return	extend	bow	thank

免勞騎去逐雙旌。 唐韓愈 (poetry by Han Yu; 768-824 CE)

mian	lao	qi	qu	zhu	shuang	jing
spare	labor	ride	go	chase	double	banner

'In the near future, the Gentleman will return (to the capital) and express his gratitude (to the emperor), and you will be spared the labor of taking the Gentleman to chase after the two banners.'

Interestingly, I found *xu-zhuo* 需著 'need' being used in the same poetry; (75).

(75) 長令奴僕知饑渴，

zhang	ling	nu	pu	zhi	ji	ke
master	make	slave	thrall	know	hunger	thirst

須著賢良待性情。 唐韓愈 (poetry by Han Yu; 768-824 CE)

xu-zhuo	xian	liang	dai	xing	qing
need-need	able	virtuous	retain	character	deportment

'The master lets the servant (the horse) know its basic needs, but he also needs to treat this good-natured (servant) as a worthy.'

As noted, *bian* is used as a negative and interrogative marker in modern TSM. Investigating the grammar books (see Wu 2004a and 2004b) on *Dunhuang bianwen* (618-907 CE) and *Zhuzi yulei* (1271 CE), I found no record of *bian* as negation during these two periods.[155]

One may wonder how negation in *bian* derives. I investigate the previous Min text *Lijing ji* for *bian* 免. Surprisingly, the use of *put bian* 不免 is fairly productive in this text, with 212 tokens out of the total 238 tokens of *bian*. I analyze *bian* in these cases in *Lijing ji* as a verb, followed by another lexical verb in a sequence. For the 1st and 2nd person, *bu bian* is used as 'why not' or 'might as well'.[156] There is no negation or real compelling obligation involved.

(76) put **bian** kio mng. 不免叫門。
not *exempt* *ask* *door*
'Why not knocking at the door? (since I'm here)'

(77) put **bian** khi hiou i tshu. 不免去歇伊處。
not *exempt* *go* *rest* *3sg* *place*
'(You) might as well go and stay at his place.'

(78) put **bian** kiann kau hue-hng. 不免行到花園
NEG *avoid* *walk* *arrive* *garden*

[155] Nor is *bian* used in the V-NEG construction as a question marker in these texts. This provides evidence that my postulation in section 6.2.6 is on the right track. That is, *bian* is not an interrogative.

[156] I transcribe these sentences in TSM.

‘Why don’t you go to the garden,

tsiong sim-pak-ue 將心腹話

DISP *heart.felt.words*

說幾句乞伊聽

kong kui.ku ki i tshiann

say *several-sentence* *PREP* *3sg* *hear*

‘(and) tell her what you have in mind’

The above are instances with some degree of suggestions from the addresser or of volition from one self. However, there are cases where the addresser speaks to the 2nd person, (79), with necessity modality.

(79) u ue put **bian** phian gua. 有話不免騙我

have *word* *NEG* *avoid* *deceive1sg*

‘You need to tell me the truth.’/Don’t deceive me with words.’

Modality can also appear in the third person subject; (70). The context indicates that the situation is difficult (for someone) ‘not to avoid getting someone out and punishing him’.

(80) 不免叫出來懲戒伊。

put **bian** kio tshut-lai thing-kai i

NEG *avoid* *ask* *come.out* *punish* *3sg*

‘They had to get out of (someone) and punish him.’

In a routine practice such as (81), *put bian* may move from ‘hard to avoid’ to ‘what necessarily follows next’. This is still different from contemporary TSM *bian* ‘need.not’.

(81) 不免請亞娘梳粧。

put	**bian**	tshiann	A-Niu	se-tsong
NEG	*avoid*	*ask(politely)*	*name*	*make.up*

'(The maid) politely asks A-Niu to dress up.'

To summarize, *bian* in the above examples from *Lijing ji* is associated with modality and negation. I assume that the meaning of 'to exempt/to avoid' in *bian* is later reanalyzed as 'not necessary; not need' in modern TSM. Future research is required.

What follows is a discussion of *m-bian*. At first thought, the juxtaposition of *put* 'not' and *bian* 'to exempt; to avoid' in *Lijing ji* may explain the *m-bian* 'not.need' version of modern TSM; however, *m* in *m-bian* does not give rise to negation. I do not see the contexts of *put* and *bian* together in the above cases as an origin of *m-bian* 'need.not' in contemporary TSM. All examples of *put bian* in *Lijing ji* take a VP or CP complement, and *bian* is not predicated by a nominal phrase, as it can be in TSM.

The *m* part in *m-bian* may be simply phonetic. There are two possible analyses. First, the initial in *mian* is denasalized, thus making two pronunciations, *m-bian* and *bian*, in TSM.

(82) ***m****ian* > *m-****b****ian* > ***b****ian*

The other analysis suggests *bian* as original, and *m* is added as emphatic.

(83) *bian* > ***m****-bian*

As previously noted, I against the notion that *m-bian* is a case of negative concord by Li (2007) and Lien (2008). Briefly, *m* is not an N-element that

licenses negative indefinites; meanwhile, *bian* is not a Neg-word, either. Both components are required in negative concord (cf. Herburger 2001).

(84) li **m** **bian** lai ah.
2sg *M* *not.need* *come* *PAR*
'You need not come.'

Another piece of evidence for this *m* as emphatic comes from the non-negative *m*, used together with *tioh*, where *m* behaves like an emphatic.

(85) li (**m**) **tioh**-ai khah tsa khun leh.
2sg *M* *need* *more* *early* *sleep* *PAR*
'You need to go to bed early.'

To conclude, I trace the diachronic development of *tioh* and *bian* in this section. The necessity modality of *tioh* comes from the semantics of 'to attach' or 'to persist in'. As the negative counterpart of *tioh*, the negation of *bian* derives from the semantics of *mian* 免 'to exempt, to avoid'. Interesting, the lexical use of *mian* can be associated with 'to detach', the opposite of 'to attach'.

6.4 Grammaticalization of *tioh*/*bian*

I have shown how *tioh* and *bian* have evolved in the history of Chinese. This section reviews how reanalysis takes place in these necessity modals under the generative framework of grammaticalization.

6.4.1 *Tioh*: V > Mod > C.

The lexical use of *tioh* in (86) expresses necessity, just as *ai* in (87).

(86) **tioh** sann a **bian**? Yang (1992)
need *clothes* *or* *Q*
'Do (you) need clothes?'

(87) tse **ai** tsinn bo? TSM
this *need* *money* *Q*
'Do I need to pay to get this?'

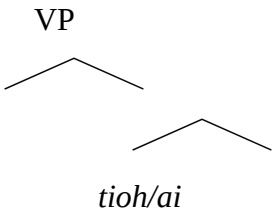
As discussed in section 6.3, *tioh* evolves from the meaning of 'to attach' or 'persist in'. The use of *ai* as necessity modality in TSM is a later development.

(88) *tioh*: V 'attach; persist in' > V 'need'

(89) *ai*: N 'essence' > V 'need'

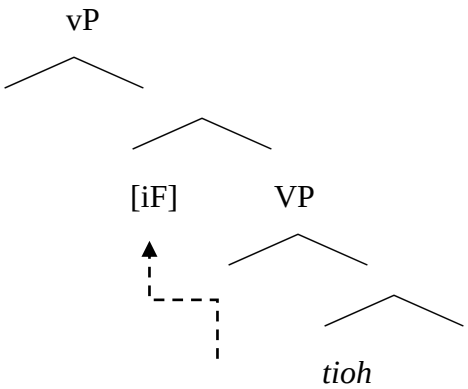
Tioh or *ai* occupies the V head when it carries full semantic features.

(90) *Tioh* as a lexical verb



Reanalysis takes place at different levels. During the first stage, when *tioh* gradually loses its semantic features, it becomes reanalyzed in a higher head, carrying [iF: necessity]; see (91).

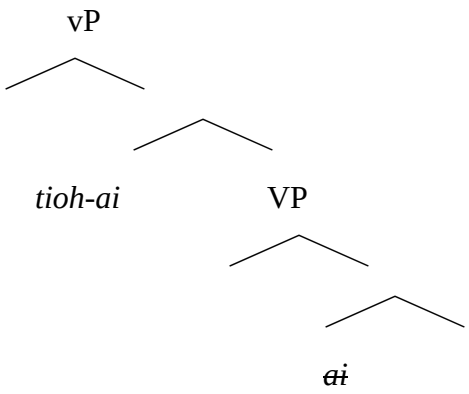
(91) Reanalysis of *tioh*



tioh: 'attach; persist in' > 'need' > [iF: necessity]

When the verb position is empty, another stronger semantic verb (e.g. *ai*) fills in, thus resulting in a disyllabic modal *tioh-ai* 'need'; see (92).

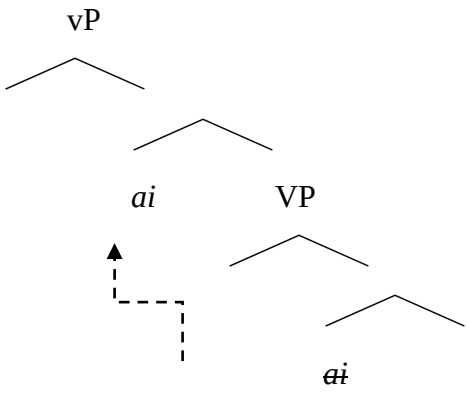
(92) *Ai* as a renewal



tioh: 'need' > [iF: necessity]
ai: 'need'

A competing form *ai* 'need', originally meaning 'love', comes into use before this stage, as shown in (93). *Ai* presumably is base-generated in V, and moves to v, as *ai* 'need' requires an Agent argument.

(93) Reanalysis of *ai* as 'need'



ai: 'love' > 'need'

Due to a loss of semantic features, *tioh* or *ai* further becomes a modal; *tioh-ai* is the same.

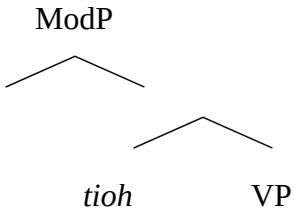
(94) *tioh*: 'need' > [iF: necessity]

(95) li **tioh/ai/tioh-ai** khi. TSM
2sg *need* *go*
'You need to go.'

When moving from V to Mod, the necessity modal *tioh-ai* follows the same grammaticalization path.

From chapters four through six, we have seen a pattern in the affirmative modals/verbs in their reanalysis process: they all make use of renewals in morphology, while they semantically become weakened. As a consequence, monosyllabic modals often become multi-syllabic. Syntactically, as full-fledged verbs lose semantic features, accompanied by a loss of agency, they move from VP to ModP. In language acquisition, it is a reanalysis triggered by the Economy Principles.

(96) Reanalysis of *tioh* as Mod



A step further up is when *tioh* becomes reanalyzed from ModP to C. The use of *tioh* as a conjunction in (97) is a case of *tioh* as C. *Ai* however is not a C yet.

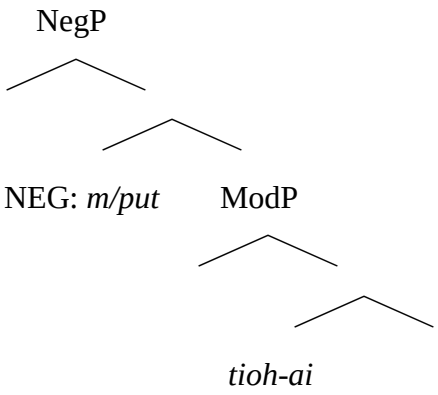
(97) a-**tioh** tu-tioh ah.
CONJ *encounter-attach* *PAR*
'I then encountered (something).'

6.4.2 *Bian*: V > neg > Q.

The negation of *tioh*(*-ai*) 'need' is not projected by a NegP above the ModP, as mistakenly presented in (99).

(98) *gua **m/put** tioh-ai khi.
1sg NEG need go
Int.: 'I don't need to go.'

(99) A misplaced NegP for modal *tioh-ai*

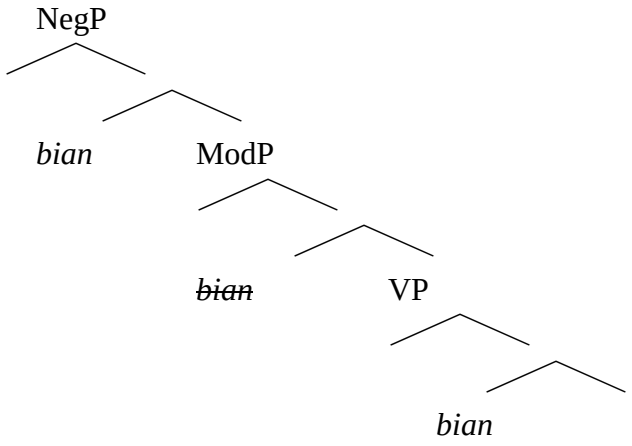


Recall that one of the dictionary entries of *bian* is equivalent to 'not'; this definition, however, does not seem to include modality. An examination of *bian* in the 16th century play *Lijing ji* reveals that *bian* 'to exempt' often appears with a negative *put* 不 'not'. However, *bian* is a lexical verb under such circumstances. The context of negation and *bian* may have given rise to necessity modality in *bian*.

(100) *bian*: V 'to exempt' > 'need.not' > [iF: necessity; negation]

(101) tse (m-) **bian** tsinn .
this M need.not money
'This is free.'

(102) The negative *bian*



This path follows one of van der Auwera's (2010) typological classifications for diachrony of negation: negation often comes from 'lack'. The same is true in *mei* 沒, which originates as 'to lack', from *mo* 沒 'to die; to sink'.

Despite the fact that the necessity use of *bian* is not attested in historical texts prior to contemporary TSM, it is reasonable to postulate V to Mod in *bian*, as the modal use of *bian* far outnumbers its lexical one.

(103) *bian*: V > Mod 'not.need'

Finally, just as all the other negative morphemes in TSM, *bian* may be used as Q, in the CP layer.

(104)	tioh(-ai)	siann	a	**bian**?
	need(-need)	*clothes*	*or*	*not.need*
	'Do you need clothes?'			

However, *bian* does not have other functions of C other than interrogatives. Possibly *bian* is still used under a disjunctive relationship 'need or not.need';

(104). I did not find such construction as (104) in the corpus. Nevertheless, *bian* demonstrates a grammaticalization path as (105), based on its synchrony.

(105) *bian*: V 'exempt; avoid' > Mod: necessity negation > Q: interrogatives (?)

6.5 Comparative Studies

Patterning with the previous two chapters, this section covers typology of necessity modality and a comparison among the three Sinitic language branches. I organize one category of *tioh*/*bian* after another, and discuss several special topics.

6.5.1 Typology of necessity.

I discuss two issues below: English necessity modals and the sources of necessity modality. Note that the literature has used the terms *obligation*, *necessity*, or *obligation necessity*, which I use here interchangeably.

English has the following necessity modals, based on van der Auwera and Plungian's (1998) classification. As discussed, TSM does not have corresponding modals to match each English modal; *tioh* 'need' serves as the basic necessity modal.

Table 6.10
English modal verbs in the necessity modality paradigm

	necessity
epistemic	***must****; should; will*
Participant-internal	***need (to)***
Participant-external (non-deontic)	***have to****; must*
Deontic	***must****;* ***should****;* ***shall****; ought to*

adapted from Li (2003: 64)
bold: prominent markers; non-bold: often used, but not prominent markers

There are also different ways to look at these modals. When referred to central versus semi-modals, they can be grouped as follows:

(106) central: *must, need, should, ought*
semi-modals: *have to, had better, have got to, need to, be supposed to, ought to*

In terms of degree of modality, the distinction between "strong" and "weak" modals is used. For example, Smith (2003: 242) classifies modals as markers of "strong" versus "weaker" necessity as (107).

(107) modals of strong necessity: *must, have to, have got to, need, need to*
modals of weaker necessity: *should, ought to, supposed to*

Smith, however, admits that this distinction is not perfect either, in that "the strongest use of the weaker forms …[can] …carry more force than the weakest uses of strong forms" (Smith 2003: 242). Examples are (108) and (109).

(108) *You **should** get a move on*. (used deontically)

(109) *You **must** come and visit some time*.

Coates (1983) investigates most of these modal verbs from corpora, which presents contemporary English at the time; Collins (2009) updates her conclusions. What is relevant is the definition of modals by Coates.

Coates suggests the semantics of *must* and *have got to* as 'it is essential that', compared to *have to*, which means 'it is necessary for' (Coates 1983: 53).

(110) *You **must** play this ten times over*. (Coates 1983: 34)

(111) *...the only thing you'**ve got to** remember is*…(Coates 1983: 53)

(112) *I **have to** get up at 7 a.m. tomorrow*. (Coates 1983: 54)

The major difference between *must* and *have to* is that with *must*, the speaker has authority, and the authority of *have to* comes from no particular source (Coates 1983: 55). *Must* represents the strongest directive in English.

Coates refers *should* to be "the most commonly used [modal] to express the Root modality of (weak) obligation" (Coates 1983: 58).

(113) *You **should** walk round the ramparts of the old city too*. (Coates 1983: 58)

Ought has a similar function and sense to that of *should*.

(114) *There is a new book you **ought** to see*. (Coates 1983: 71)

However, like many others, Coates also agrees that modality in each modal is in a continuum, where a use can range from the strongest to the weakest. The tone in *ought* turns from 'I advise you/it is advisable' to 'it would be a good idea', as in (115).

(115) *You **ought** to come over to Cambridge some time*. (Coates 1983: 71)

Negation of modals is interesting. When *have to* is negated, the semantics is 'it is not necessary for' (Coates 1983: 55). Southern Min *bian* serves this function; see (117).

(116) *They **don't have to** be drama experts*. (Coates 1983: 54)

(117) **bian** koh kong ah. TSM
need.not again say PAR
'There is no need to say more.'

By contrast, the negated *must* denotes 'it is necessary for you not' or simply 'you are obliged …not' (Coates 1983: 55).

(118) *You **mustn't** put words into my mouth*. (Coates 1983: 39)

The equivalent to Southern Min is *mai*, which comes from the modal negation *m* 'not' and *ai* 'need'.

(119) **mai** koh kong ah. TSM
PROH again say PAR
'Don't say (it) again.'

Bybee et al. (1994) do not address sources of necessity modality; they focus on the subjunctive use of English *should* but not *need*. Nonetheless, they conclude that obligation modality follows the path such as (120).

(120) obligation → intention or imperative (Bybee et al. 1994: 240)

I agree that obligation and intention are related and that imperatives are often derived from obligation modality, as I have demonstrated in chapter five and this chapter. I'm agnostic about the direction.

In the Chinese language, the source for necessity modality can be 'to attach' as Southern Min *tioh*, 'essence' as MSC *yao*, or 'desire' as Hakka *oi*, the latter two of which can also be volition.

The negation of MSC *yao* and Hakka *oi* projects above the VP, presented as *bu-yao/bu-yong* 'not-need' and *m-sii* (literally 'not-use'). The negation of TSM *tioh* is lexical, as a negative modal *bian* 'need.not' is utilized.

What follows is a comparison among the three Sinitic languages.

6.5.2 The lexical *tioh*/*bian.*

As stated, the lexical use of *tioh* in modern TSM has become rare. In the Min affirmative paradigm, an alternative necessity verb *ai* 愛 is used, whereas Hakka makes use of *oi* 愛 and Mandarin uses *yao* 要.

(121) tse *tioh/**ai** tsinn. TSM
lia **oi** tsien. Hakka
zhe **yao** qian. MSC
this *needs* *money*
'To buy this, one needs money.'

From the historical texts, the use of *tioh* may come from an older linguistic stratum first attested in the Tang dynasty, while *ai* is from a newer layer, which emerged two to three centuries ago. The newer usage is cognate to Hakka *oi*.

The necessity system is intertwined with volitional modality in TSM, evident in the use of *ai* as the affirmative necessity 'need' and 'want'. The dual function also applies to Hakka *oi* and Mandarin *yao*.

In the TSM corpus, *bian* as a lexical verb 'need.not' is uncommon, and it often accompanied by a nominal phrase, as a fixed expression.

(122) tse **bian** tsinn. TSM
this *need.not* *money*
'This is free of charge'

(123) **bian** huan-lo. TSM
need.not *worry*
'No worries.'

Hakka does not use *mien* (equivalent to Min *bian*) to negate *oi* 愛 'need'. A negative modal *m-sii* 毋使 'not.need' is used instead. Interestingly, *sii* 使 'to make; to demand' also appears in the possibility deontic *sii-m-ded* 'can.not' (not.allowed). While *m-sii* expresses obligatory necessity, *sii-m-ded* is permissive (chapter four).

(124) lia **m-sii** cien Hakka
this *need.not* *money*
'This is free of charge'

(125) **m-sii** seu/fan-nau. Hakka[157]
need.not *worry*
'No worries.'

Like Hakka, Mandarin utilizes a negative verb *bu-yao* 不要 or *bu-yong* 不用.

(126) zhe **bu-yao/bu-yong** qian MSC
this *NEG-need* *money*
'This is free of charge'

As noted, *yao* can express both volition ('want') and necessity ('need'). *Bu-yao* as one unit negates volition or necessity, whereas *bu-yong* is only for necessity. *Yong* 用 is attested as modality 'need' in earlier texts such as *Lijing ji*, despite the fact that its meaning of 'to use' is more common in MSC.

Note that *yao* can be used in the affirmative setting, while *yong* cannot. In other words, just like TSM *bian* or Hakka *m-sii*, MSC *bu-yong* heads its own VP.

(127) zhe **yao/*yong** qian MSC
this *need* *money*
'This is not free.'

I further investigate the external non-deontic use of 'need'. *Ai* or *tioh-ai* participates; however, *tioh* is not a candidate; (128). Hakka and MSC make use of *oi* and *yao*, just like their lexical counterparts.[158]

[157] One consultant (in her sixties) used *seu* 愁 and another (in her forties) provided me with *fan-nau* 煩惱.

(128) hue **ai/tioh-ai/su-iau** (u) tsui tsiah e uah. TSM
hue ***tioh** (u) tsui tsiah e uah. TSM
fa **oi**/si-rhau (rhiu) shui zhang voi sang. Hakka
hua **yao**/xu-yao (you) shui cai neng huo. MSC
flower need have water then able live
'Flowers needs water to survive.'

As seen in (128), another option for 'need' is *su-iau* 需要, yet this usage is in literary pronunciation and is much less common than *ai* or *tioh-ai*. The equivalents in MSC and Hakka are *xu-yao* and *si-rhau*.

(129) hue **bian/bo**-su-iau tsui tioh e uah. TSM
fa **m-sii/mo-s**i-rhau shui ciu voi sang Hakka
hua **bu-yong/bu**-xu-yao shui jiu neng huo MSC
flower need.not water then able live
'Flowers don not need water to survive.'

There are two negation systems as in (129). Table 6.11 summarizes the necessity modality systems of the three languages.

Table 6.11
The necessity modality of the three languages

	TSM	Hakka	MSC
'need'	*ai, tioh-ai*	*oi*	*yao*
'do not need'	*bian*	*m-sii*	*bu-yao; bu-yong*
'need'	*su-iau*	*si-rhau*	*xu-yao*
'do not need'	*bo-su-iau*	*mo-si-rhau*	*bu-xu-yao*

[158] *Sang* 'to live' 生 is used in Hakka rather than 活 'to live', pronounced as *uah* in TSM and *huo* in MSC.

6.5.3 The epistemic *tioh*/*bian.*

Neither *tioh* nor *bian* has an epistemic use. Nonetheless, *tioh-beh*, which consists of the temporal *tioh* 'about to' together with *beh* 'going.to', can express epistemic modality. As discussed in chapter five, TSM *beh* can express immediate future; *tioh* here also denotes temporal immediacy. The MSC and Hakka counterparts are *yao* and *oi*, respectively.

(130)	thinn	***tioh/beh/tioh-beh**	kng	ah.	TSM
	tien	**oi**	gong	leh.	Hakka
	tian	**yao**	liang	le.	MSC
	sky	*about.to*	*brighten*	*PAR*	
	'It's about dawn.'				

Next, *tioh* can be observed in epistemic *tiann-tioh* 定著 'must'; however, *tiann-tioh* is often considered to be adverbial.[159] As the Chinese language does not show much morphology in adverbs, *tiann-tioh* can be translated as a modal 'must' or an adverb, just like *it-ting* 一定 'definitely'.

(131)	tiann-**tioh**/it-ting	si	i.	TSM
	must	*COP*	*3sg*	
	'It must be him.'/It is definitely him.'			

More interestingly, *tiann-tioh* can be used with another modal, resulting in double modality. As modern Standard English does not allow double modals, all my translation of *tiann-tioh* is adverbial.

[159] Li (2003) and Hsin (1999) suggest that the Sinitic language (the former on MSC and the latter on TSM) mainly makes use of adverbs to express epistemic necessity.

(132) tse tiann-**tioh** ai tsinn. TSM
3sg *definitely* *need* *money*
'This, of course, needs money.'

(133) i **tiann-tioh** **siunn-beh** khi ah. TSM
3sg *certainly* *want* *go* *PAR*
'He certainly wants to go.'

(134) gua **tiann-tioh** **e** kah li tau-sann-kang. TSM
1sg *surely* *will* *PREP* *2sg* *help*
'I will surely help you.'

As for the epistemic *should*, the three languages are largely parallel to one another. The literal reading *ing-kai* 應該 in TSM and *rhin-koi* 應該 in Hakka should come from the same stratification layer as MSC *ying-gai* 應該.[160, 161]

(135) i **ing-kai** **e** kah li tau-sann-kang. TSM
gi **rhin-goi** voi lau ngi ten-shui. Hakka
3sg *should will* *will* *PREP* *2sg* *help*
ta **ying-gai** hui bangzhu ni. MSC
1sg *should* *will* *help* *2sg*
'He should (be willing to) help you.'

[160] For 'help', I use the most common words, such as t*au-sann-kang* 鬥相共/*tau-kha-tshiu* 鬥跤手 for TSM and *ten-shui* for Hakka. According to my consultants, other words such as *pang-tsoo*/*pang bang* (TSM), and *pong tsu* or *pong mang* (Hakka) 幫助/幫忙 are possible.

[161] Note that MSC has a different word order in (135). My consultants do not use a preposition *gei* as the following order:
ta yinggai hui gei ni bangmang. MSC
3sg *should* *will* *give* *2sg* *help*
'He should help you.'

Some other forms than *ing-kai* can be used in TSM too. Below is an example with *ing-tong* 應當. Each of the morphemes has a historical trace in *Zhuzi yulei* (cf. Wu 2004b). Hakka and MSC have similar counterparts; Table 6.12.

(136) i **ing-tong** (si) li-khui ah. TSM
3sg *should* *COP* *leave* *PAR*
'He should have left.'

Table 6.12
Epistemic necessity modals of the three languages

	TSM	Hakka	MSC
'about to'	*tioh-beh, beh*	*oi*	*(kuai) yao*
'must'	*tiann-tioh* 定著	*tin-chog* 定著	*yiding* 一定
should	*ing-kai* 應該 *ing-tong* 應當	*rhin-goi* 應該 *rhin-dong* 應當	*yinggai* 應該 *yingdang* 應當

6.5.4 The deontic necessity *tioh*/*bian*.

The online TSM dictionary does not include *tioh* as a lexical necessity verb. Below are two examples provided by the dictionary; both use *tioh* as a modal.[162] MSC is also from the dictionary; Hakka data are added for comparison.

(137) li **tioh** tsai to-li. TSM
ngi **oi** di to-li. Hakka
ni **yao** dong daoli. MSC
2sg *need* *know* *principle*
'You need to understand.'

[162] I use the official TSM site made available by Taiwan Ministry of Education: http://twblg.dict.edu.tw/holodict_new/index.html. I ignore tones; the translation is mine.

(138) **tioh** lai neh! TSM
oi loi oh! Hakka
yao lai oh! MSC
need *come* *PAR*
'Do come.'

Tioh-ai can also act as a modal for (137) and (138) above. I do not see significant semantic differences among *tioh, ai* or *tioh-ai* when they are used as necessity modals. The strong or weak necessity sense should come from the context. Take (137) as an example, the use of the 2nd person does not provide a necessary outcome for a compelling obligation, as *li* 'you' can be added to (138), which is more like an invitation. *Tioh* in (137) can also be translated as 'have to' or 'should'.

Double necessity modality can be observed, which often provides stronger necessity; see (139), in which *tioh-ai* is better translated as 'must'. The same applies to Mandarin *yao* and Hakka *oi*.

(139) 你一定著愛保庇伊个人 [163]

li	**i-tng**	**tioh-ai**	po-pi	i	e	lang. TSM
ngi	ik-tin	**oi**	po-fu	ki	kai	ngin. Hakka
ni	yiding	**yao**	baoyou	ta	de	ren. MSC
2sg	*definitely*	*must*	*bless.protect*	*he*	*GEN*	*person*

'You must bless and protect that person (my man).'

[163] A line from a TSM popular song 月娘啊聽我說 *gueh-niu a thiann gua kong*. Note that 'to protect' has three corresponding readings *po-bi* 保庇, *baoyou* 保佑, and *po-fu* 保護 for TSM, MSC, and Hakka, respectively.

It is worth noticing that MSC *dei* 得 and *bi-xu* 必須 are often referred to necessity modals in addition to *yao* 要, all three of which are interchangeable. However, *dei* or *bi-xu* does not require *yi-ding* 'definitely', unless for emphasis otherwise.

(140) ni (*yiding) **dei/bixu** baoyou nei-ge ren.
2sg definitely must bless that-CL person
'You must bless and protect that person (my man).'

Negation of TSM necessity modals is simple; *bian* 'need.not' is used as opposed to its affirmative counterpart *tioh*. However, MSC *yao* as a necessity modal cannot be negated by *bu* 'not'; the negative modal *bu-yong* is used. Hakka is similar, as *m-sii* 'need.not' rather than *m-oi* 'not-need' is used.

(141) **bian** lai a! TSM
m-sii/*m-oi loi leh! Hakka
bu-yong/*bu-yao lai le! MSC
not-need/need.not come PAR
'(You) don't have to come.'

Table 6.13
The necessity modal paradigms of the three languages

TSM	Hakka	MSC
tioh, ai, tioh-ai 'need'	*oi* 'need'	*yao* 'need'
**bo-tioh; m-tioh* *bian* 'need.not'	**bo-oi* *m-sii* 'need.not'	**bu-yao* *bu-yong* 'need.not'

I compare the volition (chapter five) and necessity modality systems in MSC below. Recall MSC volitional *yao* 'want' has a negative counterpart *bu yao* 不要 'not want'. However, the necessity paradigm differs, as it does not have a

symmetric counterpart, such as **yao* 'need' versus *bu-yao* 'not.need'. Table 6.14 provides a comparison between the modal systems.

Table 6.14
Mandarin *yao* in the volitional and necessity paradigms

	volition	necessity
affirmative	*yao* 'want'	*yao* 'need'
negative	*bu-yao* 'not.want'	*bu-yao *bu-yong* 'need.not'

The negation for the other MSC necessity modals, *dei* and *bi-xu*, is also important, particularly in language acquisition. The negative forms are not **bu-dei* and **bu-bi-xu*; rather, *bu-yong* and *bu-bi* are used.

(142) wo jinnian **dei/bixu** jiaoshu. MSC
1sg this.year need/need teach
'I need to teach this year.'

(143) wo jinnian *bu-dei/*bu-bixu/**bu-yong/bu-bi** jiaoshu. MSC
1sg this.year not-need teach
'I don't have to teach this year.'

Like *bu-yong*, *bu-bi* is a negative modal. MSC does not have an affirmative modal as **yong* 'need' or **bi* 'need'. In spite of the asymmetry in the affirmative and negative use in MSC, the morphemes *yao*, *bi*, *xu* and *yong* have individually been attested in necessity modality in the history of the Chinese language.

Table 6.15
The necessity modal paradigm in Mandarin

affirmative 'need'	*yao*	*dei*	*bi-xu*
negative 'not need'	*bu-yao*	**bu-dei* *bu-yong*	**bu-bi-xu* *bu-bi*

Next, I investigate the deontic use of 'should'. TSM obligatory necessity *ing-kai* is expressed in (143), particularly when there is no futurity or volition involved. Also, note that *ai* 'need' strengthens the necessity modality in (143). I repeat the use of epistemic *ing-kai* in (144) for comparison.

(143)	i	**ing-kai**	**(ai)**	kah	li	tau-sann-kang.	TSM
	1sg	*should*	*need*	*PREP*	*2sg*	*help*	
	'He should help you.' (obligative)						
(144)	i	**ing-kai**	**e**	kah	li	tau-sann-kang.	TSM
	1sg	*should*	*will*	*PREP*	*2sg*	*help*	
	'He should (be willing to) help you.' (epistemic)						

There are other forms in contemporary TSM for 'should' such as *kai-tong* 該當 and *kai* 該, where historical traces can be observed from the individual modals 該 or 當 'should'.[164]

(145)	又**該當**表達啥物		TSM			
	iu	**kai-tong**	piau-tat	siann-mih		
	again	*should*	*express*	*what*		
	'What else should I express (to her)?'					
(146)	是彼聲**該**講的對不起，					
	si	hit	siann	**kai**	kong	e	tui-put-khi
	COP	*that*	*utterance*	*should*	*say*	*GEN*	*sorry*
	我袂記講出喙。	TSM					
	gua	be	ki	kong	tshut	tshui	
	1sg	*not.able*	*remember*	*say*	*out*	*mouth*	
	'Sorry is what I should have said, but had not remembered to say.'						

[164] A line taken from a Min popular song 秋雨彼一暝 *tshiu hoo hit tsit mi*.

In addition to *ing* 應, some other forms such as *kai* 該 and *tong* 當 can be observed in *Zhuzi yulei* for necessity modality 'should'. Compared to the modal *tioh-ai* 'should' from the native stratum, the above two uses are in the literary pronunciation, and are used less commonly in daily conversations. Hakka is similar to TSM, but MSC uses *ying-gai* 應該 much more frequently.

In brief, *tioh-ai* 'need' is the major necessity modal; other forms such as *kai-tong* are also used in TSM. Other means such as adverbs may be used to strengthen or eliminate the degree of necessity. Nonetheless, TSM necessity modality is similar to the English dichotomous system, which often distinguishes the directive 'need'/ 'have (got) to'/ 'must' from 'should'.

Table 6.16 provides a review of TSM modal systems (chapters four to six).

Table 6.16
TSM affirmative modals[165]

	possibility	volition$_1$	volition$_2$	necessity
epistemic		***e*** 解 'will' (future; prediction)	***beh*** 欲 'about.to' (immediate future)	[*tiann-**tioh*** 定著 'must']
participant-internal	***e**-hiau* 解曉 (ability)	***e*** 'will' (volition)	***ai*** 愛 'want' ***beh**-ai* 欲愛 'want'	*ai* 'need' 愛
Participant-external; deontic	***e**-sai* 解使 ***e**-ing* 解用 ***e**-tang* (permission)			***tioh*** 著 ***tioh-ai*** 著愛 [*kai-tong* 該當] (obligation)

[165] I adopted van der Auwera and Plungian (1998) for the classification (epistemic, participant-internal, and participant-external) and for the possibility vs. necessity paradigm. I added volition for comparison.

6.6 Conclusion

This chapter revolves around the necessity modal pair *tioh* 著 'need' and *bian* 免 'need.not' in Taiwanese Southern Min. *Bian* is an under-researched topic. There has been a large body of literature on *tioh*, but mainly on its historical development and grammatical functions. I investigate the grammaticalization of these two morphemes with regard to their modal use.

Like the other modals in TSM, *tioh* is rarely used as a lexical necessity verb. Not only is *tioh* losing its verbhood, reanalysis also takes place in *tioh*. Another morpheme *ai* also expresses necessity semantics, and is also used as a renewal of *tioh*. TSM has necessity modals as *tioh*, *ai* and disyllabic *tioh-ai*.

The negation of *tioh* is not projected by a NegP; rather, another lexical entry *bian* 'need.not' is used. This is similar to the volitional pair: *beh* 'want' and *m* 'not.want' in chapter five. The grammaticalization process differs in these two modal systems, however. The negation of volitional *beh* is reanalyzed as two projections in *bo-beh* 'not-want': NegP and ModP. The negation of necessity *tioh* is *bian* 'need.not' and does not have competing forms as **bo-tioh* or **m-tioh*.

My current project differs from previous research in several aspects. I have connected the volitional and necessity paradigms. The reanalysis of *tioh* is investigated from a historical perspective, which I have also provided a theoretical account that is connected to the other modals discussed in chapters four and five. In addition, I have extended my discussion on Southern Min necessity modality to Hakka and Mandarin, and have brought up several under-addressed topics.

Chapter 7

THE ASPECTUAL NEGATIVES BO AND BUE

We have seen three negative morphemes in the previous chapters. This chapter introduces the last two negatives in Southern Min, both of which are aspectual: *bo* ‘not.have’ and *bue* ‘not.yet’.

The organization of this chapter is as follows: I discuss the varied categories of *bo* in modern Taiwanese Southern Min in section 2. Section 3 addresses the meanings and origins of the morphemes under investigation. Section 4 is the historical development of *mei* 沒 and *wu* 無, as *bo* shares some characteristics of both. I discuss cross-linguistic differences in Section 5. Section 6 concludes the chapter.

7.1 Introduction

Like some of the negative morphemes, Southern Min aspectual negation may have a verbal origin. The first aspectual negative to be addressed is the perfective *bo* ‘not.have’ 無, which has a verbal usage as ‘not have’. The character 無 *wu* is often chosen to present TSM bo; however, *wu* does not serve as sentential negation in modern Mandarin. Mandarin *mei* and Hakka *mo* are equivalent to *bo*. These three morphemes all express possession, existence, and aspect.

Table 7.1
Aspectual negation in the three languages

	TSM	MSC	Hakka
V: ‘not have’, ‘not exist’	*bo*	*mei*	*mo*
Perfective ‘not.have’	*bo*	*mei*	*mo*
anterior ‘not.yet’	*bue*	*mei*	*mang*

The other aspectual negative under investigation is *bue* ‘not.yet’ 未 in TSM. Hakka uses another negative *mang* 亡, which originates as ‘to escape; to die’. Mandarin, however, uses one morpheme *mei* for both perfective ‘not.have’ and anterior aspect ‘not.yet’.

7.2 Synchrony of *bo and bue*

Li (2007) classifies *bo* into five different categories: verb, adjective, auxiliary, adverb and interrogative.[166] Adopting some of his classifications, I summarize in the following paragraphs the categorial status of *bo* by incorporating examples from TSM corpora from which I drew the first 100 tokens of *bo* sentences for my analysis.[167]

7.2.1 *bo* as a verb.

Bo as a verb ‘not have’ precedes the nominal phrase and negates its possession or existence, as in (1) and (2).[168] *Bo* in (2) is V_1 in a verb sequence.

(1) 田園無水的時

tshan-hng	**bo**	tsui	e	si
field	*not.have*	*water*	*GEN*	*time*

‘when there is no water in the field…’

(2) 閒閒佇厝裡無代誌做。

ing-ing	ti	tshu	li	**bo**	tai-tsi	tso.
available	*LOC*	*home*	*inside*	*not.have*	*thing*	*do*

[166] Note that Li’s accounts are based on his data through fieldwork in Fujian, China. Nevertheless, in the relevant discussions TSM is basically the same as the Southern Min sub-dialects on which Li conducted his research.

[167] Sentences are from the corpora, unless otherwise stated.

[168] TSM doesn’t have negatives as a D; see Gillon and Yang (2010).

‘(staying) at home not having things to do’

Bo can also be the second verb in a sequential event; see (3).

(3) 揣無合意的人

tshue	**bo**	hap.i	e	lang
look.for	*not.have*	*interested*	*CL*	*person*

‘(She) couldn’t find her Mr./Ms. Right.’

Bo as V_2 can be used with quantifiers as *bo kui e* ‘no more than several hits’ in (4).

(4) 啊攏掘無幾下就鈍啊啦

a	long	kut	**bo**	kui	e,
PAR	*all*	*dig*	*not.have*	*several*	*hit*
	tioh	tun	a	lah.	
	then	*dull*	*PAR*	*PAR*	

‘Not digging long, sometime this (tool) became dull.’

The nominal object following *bo* may be fronted or dropped; see (5) and (6).

(5) 揣就連一支竹筍仔攏無啦

tshue	tioh	lian	tsit	ki	tik-sun-a
look.for	*then*	*FOC*	*one*	*CL*	*bamboo.shoot*
long	**bo**	la.			
FOC	*not.have*	*PAR*			

‘(He) couldn’t even find a bamboo shoot.’

(6) 揣無按呢啦

tshue	**bo**	an-me-la
look.for	*not.have*	*PAR*

‘(He) couldn’t find (something)’

This use of *bo* is often considered resultative in set expressions; see (7).

(7) *kuann-bo* literally: ‘see-no’; meaning: ‘can’t understand’

tak-bo literally: ‘read-no’; meaning: ‘can’t study well’

7.2.2 *bo* as aspectual negation.

Bo is used as perfective in (8) and (9).

(8) 無落來共看呼

bo	loo-lai	kah	kuann	hoo
not.have	*come.down*	*PREP*	*look*	*PAR*

‘(Someone) didn’t come down to take a look (at something/someone).’

做伊揣呢就開走

tso	i	an-ne	toh	khui	tsau
do	*3sg*	*this.way*	*then*	*drive*	*away*

‘suddenly driving away’

(9) 可能啊就是無用大腦

kho-ling	a	tioh	si	**bo**	iong	tua-nau.
may	*PAR*	*then*	*COP*	*not*	*use*	*big-brain*

‘(He) may not have used his brain.’

Bo in (10) appears in the secondary predicate, and *bo* negates the telic *tioh* in (11),

(10) 這孟宗傷心落目屎，

tse	Bing-tsong	siong-sim	lau	bak-sai
this	*(name)*	*heart.broken*	*drop*	*tears*

‘Bing-tsong burst into tears, heart-broken, …’

哭到無成聲

khau	kah	**bo**	sing-siann
cry	*COMP*	*not.have*	*change sound*

‘crying (until he could produce) no sound’

(11) 揣無著母親的屍體

tshue	**bo**	tioh	bu-tshin	e	si-the.
look.for	*NEG*	*attach*	*mother*	*GEN*	*body*

‘(Someone) couldn’t find (his) mother’s body’

The post-verbal *khi* ‘go’ is a resultative of the verb *bo* ‘not.have; not.exist’.

(12) 這个田地啊麼按呢，

tsit	e	tshan-te	a	ma	an-ne
this	*CL*	*field*	*PAR*	*also*	*PAR*

一塊一塊無去啊按呢

tsit	te	tsit	te	**bo**	khi	a	an-ne
one	*piece*	*one*	*piece*	*not.have*	*go*	*PAR*	*PAR*

‘The field was then gone (disappearing) piece by piece.’

7.2.3 *bo* as a pure negator.

I addressed the issue of *bo* as a pure negator in chapter five. For instance, *bo* in (13b) negates the volition of *beh* ‘want’ in the answer part (13b).

(13) a.

li	beh	khi	a	m	khi?
2sg	*want*	*go*	*or*	*NEG*	*go*

‘Do you want to go?’

b.

gua	**bo**	beh	khi.
1sg	*not*	*want*	*go*

‘I don’t want to go.’

Bo can also appear with a stative or adjectival predicate; see (14) and (15).

(14) 身體無較爽快，破病啊啦

sin-the	**bo**	khah	song-khuai,	phua-penn	a	la
body	*NEG*	*more*	*comfortable*	*get.ill*	*PAR*	*PAR*

‘(Someone) wasn’t well, getting ill.’

(15) 本身的立場就企無在啊

pun-sin	e	lip-tiunn	tioh	khia	**bo**	tsai.
self	*GEN*	*stance*	*then*	*stand*	*NEG*	*stable*

‘not having a leg to stand on’

Bo also can be used with the progressive, as in (16a). This usage can indicate habitual or short-termed situations (16b).

(16a) 攏無得驚就著啦

long	**bo**	tih	tiann	toh	tioh	la
all	*NEG*	*PROG*	*fear*	*then*	*correct*	*PAR*

'(He) is not being feared and that is all.

(16b) gua **bo** tih tsiah hun.

1sg	*NEG*	*PROG*	*eat*	*cigaratte*

'I am not smoking.' (Progressive)/ 'I do not smoke.'(Habit)

7.2.4 *bo* as an interrogative.

When used as Q, *bo* is usually paired with its affirmative counterpart *u*.

(17) 母親妳有愛食啥物貨無？

bu-tshin	li	**u**	ai	tsiah	siann-mih-hue	**bo**?
mother	*2sg*	*have*	*love*	*eat*	*what-thing-thing*	*Q*

'Mom, what would you like to eat?'

Bo may also appear with modals; however, there is a mismatch in (18), as *be* is expected rather than *bo*.

(18) 您猶會記 e0 我無？

li	iau	**e**	ki-e	gua	**bo**?
2sg	*still*	*can*	*remember*	*1sg*	*Q*

'Do you still remember me?'

Bo can be used in a tag question such as (19). Hsin (1999) calls these assertive questions, as the speaker often expects a positive answer from the hearer.

(19) 來嫁我好無？

lai	ke	gua	hoo-**bo**?
come	*marry*	*1sg*	*good-Q*

'Marry me, will you?'

7.2.5 *bo* as a discourse adverb.

Bo as a discourse marker (DM) can appear in different forms under different situations. Below are some examples. For instance, *bo* in (20)-(22) is used to provide suggestions.

(20) 無你食看覓 e0 呼。

bo	li	tsiah	kuann-mai	e	hoo.
otherwise	*2sg*	*eat*	*look-try*	*PAR*	*PAR*

'Why don't you try (it) then?'

(21) 抑無來共我鬥腳手

iah-**bo**	lai	kah	gua	tau-kha-tshiu
or-BO	*come*	*PREP*	*1sg*	*help*

'How about (you) come and help me?'

(22) 無按呢第二个就共號做 lieng5 kun2

bo	an-ne	te-ji	e	tioh	ka
BO	*this.way*	*the.second*	*CL*	*then*	*PREP*
	ho-tso	Liengkun			
	name-as	*(name)*			

'How about naming the second daughter Liengkun?'

Li (2007) also provides a discourse use of *bo*, where *u-bo* is used to catch attention from the hearer, carrying no lexical meaning. It carries a pragmatic clue, as "got it?" or "you know?"

(23) 熱天時，有無，病人定著會恰濟。 SM; Li (2007: 203)

juah-thinn	si,	**u-bo**,			
hot.day	*when*	*U-BO*			
	pang-lang	tian-tioh	e	khah	tse.
	patient	*must*	*will*	*more*	*more*

'When it is hot, you know, the number of patients usually increases.'

Bo can also be used in conditionals. *Bo* in (24) expresses negation under circumstances where certain conditions do not meet. It is possibly a reduced from *na-bo-tsiah* 'if-not-nominalizer'; *tsiah* is a C here. Chang (1997) further classifies the discourse function of *bo* into conditional and response.

(24) 一定愛共娶起來，

it-ting	ai	ka	tshua-khi-lai
definitely	*need*	*PREP*	*marry*

'(You) definitely need to marry her.'

無者，是真艱苦，

bo-tsiah,	si	tsin	kan-khoo
not-if	*COP*	*very*	*difficult*

'If not, it'd be difficult.'

會亂到歸家伙按呢。

e	luan	kau	kui-ke-hue	an-ne
will	*messy*	*to*	*whole.home*	*PAR*

'You'd have no easy life.'

7.2.6 Other categories of *bo*.

I provide one example showing *bo* as habitual; *tih* is compatible with *bo*.

(25)

i	**u/bo**	(tih)	tsiah	hun.
3sg	*HAB/not.HAB*	*PROG*	*eat*	*cigarette*

'He smokes./ He doesn't smoke.'

Among the five negatives, only *bo* can co-occur with the aspect marker *tih*.

(25)'

*i	**be/m/bian/bue**	tih	tsiah	hun.
3sg	*not.able/not.want/need.not/not.yet*	*TIH*	*eat*	*cigarette*

int. 'He isn't able to/doesn't want to/ don't need to smoke. /He has not yet smoked.

7.2.7 *bue* as aspectual negation.

Unlike *bo*, *bue* is not used as a verb in contemporary Taiwanese Southern Min. *Bue* expresses anterior aspect and often appears with *iau* ‘yet’ 猶.

(26) 透早天未光

thau-tsa	thinn	**bue**	kng
early.morning	*sky*	*not.yet*	*brighten.up*

‘It’s early in the morning when the sky hasn’t brightened up.’

(27) 啊 ieng9 暗猶未食咧，

a	ing-am	iau	**bue**	tsiah	leh
PAR	*dinner*	*still*	*not.yet*	*eat*	*PAR*

‘(I) have not eaten dinner yet.’

Bue ‘not yet’ can be the aspect of the first verb or the second verb (often, resultative) in a verb sequence; see (28) and (29) respectively.

(28) 猶未食早仔著卜轉啊

iau	**bue**	tsiah	tsa-a	tioh	beh	tng	ah.
yet	*not.yet*	*eat*	*breakfast*	*then*	*about.to*	*return*	*PAR*

‘(He) has not yet had breakfast but is about to leave for home.’

(29) 厝起猶未好

tshu	khi	iau	**bue**	ho.
house	*build*	*yet*	*not.yet*	*finish*

‘The building of the house has not finished.’

Example (30) shows that modifiers appear between the aspect *bue* and the resultative verb *hoo* ‘good’, and (31) tells us the relative word order of aspect and modality.

(30) 路做猶未講真好

loo	tso	iau	**bue**	kong	tsin	ho

road *do* *yet* *not.yet say* *very* *good*

'The road has not yet been too well built.'

(31) 彼大的講：伊猶未卜嫁！

hiah tsua e kong

that *older* *NML* *say*

i iau **bue** beh ke.

3sg *yet* *not.yet* *want* *marry*

'That older one says that she has not wanted to get married.'

As in (32) and (33), the affirmative aspect is expressed through an adverb *i-king* 已經 'already', which is optional, and 矣 *a*, which indicates a change of state.

(32) thinn **i-king** kng **ah**.

sky already brighten PAR

'The sky has already brightened up.'

(33) tshu **i-king** khi ho **ah.**

house *already* *build* *finish* *PAR*

'The building of the house has already finished.'

7.2.8 *bue* as an interrogative.

Bue can be used as an interrogative as in (34) and (35).

(34) 「你有號名未？」伊講：「猶未咧。」

li u ho-mia **bue**? i kong iau **bue** leh.

2sg *have* *name* *Q* *3sg* *say* *yet* *not.yet* *PAR*

'Have you named (someone)?' 'He says, 'not yet.'

(35) 你彼本書是看透猶未？

li hit pun tshe si khuann-tau iau **bue**?

2sg *that* *CL* *book* *COP* *read-through* *yet* *Q*

'Have you figured out that book?'

7.2.9 Concluding remarks.

This subsection summarizes some observations about Southern Min *bo*. *Bo* is multi-functional. It can behave like a verb, an aspect marker, a modal, a pure negative, an interrogative marker or even a discourse marker. Syntactically, *bo* can appear in the VP, AspP, as well as CP. Given that Chinese negation goes through a reanalysis of head to head movement, *bo* can be the head of each of these phrase structures. When *bo* is at the CP level, it can be used for polarity marking (such as interrogatives) or for discourse marking (such as adjuncts and adverbs). These will be two different levels of CP.

The other aspectual negation *bue* does not carry a lexical use and it is not a discourse marker either.

Table 7.2 illustrates the categorial status of *bo*. The categories of *bue* is demonstrated in Table 7.3.

Table 7.2
The categorial status of *bo*

verb	TMA	NEG	QM; INT	DM
√	√	√	√	√

Table 7.3
The categorial status of *bue*

verb	TMA	NEG	QM; INT	DM
--	√	√	√	--

7.3 Diachrony of aspectual negation

This section investigates four aspectual negatives from a diachronic perspective. Different morphemes or characters are adopted in the languages under investigation. For perfective 'not.have', I discuss the development of *mei* 沒 and *wu* 無 as they are possible cognates of Southern Min *bo*. The discussion of 未 is for Southern Min *bue* 'not.yet' in. Also included is the morpheme 亡, for Hakka *mang* 'not.yet'.

7.3.1 On *wu* 無.

The word 無 is an archaic negative, with MSC pronunciation *wu*. It is often postulated to be a cognate of the morpheme *mei* that developed later.

The Chinese dictionary *Shuowen* 說文 suggests the etymology of *wu* 無 as an associative compound for 'a person dancing'.[169] Another character 舞 *wu* was further developed for the meaning of 'dance'.[170]

Based on *The Cotemporary Chinese Dictionary Hanyu da cidian* 漢語大詞典, the parts of speech of *wu* include negated verbs, interrogatives, and discourse markers, which are similar to those of *mei*.[171] I address each below.

---

[169] Associative Compounding is one of the six methods of Chinese character formation.

[170] The etymology of *wu* is based on two sources: Taiwan Academia Sinica http://words.sinica.edu.tw/sou/sou.html and http://www.zdic.net/zd/zi/ZdicE7Zdic84ZdicA1.htm.

[171] Examples (37)-(46) are from *Hanyu da cidian*, unless noted otherwise. Transcription and translations are mine. Transcription is in MSC.

***1. wu*: verb 'not have'**

(36) 人而**無**儀，不死何為。詩經 *Shi jing* (the Spring-Autumn period; 770-476 BCE) [172]

ren	er	**wu**	yi,
be.person	*and*	*not.have*	*demeanor*
bu	si	he	wei
NEG	*die*	*what*	*do*

'If a man has no dignity of demeanor, what should he do but die?'

(37) 欲取鳴琴彈，恨無知音賞。 唐孟浩然詩 (Tang; 618-907 CE)

yu	qu	mingqin	tan,	
want	*take*	*instrument*	*play*	
hen	**wu**	zhiyin	shang	
hate	*not.have*	*confidant*	*appreciate*	

'wanting to play the Chinese guitar, but hating having no confidant to appreciate it'

***2. wu*: verb 'to die'**

(38) 吾無後，當共勉勵，篤睦為先。 南史 *Histories of the Southern Dynasties* (643-659 CE)

wu	**wu**	hou,	dang	gong	mianli,
1sg	*die*	*after*	*should*	*together*	*encourage*
du	mu	wei	xian		
firmly	*harmonious*	*COP*	*first*		

'After I am no more, you should first encourage each other and get along peacefully.'

Below are examples where *wu* is used as a functional category, ranging from a negative, an interrogative to discourse marking.

[172] Translation is by James Legge. This example is from Wang (2000: 659).

***3. wu*: 'not'**= MSC *fei* 非 or *bu-shi* 不是 'be-not' [173]

(39) 苟無忠信之人，

gou	**wu**	zhong	xin	zhi	ren
if	*not.be*	*faithful*	*trustworthy*	*GEN*	*person*

則禮不虛道。 禮記 *Li ji* (Warring States; 475-221 BCE)

ze	li	bu	xu	dao
then	*rites*	*not*	*empty*	*doctrine*

'The rites should not be perfunctorily performed by the man who is not right in heart and sincere.'

***4. wu*: adverb 'not'** = MSC *bu* 不 'not'

(40) 無偏無黨，王道蕩蕩。 尚書洪範 *Shang shu* (772-476 BCE)

wu	pian	**wu**	dang,	wang	dao	dangdang
not	*deflect*	*not*	*uneven*	*kingdom*	*road*	*significant*

'Without deflection, without unevenness, pursue the royal righteousness.'

***5. wu*: negative** = MSC *wei-ceng* 未曾 'not.ever; 'never' or *mei* 沒 'not.yet'

The dictionary only notes negation of *wu* for this entry, but this use shows that *wu* is aspectual. This contradicts with the finding by Shi and Li (2004), who believes that *wu* disappeared before it began to undergo the grammaticalization from its lexical 'not have' to other grammatical functions.

Wang (2000) provides the following example, where *wu* is aspectual, meaning 'not ever'.

[173] Translation of (39) and (40) is from James Legge. All the MSC equivalents for each entry are from *Hanyu da cidian*.

(41) 行離理而不外危者，無之有也 荀子 *Xunzi* (Warring States; 475-221 BCE)

xing	li	li	er	bu	wai	wei	zhe,
behave	*deviate*	*reason*	*and*	*NEG*	*out*	*danger*	*NML*
	wu		zhi	you	ye.		
	not.ever		*this*	*have*	*PAR*		

'There is never been a case where danger does not occur because of deviation from righteousness.'

***6. wu*: prohibitive** = MSC *bu-ke* 不可 or *bu-yao* 不要 'do not V'

(42) 無若丹朱傲，惟慢遊是好。 尚書 *Shang shu* (772-476 BCE)[174]

wu	ruo	DanZhu	ao,		
RPOH	*like*	*(name)*	*arrogant*		
wei	man	you	shi	hao.	
only	*indolence*	*dissipation*	*COP*	*like*	

'Be not haughty like Zhu of Dan, who found his pleasure only in indolence and dissipation.'

***7. wu*: interrogative** = MSC *fou* 否

(43) 晚來天欲雪，

wan	lai	tian	yu	xue,
evening	*come*	*sky*	*about.to*	*snow*

能飲一杯無？ 白居易詩 poetry by Bai Yuyi (772-846 CE)

neng	yin	yi	bei	**wu**
can	*drink*	*one*	*cup*	*Q*

'It's about to snow. Would you care for some wine?'

[174] Translation by James Legge

***8. wu*: conjunction**

Hanyu da cidian also provides two types of conjunction. Examples are (44) and (45), equivalent to MSC *bu-lun* 不論 'not matter how' and *ji-shi* 即使'even if'.

(44) 無小無大，從公于邁。 詩經 *The Book of Poetry* (1046-771 BCE)[175]

wu	xiao	**wu**	da	cong	gong	yu	mai
CONJ	*small*	*CONJ*	*big*	*follow*	*master*	*to*	*progress*

'Small and great, all follow the prince in his progress to it.'

(45) 國無小，不可易之。 左傳 *Zuozhuan* (476-221 BCE)

guo	**wu**	xiao	bu	ke	yi	zhi
country		*even.if*	*small*	*NEG*	*can*	*easy*	*PRON*

'Even if the nation is small, you cannot take it lightly.'

***9. wu*: no specific meaning**

This use of *wu* also appears in sentence initial position. It is a discourse marker.

(46) 無寧以善人為則 左傳 *Zuozhuan* (476-221 BCE) [176]

wu	ning	yi	shan	ren	wei	ze
WU	rather	use	righteous	person	COP	model

'It is better to take righteous people as your model.'

From these definitions, we learn that *wu* ranges from a negated verb to functional categories, including negation, interrogation, and conjunction. *Wu* can also be used to express aspect and prohibitive. A possible grammaticalization path of *wu* is presented as (47).

(47) *wu*: V > ASP > NEG > C

---

[175] Translation by James Legge

[176] 杜預注，無寧寧也。Du Yu annotates, *wu ning ning ye* 'wu comfort means comfort'.

In brief, my investigation of *wu* doesn't fit with Shi and Li's (2004) claim that *mei* replaced *wu* before the latter negative further developed from its lexical use. We move to m*ei* in the following subsection.

7.3.2 On *mei* 沒.

There are three pronunciation entries for 沒 in the contemporary dictionary: *mo*, *mei* and *me*.

1. *mo* 沒. Under this pronunciation, the lexical use includes 'to sink', to swim in', 'to flood', 'to cover', to suppress', 'to end', 'to disappear', 'to lose', 'to cave in', and 'to die'. Below are selective examples from the dictionary.[177] These verbal uses of *mo*, however, appear in set expressions only in MSC.

***Mo* as 'to sink/drown'**

Wang (2000: 545) refers this use as a euphemism for 'to die' in ancient Chinese.

(48) 若赴水火，入焉焦沒耳 荀子 *Xunzi* (Warring States; 475-221 BCE)

ruo	fu	shui	huo,	
if	*go*	*water*	*fire*	
ru	yan	jiao	**mo**	er
enter	*PRON*	*burn*	*drown*	*PAR*

'If going to the water and fire, one will be either burned or drowned.'

***Mo* as 'to die'** = *mo* 歿 'die'[178]

沒 mo in (49) means 'to die' and this use is later replaced by another character 歿.

(49) 父在觀其志，父沒，觀其行。 論語 *The Analects* (772-221 BCE)

[177] Unless noted otherwise, examples are from *Hanyu da cidian*.

[178] Translation by James Legge

fu	zai	guan	qi	zhi,	
father	*alive*	*observe*	*POSS*	*will*	
	fu	**mo**	guan	qi	xing
	father	*die*	*observe*	*POSS*	*conduct*

'While a man's father is alive, look at the bent of his will; when his father is dead, look at his conduct.'

***Mo*: 'to flood'**

(50) 水來漂沒，溺其人民 《史記》*Shiji*; (109-91 BCE)

shui	lai	piao	**mo**,	ni	qi	renmin
water	*come*	*float*	*flood*	*drown*	*POSS*	*people*

'When the waters come flooding in, they drown one's people.'

There is a modality use under the entry of *mo*.

***Mo* as prohibitive** = *mo* 莫 or *bu-yao* 不要 'do not'

(51) 我勸世人沒要學撐船，

wo	quan	shiren	**mo**.yao	xue	cheng	chuan
1sg	*advise*	*regular.personNEG.PROH*		*learn*	*pole*	*punt*

撐子船來弗得閒。 明 Ming dynasty (1368-1644 CE)

cheng	zichuan	lai	fu	de	xian
pole.punt	*small.boat*	*FUR*	*NEG*	*obtain/can*	*free*

'I advise you not pole a punt. If you do, you cannot be free.'

2. *mei* 沒: negation. Wang (2000) suggests this meaning of 沒 as a later development. The dictionary lists two definitions under the pronunciation of *mei*.

Mei* as 'not have', also read as *mo = MSC *wu* 無 or *mei.you* 沒有

(52) 娥眉愁自結，鬢髮沒情梳。 唐袁暉詩 (Tang; 618-907 CE)

ermei	chou	zi	jie,
eye.brow	*worry*	*self*	*tie*

'My eye-brows are tied due to worries'

binfa **mei** qing shu.
hair *not.have* *mind* *comb*
'I have no mind to comb my hair.'

***Mei* as 'not.yet'** = 未 *wei* 'not.yet' or 不曾 *bu-ceng* 'not-ever'

This aspectual use of *mei* is important, as *mei* is also a perfective. This means that *mei* has a dual aspectual function.

(53) 今日索性連早飯也沒吃 紅樓夢 *The Dream of the Red Chamber,* By Cao Xueqin (Qing dynasty; mid-18th cy.)

jinri	suoxing	lian	zaofan	ye	**mei**	chi
today	*directly*	*FOC*	*breakfast*	*FOC*	*not.ASP*	*eat*

'He didn't even eat breakfast.'

Unlike *mo*, the above two uses of *mei* are still productive in MSC.

3. *me* 沒 = *me* 麼

This is a later developed meaning. This use is often seen in 甚沒 *shenme*, 什沒 *shenme*, 拾沒 *shime*, all meaning 'what' (Wang 2000). The interrogative pronoun has changed to *me* 麼, as in MSC 什麼 *shenme* 'what'.

(54) 緣沒不攢身入草，避難南皈？ 敦煌變文集

yuan	**me**	bu	zan	shen	ru	cao
affinity	*what*	*NEG*	*accumulate*	*enter*	*grass*	

bi	nan	nangui
escape	*refuge*	*South*

'As affinity does not accumulate within one's body as it enters the grasses, in order to avoid difficulties must one take refuge in the south.'

The categories of modern Mandarin *mei* covers lexical ‘not have’, perfective ‘not.have’, anterior aspect ‘not.yet’, and interrogative. We have learned that *wu* 無 was used in questions and could serve as a discourse maker with no semantics. Southern Min *bo* and *wu* are alike in their types of categories. Still, one problem of considering Southern Min *bo* to be a cognate of *wu* is that *bo* can be used as perfective negation in contemporary TSM, but such a use is not attested in *wu* historically. On the other hand, if we see *bo* as originating from *mei* 沒, we then have to explain why *mei* is not used for discourse marking. Language changes, and possibly *mei* and *wu* share the same origin. So, *bo* carries characteristics from both of them.

I summarize the categorial status of *wu* and *mei* in Table 7.4, based on dictionary definitions.

Table 7.4
A comparison of *wu* and *mei*

	wu	*mei*
V	√	√
ASP	√	√
NEG	√	√
INT	√	√
DM	√	--

7.3.3 On Southern Min *bue* 未

The etymological dictionary *Shuowen jie zi* 說文解字 defines 未, MSC pronunciation *wei*, as 'flavor'. Another source about *wei* in *Shuowen* is 木老於未 *mu lao yu wei*, meaning wood dying in the *wei* time (*wei* being the appellation of one of the divisions of time according to traditional reckoning). I find the dying meaning in *wei* 未 from the annotation by 段玉裁 Duan Yucai (1735-1815). *Hai*, *mao* and *wei* are times used in Ancient Chinese.

(55) 木生於亥。壯於卯。死於未。 *Shuowen jie zi* (100-122 CE)

mu	sheng	yu	hai,	zhuang	yu	mao,
wood	*born*	*PREP*	*hai.hour*,	*grow*	*PREP*	*mao.hour*
	si	yu	**wei**.			
	die	*PREP*	*wei.hour*			

'The wood is born during the *hai* hour, grows during the *mao* hour, and dies during the *wei* hour.'

The contemporary Chinese dictionary *Hanyu da cidian* provides the following definitions for 未, the first two of which have been explained above.

1. 'flavor'

2. *wei-shi* 未時, literally the hour of *wei* = 1-3 in the afternoon

3. negation 'not' = MSC *bu* 不. I selected (56) from the Chinese dictionary and (57) from Wang (2000) as such examples.

(56) 山林未深猿鳥少。 宋詩 Song poetry (960-1279 CE)

shan.lin	**wei**	shen	yuan	niao	shao
mountain.wood	*not*	*deep*	*ape*	*bird*	*few*

'Not going too deep in the wood, one finds only few apes and birds.'

(57) 食肉者鄙，未能遠謀。 左傳 *Zuo zhuan* (770-476 BCE)

shi	rou	zhe	bi,	**wei**	neng	yuan	mou.
eat	*meat*	*NML*	*shallow*	*not*	*able*	*far*	*plan*

'Those who are holding a high position are shallow and cannot plan far.'

4. prohibitive *wu* 勿 = MSC *bu-yao* 不要

(58) 東郊何時開？帶甲且未釋。 唐杜甫 poetry by Du fu (712-770 CE)

dong	jiao	heshi	kai?
east	*suburb*	*when*	*open*

'When will the east gate in the outskirts open?'

dai	jia	qie	**wei**	shi.
wear	*armor*	*and*	*PROH*	*take.off*

'Keep your armor and do not take it off.'

Interestingly, these archaic negative morphemes all carry a prohibitive use, but this modality use in *wei* is no longer available in contemporary data. In MSC or TSM, prohibitive are often fused words from two morphemes, such as *bu-yao* 不要, literally 'not-need', in MSC. The negation *wei* is interchangeable with *bu* before the Tang dynasty, 618-907 CE (Wu 2006: 60). None of the above uses have been preserved to the modern era.

5. *wei* as 'not.yet'. The anterior aspect usage is found in TSM *bue* 'not.yet', but not in MSC. MSC uses *wei* in set items such as *wei-lai* 未來 'in the future' and *wei-bi* 未必 'not necessary'. The dictionary also notes two equivalents for *wei*, as *bu-ceng* 不曾 'not.ever' or *shang-wei* 尚未 'not.yet'. Wang (2000: 456) also points out aspectual negation in *wei*.

(59) 不好犯上，而好作亂者，未之有也。 *The Analects* (772-221 BCE)[179]

bu	hao		fan	shang,		
not	*take.pleasure.in*		*offend*	*superior*		
	er	hao		zuo	luan	zhe,
	and	*take.pleasure.in*		*do*	*confusion*	*NML*
		wei	zhi	you	ye.	
		not-ever	*PRON*	*have*	*PAR*	

'There have been none, who, not liking to offend against their superiors, have been fond of stirring up confusion.'

6. *wei* as interrogative. The poetry below has *wei* as a question marker.

(60) 來日綺窗前，寒梅著花未？ 唐王維 poetry by Wangwei (701-761 CE)

lai	ri	qi		chuang	qian,
come	*day*	*embroidered.curtain*		*window*	*front*
	han	mei	zhuo	hua	**wei**?
	winter	*plum*	*attach*	*flower*	*Q*

'On the day when you had stood before the curtained window [in parting], had you seen plum trees blossoming?'

The first two entries and the last two are still used in contemporary TSM. 未 in the first two nominal definitions is pronounced as *bi* in TSM, which is a literary pronunciation. The same morpheme is pronounced as *bue*, which is colloquial, for the last two definitions: *bue* as aspectual negative or an interrogative.

[179] Translation by James Legge.

The origin of *wei* is regarded as a fusion of the negative initial *m-* in 毋 *wu* and the adverb 既 'already' (Pulleyblank 1995: 114). The OC reconstruction of 未 is [miət] by Wang Li 王力 and [mjədh] by Li Fanggui 李方桂.[180]

m- + 既 [kiət] or [kjədh] > 未 [miət] or [mjədh]

Therefore, one should not take it for granted that all negatives originate as verbs, although many of them do.

7.3.4 On Hakka *mang* 亡.

I look at the definition of 亡 (MSC pronunciation *wang*) because Hakka uses *mang* for 'not.yet', as opposed to 未 in TSM. *Hanyu da cidian* has two entries for the character 亡: *wu* and *wang*.

1. *wu* 亡 as 'not.have'

(61) 日知其所亡，月無忘其所能。 *The Analects* (772-221 BCE)[181]

ri	zhi	qi	suo	**wu**,		
day	*know*	*POSS*	*PRON*	*not.have*		
yue		wu	wang	qi	suo	neng.
month		*not*	*forget*	*his*	*PRON*	*can*

'He, who from day to day recognizes what he has not yet, and from month to month does not forget what he has attained to, …'

This dictionary *Hanyu da cidian* defines *wu* 亡 as the same as another morpheme *wu* 無; however, Wang (2000) argues that two Chinese rhyme dictionaries *Guangyun* 廣韻 and *Jiyun* 集韻 do not have a phonological entry *wu* for 亡.

[180] http://www.eastling.org/OC/oldage.aspx.

[181] Translation by James Legge.

2. *wang* 亡. Wang (2000: 12) suggests that the origin of *wang* is 'to die out, to become extinct'.

***Wang* as 'escape'**[182]

(62) 子牟有罪而亡 國語楚語上 *Guo yu* (Warring States; 475-221 BCE)

Zimou	you	zui	er	**wang**
(name)	*have*	*guilt*	*and*	*escape*

'Zimou is guilty and escapes.'

***Wang* as 'to die'**

(63) 時日曷喪，予及汝皆亡。 尚書 *Shang shu* (772-476 BCE)

shi	ri	he	sang,	yu	ji	ru	jie	**wang**
when	*day*	*when*	*die,*	*1sg*	*and*	*2sg*	*both*	*die*

'When the day comes, I will die with you.'

***Wang* as 'to overthrow'**

(64) 暴其民甚 則身弒國亡。 孟子 *Mengzi* (475-221 BCE)

bao	qi	min	shen,					
torture	*POSS*	*people*	*extreme*					
	ze	shen	shi	guo	**wang**.			
	then	*body*	*kill*	*nation*	*overthrow*			

'If a king tortures his people, he will be killed and the nation will be destroyed.'

From the above, Hakka *mang* 'not.yet' possibly originates from a negative verb.

7.4 Grammaticalization of Aspectual Negation

I discuss the grammaticalization of *mei* and *wu*, followed by the notion of boundedness, which is often connected to MSC *mei*.

[182] This example is from Wang (2000); other ones are from *Hanyu dai cidian*.

7.4.1 Historical development of *mei*(*you*).

The evolution of *mei* has been discussed extensively in the literature. Shi and Li (2004) suggest that around the eighth century, *mei* evolved into negation, meaning 'not have'. The negative form *mei you* emerged later approximately between the 14th and 15th centuries. By the 15th century, *mei* was primarily used to predicate nominal phrases and its predication was extended to verbal phrases afterwards. By the 16th century, the system of the modern Mandarin negative *mei* has been established.

The grammaticalization of *mei.you* as a negative can be divided into four stages:

1. *mo*: verb = 'to sink; to die' > *mei* 'to lack; not have'

The first stage is when the original verbal *mo* 'to sink, to die' evolved into the meaning of 'lack, not have'. Sentence (65) shows that *mo* used to mean 'to sink' before the eighth century.

(65) 夢為魚而沒於淵。 *Huainanzi, Zhenxun*, 125 BCE (Shi 2002: 199)

meng	wei	yu	er	**mo/mei**	yu	yuan.
dream	*COP*	*fish*	*and*	*sink*	*LOC*	*abyss*

'(He) become a fish in his dream and sank into an abyss.'

Sentences (66) and (67) are cases where *mei* means 'not have'. In (66), *mei* predicates a nominal phrase.

(66) 深山窮穀沒人來。 Poem by Liu Shang, 800 CE (Shi 2002: 200)

shen	shan	qiong	gu	**mei**	ren	lai.
deep	*mountain*	*poor*	*valley*	*not.have*	*people*	*come*

'The deep mountains and poor valleys do not have people who come.'

(67) “車子有麼？”“車子沒。” *Lao qi da*, 1325 CE (Shi 2002: 200)

chezi	you	me?	chezi	**mei**.
carriage	*have*	*Q*	*carriage*	*not.have*

‘Do (you) have a carriage?’ ‘(We) don’t have any carriages.’

2. *mei*: verb ‘not have’ > negation, to negate *you* ‘to have’

During this stage, the negated verb changes to a pure negator. In (68), *mei* is to negate the verb *you* ‘to have’.

(68) 如何沒有鮮魚？ *Shuihu zhuan*, 1550 CE (Shi 2002: 200)

ruhe	**mei**	you	xian	yu?
why	*NEG*	*have*	*fresh*	*fish*

‘Why don’t you have fresh fish?’

3. *mei*: negative of *you* ‘to have’ > negative of other verbs; aspectual

The third stage took place when *mei* began to be used with verbs other than *you* ‘to have’. This change probably occurred in the 16th century (Shi and Li 2004: 249). That is, *mei* began to appear with non-nominal predicates. For example, *mei* in (69) is to negate the verb *shang* ‘to serve’.

(69) 這一日沒上過鐘酒。 *Jin ping mei*; 1550 CE (Shi 2002: 200)

zheyiri	**mei**	shang-guo	zhong	jiu.
for.a.while	*NEG.ASP*	*serve-EXP*	*cup*	*wine*

‘Wine has not been served for a while.’

During this stage, *mei* began to be used as a negative perfective marker (Shi and Li 2004: 197).[183] The use of *mei* as a perfective negative marker occurred later than *mei* as negation to the verb *you* ‘to have’. The aspectual *mei* has then

[183] I mark *mei* as ASP for now. I will discuss its specific aspect use later in this chapter.

functioned as a bounded negative since the 16th century, although its original verbal usage 'not have' is still productive today. There is however a problem in this diachrony: V > Neg > Asp.Neg. This does not seem to be a normal development, as Neg should go after Asp.Neg. Further research is required.

4. *mei + you* > aspectual *mei.you*

There is also a stage where *mei* became to fuse with *you* to form *mei.you*, which, as a whole, is reanalyzed as a negative perfective marker. Shi and Li (2004: 248) note that it took a couple of centuries for this reanalysis of aspectual *mei.you* to take place from the negative verb *mei you* 'to not have'.

Shi and Li (2004) postulate a possible syntactic structure for the reanalysis into aspect to occur. In (70), *mei* is the first verb in a verb series. The brackets indicate two VPs.

(70) [*mei* + NP] + [V + NP]

When the first NP is empty, the structure becomes (71). The next step is for *mei* to become a functional projection, taking the VP as its complement, as in (72). Note that this also shows a pattern from two events to one.

(71) [*mei*] + [V + NP] > (72) *mei* + VP

Historically, *mei* as a negative marker came into existence when *mei* was used together with *you* 'to have', and then with a non-*have* verb as perfective.

I discuss how *mei*/*mei.you* is reanalyzed into an interrogative. Shi and Li (2004: 269) suggest that *mei.you* as Q was productively used in the 18th century.

(73) 吃了藥沒有？ 紅樓夢 the *Dream of the Red Chamber*
chi-le yao **mei.you**?

eat-LE medicine *Q*

'Did you take medicine?'

Shi and Li argue that the preverbal interrogative *you-mei.you* did not exist in earlier texts written in the early 20th century such as in works by Lao She 老舍 (1899-1966) and Lu Xun 魯迅 (1881-1936). In other words, *you-mei.you* is a rather new development.

(74) 你有沒有吃藥？ MSC

ni **you-mei.you** chi yao?

2sg *have-not.have* *take* *medicine*

'Did you take medicine?'

The historical development of the negative *mei* can be summarized as (75).

(75) *mo* = verb 'to die'

> *mei* = verb 'not have'

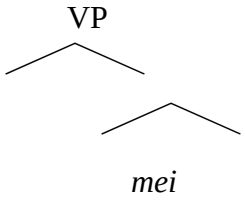
> *mei* = negation 'not' + *you* 'to have'

> *mei* = perfective negative: *mei*/*mei.you* + (non-*have*) Verb

(> *mei* = question marker)

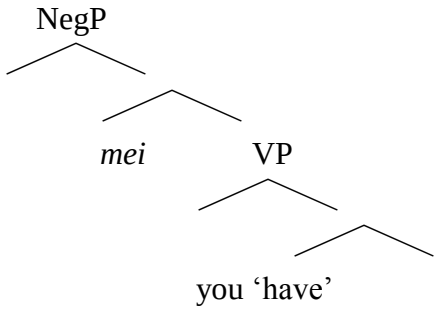
Based on Shi and Li (2004), there is a head-to-head movement in *mei*: V > NEG > NEG.ASP > Q, with each head from a different reanalysis stage.[184]

(76) *mei* = V 'not have'

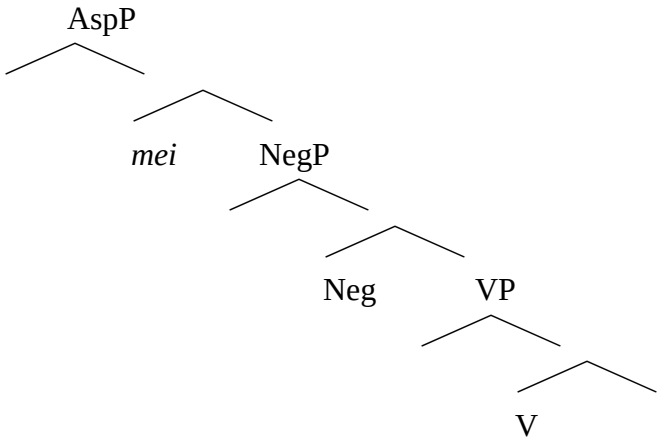


[184] I have previously noted the strange order, but the verbal origin of *mei* is widely accepted. With this, I analyze a head-to-head movement in *mei*.

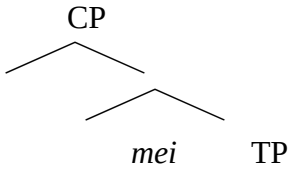
(77) *mei* = negation ‘not’



(78) *mei* = perfective negation, Neg.Asp



(79) *mei* = interrogative



The above patterns shows a reanalysis process, from a lexical (verb) to functional projections (negation, aspect, and questions).

Two lines of postulation can be outlined from the above paragraphs. For one, *mei* as aspectual negation possibly comes from a reanalysis of *you* from V to Asp. As the lexical possession *you* ‘to have’ becomes aspectual, *mei* negates the aspectual *you*. Technically, *mei* is simply negation under this analysis.

(80) *mei* ‘not’ + { you [have (possession)] > iF: [aspect] }

Shi and Li (2004) adopt the reasoning that *mei* was further reanalyzed. I analyze the reanalysis as feature loss.

(81) *mei*: [not.have (possession; negativity)] > iF: [aspect; negativity]

The other suggestion is that the aspect of *mei* derives from its negative verb ‘not have’ due to feature loss.

(82) *mei*: [not.have (possession)] > iF: [aspect] (of negation)

Shi and Li (2004) argue that the grammaticalization of *mei* led to the extinction of *wu* 無 as well as other negatives such as *wei* 未 ‘not yet’, because *mei* extended its usage from nominal to include other types of predicates. As the two authors suggest, the modern *mei* system was established no later than the 16th century and that the disappearance of *wu* took place approximately in the Yuan-Ming dynasties (1271-1644 CE).

Pan (2002: 306), however, believes that *wu* 無 changed to 沒 *mei* due to phonological weakening. Pan points out that *mei* does not exist in Southern dialects where *wu* is employed; similarly, *wu* is not found in Northern dialects where *mei* is used (Pan 2002: 309). In line with Pan, Xu (2003) proposes that with a similar pronunciation, *mei* replaces *wu* as a negated verb.

Either analysis provides us with a possible pathway of the grammaticalization of Southern Min *bo*. The following section discusses the diachrony of *wu* 無 whose character is often chosen to represent TSM *bo*.

7.4.2 Historical development of *wu*.

Norman (1995) suggests that the equivalent negative marker to *mei*. *You* in northern Min is a fused word of 無 'not have' and 有 'have', as in (83).

(83) [ma] 無 + [wu] 有 > [maw] = 'not have'
(Northern Min pronunciation)

If this line of reasoning is correct, Southern Min negative *bo* is possibly a fused word of negation plus its affirmative *u*.

(84) NEG: *m* + *u* 'to have' > *bo* 'not have'

Shi and Li (2004) conclude that the negative *wu* 'not have' was used solely with nominal phrases from the pre-Qin times (221 BCE) to the Yuan-Ming Dynasties (1271-1644 CE). *Wu* 無 and *mei* 沒 served the same function until new usages in *mei* developed in the Tang-Song Dynasties (618-960 CE).

I have discussed various uses of *wu* and *mei* in section 7.3 with a conclusion that *wu* is not used as aspectual negation. Otherwise, *wu* and *mei* are fairly similar.

Below I provide examples of *wu* chronologically from different historical texts, including *wu* as the second verb in a sequential event. I focus on *wu* as a negated verb 'not.have'. The first two examples show that *wu* appears as a verb.

(85) 人誰**無**過。 左傳 *Zuo zhuan* (the Spring-Autumn period; 770-476 BCE)
ren shui **wu** guo
person who not.have mistake
'Who among men has made no mistakes?'

(86) 軍**無**糧食則亡。 孫子 *Sun Tzu* (written in 515-512 BCE)
jun **wu** liangshi ze wang
army not.have food then die
'If soldiers do not have food, they will die.'

In a later text *Shishuo xinyu* 世說新語, one can see that *wu* negates the verb *you* ‘to have’.

(87) 且謂駿物無有殺理 (*Shishuo xinyu* 世說新語; 220-258 CE)

qie	wei	junwu	**wu**	you	sha	li
and	*say*	*steed*	*not*	*have*	*kill*	*reason*

‘and saying that the steed should not be killed’

Also, in this historical text *wu* often appears in a verb sequence connected by the conjunction *er* ‘and’, such as (88) where *wu* is a negative ‘not’.[185]

(88) 仁無隱而不著，

ren	**wu**	yin	er	bu	zhu
benevolence	*NEG*	*hide*	*and*	*NEG*	*apparent*

無幽而不彰者。 世說新語 *Shishuo xinyu* (220-258 CE)

wu	you	er	bu	zhang	zhe
NEG	*remote and*		*NEG*	*apparent*	*NML*

‘Benevolence will not be hidden without being known, will not be tucked away without being made apparent.’

In (89), *wu* is the second verb in a verbal sequence, yet it is fairly rare in *Shishuo Xinyu*. There is no conjunction between *ju* and *wu* in (89)

(89) 居**無**幾何而周舍死 世說新語 *Shishuo xinyu* (220-258 CE)

ju	wu	ji	he,	er	Zhoushe	si
live	*not.have*	*some*	*year*	*and*	*(name)*	*die*

‘…lived for some years and Zhoushe died’

[185] One of the definitions for *wu* 無 is ‘not’; see section 7.3.2.

Next, in the *Baopuzi* 抱朴子 text (371-420 CE), *wu* is mainly used as a verb to negate nominal phrases (611 out of 646 tokens), according to Shi & Li (2004: 242). I provide an example below.

(90) 不見仙人，

bu	jian	xian	ren,
NEG	*see*	*transcendent*	*person*

不可謂世間無仙人也。 抱朴子內篇 *Baopuzi* (371-420 CE)

bu-ke	wei	shijian	**wu**	xian	ren	ye.
NEG.can	*say*	*world*	*not.have*	*transcendent*	*person*	*PAR*

‘One can’t conclude that there is no transcendent in the world until he sees one.’

Third, in *Laoqida* 老乞大 (918-1392 CE), which served as a textbook at the time for Korean learners of Chinese, *wu* serves as the main verb in most tokens.

(91) 這房裏**無**人。 老乞大 *Laoqida* (918-1392 CE)

zhe	fang	li	**wu**	ren
this	*room*	*inside*	*not.have*	*person*

‘There is no one in the room.’

It is hard to find instances of *wu* as the second verbal element. I found three out of the very few *wu* entries (seven). One example is (92). *Wu* appears as the second element, but there is an adverbial phrase *hou* ‘later’ between the first verb and *wu*. Also, *wu* can be considered to be in the embedded clause.

(92) 恐後**無**憑 老乞大 *Laoqida* (918-1392 CE)

kong	hou	wu	ping
worry	*later*	*not.have*	*proof*

‘worrying that there will be no proof later’

Note that the nominal phrase in (92) is indefinite. The indefinite and bare noun is easily lexicalized with the previous verb *wu* into one unit, such as *wu-ping* 'having no proof' 無憑.

Mei 沒 is another lexical verb 'not have' in *Laoqida*. In other words, both *mei* and *wu* serve as negated verbs in this text. The number of *mei* sentences is larger than that of *wu*. We begin to see the rise of *mei* and the fall of *wu* in this text, which is not surprising. As noted by Shi and Li, *mei* emerged approximately in later Tang period (618-917 CE) and *Laoqida* is complied a little later than Tang.

Let us examine poetry around the Tang dynasty. In poetry, *wu* is often used to contrast with *you* 'to have', such as in (93).

(93) 荷盡已**無**擎雨蓋，

he	jin	yi	**wu**	qing	yu	gai
lotus	*die*	*already*	*not.have*	*lift*	*rain*	*cover*

'When the lotus dies, its sheltering leaves are already gone.'

菊殘猶**有**傲霜枝。 蘇軾贈劉景文 poetry by *Su Shi* (1036-1101 CE)

ju	can	you	**you**	ao	shuang	zhi.
chrysanthemum	*die*	*still*	*have*	*elegantfrost*		*branch*

'When the chrysanthemum dies, its elegant frost branches still remain.'

In a Song poem below, *wu* is used as a negated verb too.

(94) 踏破鐵鞋無覓處。 宋夏元鼎詩 (Song Dynasty, 1127-1279 CE)

ta	po	tie	xie	**wu**	michu
step	*worn*	*iron*	*shoe*	***not.have***	*place*

'Though (I) have looked for everywhere, there is no place where I can find (it).'

Wu disappeared in the colloquial stratum of written Chinese, and in MSC *wu* can only be seen in frozen expressions, as in (94).

Moving to the 14th-15th centuries, we also see the same verbal use of *wu* in 水滸傳 *Shuihu zhuan* (Ming, 1368-1644 CE).

(95) 四邊並無別物。 水滸傳 *Shuihu zhuan* (1368-1644 CE)

si	bian	bing	**wu**	bie	wu
four	*side*	*and*	*not.have*	*other*	*thing*

'There are no other things in all four sides.'

(96) 言無數句，話不一席。 *Shuihu zhuan* (1368-1644 CE)

yan	**wu**	shu	ju,
say	*not.have*	*several*	*utterance*
hua	bu	yi	xi.
say	*NEG*	*one*	*feast*

'(Someone) didn't say much and his words didn't last longer than a feast's worth of time.'

Finally, we shall also look at *Lijing ji*, the earliest available Min text. Most tokens of *wu* have the word order of NEG +DP. The V-NEG-DP construction is uncommon; (97) is one such example. The nominal *mih* 'thing' is indefinite.

(97) 我畏無物通度汝食。 荔鏡記 *Lijing ji* (approximately 1566 CE) [186]

gua	kiann	**bo**	mih	thang	hoo	li	tsiah.
1sg	*dare*	*not.have*	*thing*	*can*	*give*	*2sg*	*eat*

'I'm afraid that I do not have food for you to eat.'

So far, we have not seen a case where the nominal phrase is definite. For it to happen needs some syntactic environment. For instance, we can say that *kiann*

[186] I transcribe this line in modern Southern Min as *Lijing ji* is a Min text.

‘dare’ and *bo* ‘not.have’ are two independent verbs in (97), but they can be in one bi-clausal event in certain situations, such as ‘I don’t have the things that you requested.’ I address aspectual negation in the V-NEG-DP order in section 7.5.

Shi and Li (2004) claim that the lexical use of *wu* is limited to ‘to not have’ before it became extinct and was substituted by *mei* around the 14th to 15th centuries. The authors’ evidence is that no pattern such as *wu* + VP is found in *Baopuzi* 抱仆子 (371-420 CE) and *Shuihu zhuan* 水滸傳 (Ming, 1368-1644 CE).

However, I have shown in section 7.3 that *wu* can be used as a pure negative, aspectual negative, interrogative or discourse marker before it went out of use. Based on this, we should expect a reanalysis of *wu* “up the tree” in syntax just like *mei*. This does not fit with Shi and Li’s (2004) claim. Possibly, *wu* has undergone a grammaticalization path as (98). A corpus analysis of more historical texts is required, however.

(98) *wu*: V > NEG > ASP > Q > DM

As discussed in section 7.2, modern TSM *bo* characterizes part of *wu* and of *mei*. Some puzzles arise. If *bo* derives from *wu*, why do we have *bo* as aspectual negation in modern TSM, while historically *wu* was never used this way?

On the other hand, if *bo* is *mei*, why does *bo* differ from MSC *mei* in terms of its predication and word order options? I return to the issues of predication in comparative studies of section 7.5. An apparent difference between MSC and the other two Sino language varieties is word order, which I address immediately after the following subsection.

7.4.3 Interim conclusion.

The above paragraphs address the development of Chinese negation, with a focus on aspectual negative morphemes. I show the grammaticalization path for each morpheme below:[187]

(99) *mo*/*mei* 沒: V 'to die' > NEG; ASP > Q

(100) *wu* 無: V 'not have' > ASP; NEG > Q > DM

(101) *wei* 未: ? > ASP > Q

(102) *wang* 亡: V 'to escape' > ASP > Q

Diachronically, all the Chinese negatives discussed thus far share some characteristics. There is head-to-head reanalysis, and many of these negatives originate as full-fledged verbs, mostly associated with 'to die'. Nevertheless, a language may choose one form over another. For instance, TSM makes use of *bo* 無 and *bue* 未 as its two separate types of aspectual negation, whereas MSC uses *mei* 無 for both. Hakka has *mo* 無 and *mang* 亡 for perfective and anterior aspect.

I have discussed how previous research provides us with views on the synchronic negation among the Sinitic languages under investigation. I also supply the inquiry with my new insights, either associating one finding with another, or making further clarifications when necessarily.

A large portion of this section contributes to the diachrony of *mei*, including its categorial status and word order. The reason is that these two areas differ significantly between MSC and the other language varieties in contemporary eras.

[187] All are in MSC pronunciation.

7.4.4 Word order change in *mei*.

This section addresses word order in negation. I first demonstrate two word orders in TSM with only one corresponding word order in MSC. Secondly, I refer this divergence to a change of word order in history during Middle Chinese time. In the remaining paragraphs, I provide examples from the literature on this change and associate them with the aspectual negatives under investigation.

There are two word orders for TSM negation.[188] One is where *bo* serves as the first verb in a sequential event, as in (103). The other word order shown in (104) is also available in Sinitic varieties other than MSC.[189]

(103) 無人知伊心稀微

bo	lang	tsai	i	sim	li-bi.
not.have	*person*	*know*	*3sg*	*hear*	*lonely*

'No one knows her loneliness.'

(104) 等無心愛的人

tan	**bo**	sim	ai	e	lang
wait	*not.have*	*hear*	*love*	*GEN*	*person*

'waiting for the one who (she) cares but in vain'

I now focus on the latter word order. Let us examine (105), where *mei* negates the verb *chi* 'to eat'.

(105) 蛋糕，我沒吃。 MSC

dangao,	wo	**mei**	chi.
cake	*1sg*	*not.PFV*	*eat*

'The cake, I didn't eat it.'

---

[188] (103) is from a popular Taiwanese song 憂愁牡丹 *iu-tshiu boo-tan*, and (104) is from 返來阮身邊 *tng lai gunn sin-pinn.*

[189] The exception is the MSC V-*bu*/*de*-R construction.

However, in (106), where there is a resultative compound *chi-wan*, literally 'eat-finish', *mei* negates the resultative *wan* 'finished', but not the main verb *chi* 'eat'.[190]

(106) 蛋糕，我吃了，但沒吃完。 MSC

dangao$_i$,	wo	chi-le	[t_i],	dan	**mei**	chi-**wan**.
cake	*1sg*	*eat-PFV*		*but*	*not.ASP*	*eat-finish*

'I ate some cake, but I did not finish (eating) it.'

In contrast, there are two word orders for (106) in TSM. In (107), *bo* precedes the verb 'eat', whereas *tsiah* 'eat' is followed by *bo* in (108). These two sentences share same semantics.

(107)

ke-nng-ko,	gua	**bo**	(ka	i)	tsiah-uan.	TSM
cake	*1sg*	*NEG.ASP*	*(PREP*	*it)*	*eat-finish*	

'The cake, I did not finish it.'

(108)

ke-nng-ko,	gua	tsiah	**bo**	uan.	TSM
cake	*1sg*	*eat*	*NEG.ASP*	*finish*	

'The cake, I did not finish it.'

The difference between these two languages is connected to word order change in the history of the Chinese language. According to Shi and Li (2004: 237), Chinese has gone through a dramatic structure change around the fifteen century, which I demonstrated as in (109).[191]

(109) [V + O] + [**M** + X] > **M** + (V-X) + O

[190] T_i shows the original position of the topicalized *dangao* 'cake'.

[191] Translation of the terms is mine. Shi and Li (2004: 237) regard X as a secondary predicate.

M (modifier): interrogative pronouns, degree adverbs, negation, or adverbs

X: verbs, adjectives, time words, quantifier phrase, preposition phrase

I provide (110) as an example.

(110) pushed the door widely open > widely pushed open the door

[pushed + the door] + [**widely open**] > [**widely** push-**open** the door]

V O M X M V-X O

First, the change involves clausal boundaries, from two to one, as shown in brackets. 'Pushed the door' is one event and '(the door was) widely open' is the other. Second, the modifier (M) 'widely' is fronted, and the resultative state X 'open' is attached to the verb as (lexical) aspect.

Shi and Li argue that resultative compounding V-X in MSC comes from a structure change in (111).

(111) V + X > V-X, when O and M in (105) are omitted

Now, take the resultative compound *chi-wan* in (106) as an example. There should be a change as in (112).

(112) *chi* 'eat' + (O) + (M) + *wan* 'finish' > *chi-wan* 'finishing eating'

For negation, the pattern should be like (113), adapted Shi and Li (2004: 238-239).[192]

(113) [V + (O)]+ [Neg + X] > Neg + V-X + O

(114) [chi + dangao] +[**mei** + **wan**] > **mei** + chi-**wan** + dangao

eat cake NEG finish NEG eat-finish cake

[192] Not all Chinese negation completes this change. Here I only address negation as initially scoping over the secondary predicate in MSC.

Negation is fronted once the unit V-X is set. For this to take place, Shi (2002) argues that V-X is reanalyzed as one element, triggering the fronting of negation.

(115) [V + O] + [Neg + X] > Neg + [V-X + O]

I use brackets to separate clausal boundaries. This structure change involves clausal dependency from two independent clauses to a one-event clause.[193] The NegP now scopes over a bi-verbal event. This change is completed in MSC, but not in TSM and Hakka, as the latter languages still make use of both word orders.

I have explained the word order change about negation in MSC, taking *mei* as an example. There are, however, other aspectual negatives such as *wu* and *wei*. In the following paragraphs, I synchronize the literature on Chinese aspectual negation, taking into account *mei* 沒, *wu* 無 and *wei* 未.

7.4.5 Word order change in aspectual negation.

The use of the various negatives from the Wei-Jin 魏晉 periods (beginning 265 CE) to the Yuan-Ming 元明 Dynasties (ending 1644 CE) is allocated by the predicate (Shi and Li 2004: 241). The difference can be conceptualized below.[194]

(116) V + [*wei* 未 'not.yet'; *bu* 不 'not'] + verbal/adjectival predicate

(117) V + [*wu* 無 'not.have';

mei 沒 'not.have'; + nominal predicate

bu-dao 不到 'not-reach']

[193] Many studies (such as Liu 2004; Wang 2010) have conducted on how the syntax of resultative compounds is represented.

[194] *Wei* 未 and *bu* 不 were interchangeable in some texts at a time; *wu* 無 in some historical texts are used as prohibitives, just as 毋.

In other words, when there is a verbal predicate, the candidate for negation is either *wei* or *bu*. A nominal predicate has a choice among *wu, mei* and *bu-dao*. This distinction is only applicable to the time periods before *mei* was established and extended to other usages. MSC loses these structures, yet contemporary TSM preserves them, with equivalents such as *bue* 未 for 'not.yet', *bo* 無 for 'not.have', and *bo-kau* 不到 for 'not-reach'. Below are historical examples for each type.[195]

(118) 今日做未得，且待來日做。 朱子語類訓門人 *Zhuzi yulei* (1270 CE)

jinri	zuo	**wei**	de,	qie	dai	lairi	zuo
today	*do*	*not.yet*	*obtain*	*just*	*wait*	*future*	*do*

'Whatever hasn't done today will be kept until further.'

(119) 手裡拿叉桿不牢，失手滑將倒去。 *Shuihu zhuan* (1368-1644 CE)

shou	li	na	cha	kan	**bu**	lao,
hand	*in*	*hold*	*fork*	*handle*	*NEG*	*firm,*
	shi	shou	hua	jiang	dao	qu.
	lose	*hand*	*slip*	*hold*	*down*	*go*

'The fork is not firmly held, slipping down from the hand unexpectedly.'

(120) 臨灌渴水死人無數 祖堂集 *Zutang ji* (952 CE)

lin	guan	ke	shui	si	ren	**wu**	shu
face	*pour*	*thirst*	*water*	*die*	*person*	*NEG*	*number*

'Numerous people died of thirst.'

(121) 那富安走不到十來步 水滸傳 *Shuihu zhuan* (1368-1644 CE)

na	Fu'an	zou	**bu**	dao	shi	lai	bu
that	*(name)*	*walk*	*NEG*	*reach*	*ten*	*some*	*step*

'That person didn't walk more than ten steps.'

[195] Examples are from Shi and Li (2004: 238-239); transcription and translation are mine. Transcriptions are all in MSC.

(122) 住了沒兩日就下起雪來 the *Dream of the Red Chamber* (the 18th cy.)

zhu	le	**mei**	liang	ri	
live	*LE*	*NEG*	*two*	*day*	
	jiu	xia	qi	xue	lai
	then	*fall*	*up*	*snow*	*come*

'(Someone) stayed (somewhere) for less than two days when it began to snow.'

From *Zutang ji* 祖堂集 (952 CE) to 水滸傳 *Shuihu zhuan* (Ming, 1368-1644 CE), we see change in negation from *wu* to *bu-dao*. In a latter text 紅樓夢 the *Dream of the Red Chamber* (mid-Qing, the 18th century), *bu-dao* is often replaced by *mei* (Shi and Li 2004: 239). *Wu* disappeared eventually.

(123) development of aspectual negation for nominal predicates

wu → *bu-dao* → *mei*

That is, *mei* takes over the other negatives for negation of the secondary predicate. Before modern eras, *mei* can be observed in two word orders below.

(124) *mei* + V + (-X) + O

ta	**mei**	[chi	fan]	MSC
3sg	*NEG.ASP*	*eat*	*rice*	

'He didn't eat (the/a) meal.'

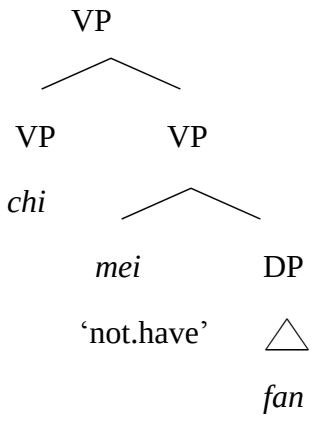
(125) V + *mei* + O

*ta	chi	**mei**	fan
3sg	*eat*	*NEG.ASP*	*rice*

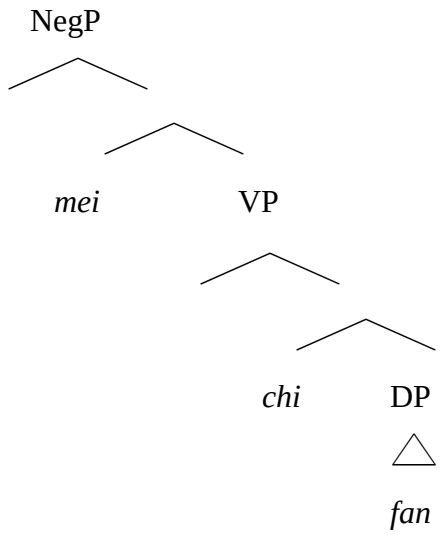
'He didn't eat (the/a) meal.'

In early modern Mandarin texts, such as the 18th century novel the *Dream of the Red Chamber*, these two word orders are still well attested. In MSC, *mei* however cannot be in the secondary predicate position, as in (125).

(126) tree for (124)



(127) tree for (125)



The prepositioned *mei* discussed above is bounded with the predicate of the verb: resultatives or quantifiers. I discuss boundedness next.

7.4.6 Perfective or perfect.

I first discuss the notion of "boundedness," extending this topic to the disappearance of several aspectual negatives in Mandarin Chinese. *Mei* in MSC is used as both perfective and perfect, two terms to be explained immediately.

Boundedness is used in the Chinese literature (such as Shi 2002) to distinguish *mei* from *bu*, both of which are the two basic negators in MSC. This term characterizes the phenomenon just discussed in section 7.4.3. For instance, *mei* expresses the aspect of the verb, yet does not immediately precede *kai* 'open' in (128).

(128) ta **mei** tui (*mei) **kai** men. MSC
3sg NEG.ASP push NEG open door
'He pushed the door but failed to open the door.'

To negate the declarative, 'He pushed the door open', *mei* is projected above the VP, which is bounded with the telicity *kai* 'open'. *Mei* also negates quantification in (129). An alternative utterance such as (130) is used.

(129) ta **mei** chi (*mei) san kou fan. MSC
3sg NEG.ASP eat NEG.ASP three mouth rice
'He ate less than three mouthfuls of meal.'

(130) ta chi **bu** **dao** san kou fan. MSC
3sg eat NEG reach three mouth rice
'He ate less than three mouthfuls of meal.'

The boundedness notion used for the above examples is perfectivity. As discussed, *mei* as perfective is closely connected to syntactic change in the history of the Chinese language.

(131) *mei*: not.PFV

Bu, on the other hand, is not bounded with the event; see the ungrammatical example in (132).[196]

(132) *ta **bu** tui kai men. MSC
3sg NEG push open door
Int. 'He didn't push the door open.'

In MSC, *bu* is used for adjectival or stative predicates.[197]

[196] There is a possible reading for (132): 'He doesn't want to push open the door'. The negative *bu* can be volitional (chapter five).

(133) hua **bu** hong. MSC
flower NEG red
'The flower is red enough.'

(134) ta **bu** kaixin. MSC
3sg NEG happy
'He is not happy.'

(135) ta **bu** neng lai. MSC
3sg NEG can come
'He cannot come.'

Shi and Li (2004) argue that the occurrence of the "bounded" (in their term) *mei* is accompanied with the extension of *mei* to other types of negation. Before *mei* took over other bounded negatives such as *bu-ceng* 不曾 'never' and *wei-ceng* 未曾 'never' around the 15th to 17th centuries, both *bu* 不 and *wei* 未 were used to express unboundedness; see (136).[198]

(136) 商議未了。 *Shuihu zhuan* 水滸傳;1368-1644 CE
shangyi **wei** liao
negotiate NEG finish
'did not finish negotiating'

Bu may negate a bounded event, but it is restrictive to an additional adverb.

(137) 只和每日一般，並不說起。 *Shuihu zhuan* 水滸傳; 1368-1644 CE
zhi he meiri yiban, **bing** **bu** shuo-qi
only with every-day same but NEG mention
'Just like every day, (he) did not even mention (what was happening).'

---

[197] *Bu* is to describe the degree of the adjective in (133). For the statement that 'the flower is not red', 不是 *bu-si* (… 的 *de*) is used.

[198] Sentences are from Shi and Li (2004: 242-243); transcription and translation are mine.

However, there are only two basic negative forms in MSC: *bu* and *mei*.

(138) *bu*: adjectival/stative verbs (unbounded)

(139) *bu-ceng*/*wei-ceng* 'not-ever' > *mei* 'not yet' (bounded)

The reanalysis illustrated in (139) indicates that *boundedness* by Shi and Li (2004) also refers to *anterior aspect*, aka. *perfect*, abbreviated as PF; see (140).

(140) *mei*: not.PF

ta	hai-**mei**/hai-**mei-you**	qu	Changcheng.	MSC
3sg	*yet-not.PF/yet-not-PF*	*go*	*great.walls*	

'He has not left for the Great Walls.'

I add *mei* as perfective (abbreviated as PFV) below in (141) for comparison.

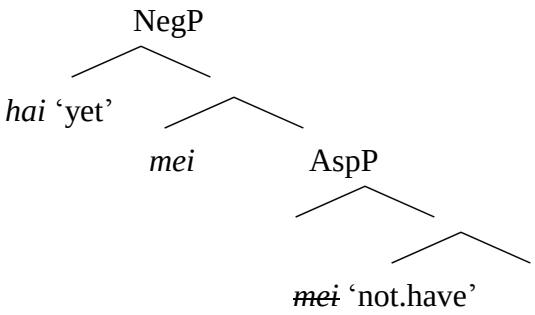
(141)

ta	**mei**	qu	Changcheng.	MSC
3sg	*not.PFV*	*go*	*Great.walls*	

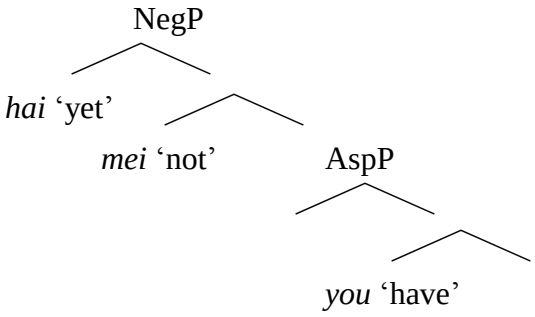
'He did not go to the Great Walls.'

The PF aspect in (140) can be represented in the tree diagrams, accordingly.

(142) *hai-mei* as NEG.PF



(143) *hai-mei-you* as NEG.PF



The crossed-out *mei* shows that the negation *mei* in the higher head is reanalyzed from a lower position. This AspP indicates anterior aspect or perfect.[199]

Now, let us return to Southern Min *bo* and examine how it converges with and diverges from MSC *mei* or *bu*. In a similar fashion, I look at individual-level predication, perfective, and anterior. First, *bo* is for adjectival or stative predicates, which however patterns MSC *bu* rather than *mei*. I repeat the MSC (133) and (134), but add TSM and Hakka data. Hakka *mo* is used the same way as *bo*.

(144) hua **bu** hong. MSC
hue **bo** ang. TSM
fa mo fung. Hakka
flower NEG red
‘The flower is not red enough.’

(145) ta **bu** kaixin. MSC
i **bo** huann-hi. TSM
gi **mo** fon-hi. Hakka
3sg NEG happy
‘He is not happy.’

[199] *Le* is the affirmative aspect of *mei*. There has been a prolonged debate on whether -*le* is perfective or perfect, I assume that –*le* 了 can be both, given the negation data provided above.

Interestingly, *bo* serves as a perfective marker, which is the same as MSC *mei* in (132) and (141).

(146)	ta	men	**mei**	tui	kai.	MSC
	i	mng	**bo**	sak	khui.	TSM
	3sg	*door*	*NEG.PFV*	*push*	*open*	
	‘He pushed the door but failed to make it open.’					

(147)	ta	**mei**	qu	Changcheng.	MSC
	i	**bo**	khi	Tng-tiann.	TSM
	3sg	*not.PFV*	*go*	*Great.walls*	
	‘He did not go to the Great Walls.’				

We have seen examples where Southern Min *bo* can be a counterpart to MSC *bu* or *mei*. The aspectual *bo* patterns with MSC *mei*; both are perfective markers.

Next, I show one function of MSC *mei*, which is lacking in TSM *bo*. Whereas MSC *mei* can express anterior aspect, TSM *bo* cannot and *bue* is used instead.

(148)	ta	hai	**mei**	qu(-guo)	Changcheng.	MSC
	i	iau	**bue**	khi(-kue)	Tng-siann.	TSM
	3sg	*yet*	*not.PF*	*go(-EXP)*	*Great.walls*	
	‘He has not left for the Great Walls.’					

Table 7.5 shows the categorial status of TSM *bo*, compared with the historical development of *wu* and *mei*. To conclude, *bo* is not the same as *wu*, and *bo* is not *mei* either. A possibility is that *bo* is a cognate of *wu*, with a development of aspectual use through the course of time.

Table 7.5
A comparison of *bo*, *wu*, and *mei*

	wu 無	*mei* 沒	*bo*
V: not have	√	√	√
NEG.PFV	√	√	√
NEG.PF	(?)	√	(*bue*)
Q	√	√	√
DM	√	--	√

7.4.7 Concluding remarks.

The fourth section addresses grammaticalization of aspectual negation: *mei*, *wu*, *wei* and *wang*, as well as word order change in negation, resulting in parametric differences between MSC and the other two language varieties. I show the origin of these negatives markers, most of which are associated with death, a pattern similar to that of the modal negatives discussed in the previous three chapters.

7.5 Comparative Studies

This chapter focuses on two negatives in Southern Min: *bo* 'not.have' and *bue* 'not.yet'. What follows is a comparison of *bo* and *bue* with their counterparts in Hakka and Mandarin. As in the previous chapters, I focus on parametric differences as well as topics that have less been addressed in the literature.

7.5.1 Different morphemes for ‘not.yet’

In section 7.3, I have traced the history of 沒 *mo/mei*, 亡 *wang*, and 未 *wei*, all of which mean ‘not.yet’. The latter two morphemes are archaic and are not used as negative markers in modern standard Chinese. *Mang* (亡或旨) is used in Hakka for anterior aspect ‘not yet’ (149). [200]

(149) 佢到下晝兩點還亡食飯　　Hakka

gi	do	ha-zhiu	liong-diam	(han)	**mang**	shid	pon.
3sg	*till*	*afternoon*	*two o’clock*	*yet*	*not.yet*	*eat*	*meal*

‘He had not eaten until two in the afternoon.’ (Fang 1994:38)

Hakka *mang* also derives from 亡. Southern Min has a counterpart *bue* 未.

(150) 伊猶未食飯。　　TSM

i	iau	**bue**	tsiah	png.
3sg	*yet*	*not.yet*	*eat*	*meal*

‘He has not eaten yet.’

MSC uses neither 亡 nor 未 (*wang* and *wei* in MSC, respectively) as sources for aspectual negation. Instead, *mei* or *meiyou* is used; see (151). [201]

(151) 他還*未/*亡/沒(有)吃飯。　　MSC

ta	hai	***wei/*wang/mei(you)**	chi	fan.
3sg	*till*	*not.yet*	*eat*	*meal*

‘He has not eaten yet.’

[200] Examples and translation are from Fang (1994); transcription and glosses are mine.

[201] TSM adverb 猶 *iau* ‘yet’ has a different character than that in Hakka *han* 還 in (150) and MSC *hai* 還 in (151).

The above examples show that aspectual negation among the three languages comes from a different origin. Nevertheless, these morphemes *bue*, *mang* and *mei* share similar semantics. Southern Min adopts *bue* 未 and Hakka *mang* 亡(旨) for 'not.yet'; however, Mandarin uses *mei* 沒 for two types of aspect.

The interrogative system also diverges between Mandarin and the other two languages. The perfective *bo* and anterior *bue* are used to elicit two different questions in TSM; Hakka has *mo* and *mang* as the counterparts.

(152)	li	u	tsiah-png	**bo**?	TSM
	ngi	rhiu	shid-pon	**mo?**	Hakka
	2sg	*PF*	*eat-meal*	*Q*	
	'Did you eat (a meal)?'				
(153)	li	tsiah-png	**bue**?	TSM	
	ngi	shid-pon	mang?	Hakka	
	2sg	*eat*	*Q*		
	'Have you eaten (a meal) yet?'				

While TSM has a *bo* versus *bue* 'not.yet' distinction, MSC *mei* severs a dual function, as shown in (154a) and (154b). As an interrogative, *mei* can be used to ask two types of questions.

(154)	ni	chifan	le	**mei**?	MSC
	2sg	*eat.meal*	*LE*	*Q*	
	a. 'Did you eat (a meal)?'				
	b. 'Have you eaten (a meal) yet?'				

Some native speakers of MSC feel that *ma* (155) is equivalent to (154a), whereas *mei* is more prone to (154b).

(155) ni chifan le **ma**? MSC
2sg *eat.meal* *LE* *Q*
'Did you eat (a meal)?'

Historically, *ma* is a phonological reduced form from *mei*. *Hanyu da cidian* provides us with the information that *ma*, is grammaticalized from *me* 沒, also written as *me* 麼. This use of *ma* in (155) shows that *ma* is more grammatical/neutral than *mei*. A larger scale of survey is required for a more confirm conclusion, however.

7.5.2 Asymmetric aspect marking.

One well-researched topic in the literature of Chinese is the asymmetry in Mandarin aspectual negation. As Shi (2002: 196) points out, the affirmative V-*le* for perfective in (156a) uses the inflectional system, whereas the negative counterpart *mei* utilizes a periphrastic system, as in (156b).[202] The negation of *–le* is *mei*; they are in complementary distribution.

(156) a. ta chang-**le** ge. MSC
3sg *sing-PFV* *song*
'He sang.'

b. ta **mei** chang ge. MSC
3sg *NEG.PFV* *sing* *song*
'He did not sing.'

[202] Shi (2002: 197) uses perfect, as opposed to perfective proposed by Li and Thompson (1981: 185). I regard both as possible. I side with the latter authors here, however; accordingly, I change the translations in (156). I use PF for perfect and PFV for perfective.

Hakka and Southern Min, however, make use of a periphrastic system. That is, they have affirmative versus negative aspect counterparts; see (157).

(157) i **u/bo** tshiunn-kua. TSM
gi **rhiu/mo** chong-go. Hakka
3sg *PFV/NEG.PFV* *sing-song*
'He sang./ He did not sing.'

For perfective, English uses both systems, as the auxiliary *have* indicates the periphrastic system and the *–ed* in the past participle is inflectional; see (158).

(158) *I **have** wash-**ed** my hands.*

English perfective, on the other hand, is expressed by means of simple past tense.

(159) *I sang /I did not sing*.

The negative perfective aspect are *bo, mo,* and *mei*(*-you*) for Southern Min, Hakka, and Mandarin, respectively. Notice that Mandarin has two versions: *mei* or *mei-you*. The former is an aspectual negative, and the latter *mei* is simply negation. One may also consider *meiyou* to be one morpheme, denoting both aspect and negation.

(160) ta **mei**/**mei-you** changge. MSC
3sg *not.PFV/not-PFV* *sing*
'He did not sing.'

Often addressed in the literature (such as Tsao and Cheng 1995) is the aspectual *you* in affirmative sentences by Taiwanese Mandarin speakers due to language contact with Mandarin; compare (156) and (161).

(161) ta **you** changge. Taiwan Mandarin
i **u** tshiunn-kua. TSM

gi **rhiu** chong-go. Hakka
3sg *PFV* *sing-song*
'He sang./ He did sing.'

The periphrastic affirmative *you* has become reanalyzed as an aspect marker in the Taiwanese version of Mandarin for some speakers. *You* can also be used as an emphatic marker, similar to the function of the English *do*-auxiliary, shown in (161) as 'He did sing'.

7.5.3 Different *mei*'s in Mandarin.

As noted in previous paragraphs, Mandarin makes use of *–le* to express completion or perfectivity of an event.

(162) wo chi-**le**. MSC
1sg *eat-LE*
'I ate.'/'I have eaten.'

The status of *–le* varies from one scholar to another. Li and Thompson (1981) regard this *–le* as perfective, whereas Shi (2002) argues that *–le* is perfect, aka anterior aspect. I think that both suggestions are possible, as anterior and perfective aspects are in the continuum in grammaticalization.

Below I discuss the aspectual status of *mei*(*you*) 'not(have)', the negation of *-le*. Let us examine the first set of examples in (163) and (164). Whereas MSC uses *mei* for both situations in (163), two different negatives are used in TSM as in (164a) and (164b).

(163) a. wo hai shi **mei** gen ta shuo. MSC
1sg *still* *COP* *NEG.PFV* *with* *3sg* *say*
'I still did not tell him (about something).'

b. wo hai **mei** gen ta shuo. MSC
1sg still NEG.PF with 3sg say
'I have not yet told him (about something).'

(164) a. gua a si **bo** ka i kong. TSM
1sg still COP NEG.PFV with 3sg say
'I still did not tell him (about something).'

b. gua iau **bue** ka i kong. TSM
1sg still NEG.PF with 3sg say
'I have not yet told him (about something).'

The second group of data below has a resulting state *hoo* 'good, alright, finished'. The perfective *u* and *bo* cannot be used because *hoo* is anterior.

(165) *gua ji **u** sia ho. TSM
1sg word PFV write good
Int. 'I have finished practicing characters.'

(166) *gua ji **bo** sia ho. TSM
1sg word NEG.PFV write good
Intended: 'I have not finished practicing characters.'

To express anterior aspect (perfect), the final particle *ah* 矣 is used for affirmative and *bue* 未 is used for perfect negation; see (167) and (168).

(167) gua ji sia ho **ah**. TSM
1sg word write good PAR
'I have finished writing characters.'

(168) gua ji **iau** **bue** sia ho. TSM
1sg word yet not.yet write good
'I have not finished writing characters.'

The above examples reveal that the perfective and perfect aspects are marked by different markers in Southern Min. Mandarin, however, uses *mei* for those two aspects. For instance, *mei* can be used to negate perfective, as shown in (169). Adopting Bybee et al.'s (1994) proposal, I see the completive aspect in (169) interpreted as perfect shown as (170).

(169) wo zi **mei** xie wan. MSC
1sg word NEG.PFV write finish
'I did not finish (the action) of writing characters.'

(170) completive > perfect, for (169)

The other reading focuses on the resultative state *wan* 'finished', expressing anterior aspect. *Hai* 還 'yet' is compatible with this reading.

(171) wo zi (**hai) mei** xie wan. MSC
1sg word yet not.yet write finish
'I have not finished writing characters.'

(172) resultative > anterior aspect for (171)

I therefore argue that modern Mandarin *mei* can be both perfective and perfect. This dual role in *mei* is not coincident; it is connected to the history of Chinese negation. Recall that by the 17th century, *mei* has replaced some negative uses, including *wei* 未 'not yet' (Shi & Li 2004). Nonetheless, Shi and Li do not associate this fact to the multiple categorial status of *mei* in MSC.

The last examples to discuss are questions. Next, let us take a look at two types of neutral yes/no questions in MSC: (173) and (174) below. The former type (173) is known as the A-not-A question, and *mei* in (174) is the sentential particle for questions.

(173) ta **you-meiyou** chifan? MSC

3sg *have-not.have* *eat*

'Did he eat?'

a. chi-**le**. b. **you** a.

eat-LE *have* *PAR*

'He ate.' 'Yes'

c. **mei**(you). d. hai **mei**. (?)

not(*have*) *yet* *not.yet*

'No, he did not.' 'No, he has not.'

As shown in (173a), an answer as *chi-le* with *–le* indicating perfective is canonical for a *you-mei.you* question. Yet, sentence (173b), where *you* is reanalyzed as a perfective marker, is also possible by speakers of Mandarin. The negative answer can be (173c), but (173d) is less likely.

On the other hand, with a sentence-final interrogative marker *mei*(*you*) (174) is more likely to elicit an answer that is anterior.

(174) ta chifan -le **mei(you)**? MSC

3sg eat LE Q

'Has he eaten?'

a. chi-**le**. b. *you a.

eat-LE *PFV* *PAR*

'He has eaten.' 'Yes.'

c. **mei**(you). d. hai-**mei**.

not.yet *yet-not .yet*

'No, he has not.' 'No, he has not.'

With the above three sets of data, I suggest that MSC *mei* has two aspect categories: perfect and perfective.

7.5.3 Word order.

The topic of word order difference is rarely addressed in the literature either. One parametric difference between *bo* and *mei* is that *bo* can be in V_1 or V_2 position, while Mandarin *mei* can only be pre-VP. Below are examples from contemporary Taiwanese Southern Min.[203]

(175) 為何真意真心無地找

ui-ho	tsin-i	tsin-sim	**bo**	te	tshue
why	*real-mind*	*real-heart*	*not.have*	*place*	*find*

'Why is there no place (for me) to find a right person with my real heart?'

(176) 等無月光入來坐

tan	**bo**	geh-kng	jip	lai	tse.
wait	*not.have*	*moonlight*	*enter*	*come*	*sit*

'waiting but no moonlight [someone] showing up.'

Bo as V_1 or V_2 is available in TSM in sequential events. The V-*bo*-DP construction is interesting because it can have multiple readings, depending on two factors: the status of *bo* and the finiteness of the DP. I call this *bo* as V_2 negation. I argue that *bo* has two different positions in the V-*bo*-DP construction. Evidence comes from a comparison between TSM sentences and their MSC counterparts.

I modify Huang's (2009: 20) example into four readings, but separate them into two groups. *Bo* in (177) is a verb, as opposed to aspect in (178). The bare noun can be read as either definite or indefinite.

[203] from a popular Taiwanese song 博杯, MSC pronunciation for 擲筊 'tossing divination blocks'

(177) i liah **bo** hi-a. TSM

i catch BO fish

(a) 'He cannot catch a fish.' (generic; indefinite)

(b) 'He cannot catch the fish.' (generic; definite)

(178) i liah **bo** hi-a. TSM

i catch BO fish

(c) 'He didn't catch a fish.' (indefinite)

(d) 'He didn't catch the fish.' (definite)

Mandarin counterparts to (177) are (179). As seen, *mei* cannot be in the second element in a verbal string; rather, *bu* occupies this position.

(179) ta zhuo **bu/*mei** dao yu. MSC

3sg catch can.not obtain fish

(a) 'He cannot catch a fish.'

(b) 'He cannot catch the fish.'

The generic indefinite in (179a) can be shown as (180).

(180) V1 + [NEG + [V_2 + DP]] *bo* in V2

On the other hand, the generic definite reading in (179b) has *bo* moving from V to fill the ASP; see (181). There are two different heads for the two readings of *bo*.

(181) V_1 + [NEG+ ASP+ [V_2 + DP]] *bo* in ASP

Let us examine Mandarin counterparts of (178), which are shown as (182).

(182) ta **mei** zhuo-dao yu. MSC

3sg NEG.PF catch-DAO fish

(c) Intended: 'He didn't catch a fish.' (indefinite)

(d) 'He didn't catch the fish.' (definite)

As shown in (182c), the indefinite reading in the DP object is no longer available, in that *mei* is always aspectual. This aspect is connected to definiteness of the DP.

The V_2 negation *bo* as in (178d) has a preverbal *mei* counterpart in Mandarin; see (182d): 'he didn't catch the fish'. The syntactic structure for (182d) can be conceptualized below.

(183) ASP + [V_2+ DP] definite

In this case, *mei* occupies the position of ASP. It also provides a second piece of evidence for the claim that there are two projections of *bo* in (178).

A third piece of evidence comes from (184). When there is a telicity marker *tioh*, the DP pins down to one reading: definiteness.

(184) i liah **bo** tioh hi-a. TSM
3sg catch NEG.PF attach fish
'He didn't catch the fish.' (definite)

The aspectual *tioh* originates as a verb 'not obtain; not accomplish'. The negative *bo* is bounded by *tioh*. I therefore analyze Southern Min *bo* as having different projections for its various readings in the V-*bo*-DP construction.

7.5.4 Different syntaxes in *bo/bue* as V_2.

A close examination of other predicate types of *bo*, one finds asymmetry within the same language as well. Let us first investigate *bo* with a adjectival predicate such as *pa* 'full'. In (185), *bo* appears in different positions, but both share distinct semantics.

(185) a. i tsiah **bo** pa. TSM
3sg eat NEG full
'He ate but didn't feel full enough.'

b. i **bo** tsiah pa. TSM

3sg NEG eat full

'He ate but didn't feel full enough.'

Next, as seen in (186), *bue* also allows for both positions.

(186) a. i tsiah **iau-bue** pa. TSM

3sg eat yet-not.yet full

'He ate but has not felt full.'

b. i **iau-bue** tsiah pa. TSM

3sg yet-not.yet eat full

'He ate but has not felt full.'

Hakka *han-mang* 'yet-not.yet' works in a similar fashion to TSM. Mandarin has one word order only. (187) is the counterpart of (185), and (188) of (186).

(187) wo **mei** chi (*mei) bao. MSC

1sg NEG.PF eat --- full

'I ate but didn't feel full enough.'

(188) wo **hai-mei** chi (*hai-mei) bao. MSC

1sg yet-NEG.PF eat --- full

'I ate but have not felt full enough.'

Next, let us examine another type of predication following *bo*/*bue*. Now, *bo* as V_1 has a different reading than *bo* as V_2; compare (189a) with (189b).[204]

(189) a. kau-a pe **bo** kue-lai. TSM

dog climb not.yet cross.come

'The dog attempted to climb over but did not make it here.'

[204] *Bo* may not be a full-fledged verb; I use *bo* as V_2 for convenience.

b. kau-a **bo** pe kue-lai. TSM
dog not.yet climb cross.come
'The dog did not climb over here.'

In (a), *bo* scopes over the secondary predicate *kue-lai* 'over here', whereas *bo* scopes the entire VP in (b), which may mean that the dog is staying at the same spot or the dog moved to elsewhere.

Bue is also rather free in both positions, but their semantics differs.

(190) a. kau-a pe **iau-bue** kue-lai. TSM
dog climb yet-not.yet cross-come
'The dog began climbing but has not (yet) reached here.'
b. kau-a **iau-bue** pe kue-lai. TSM
dog yet-not.yet climb cross-come
'The dog has not (yet) begun to climb over here.'

There is only one word order for Mandarin; *mei* precedes the verb.

(191) gou **mei** pa guolai. MSC
dog not.yet climb cross.come
'The dog did not climb over here.'
(192) gou **hai-mei** pa guolai. MSC
dog yet-not.yet climb cross.come
'The dog has not (yet) begun to climb over here.'

7.5.5 Negation with predication.

Southern Min *bo* is often associated with Mandarin *mei*; however, unlike *bo*, *mei* is not compatible with adjectival predicates. *Bu* is the candidate. Mandarin *mei* and *bu* differ with a distinction between the stage versus individual predication. Hakka is similar to TSM and the perfective *mo* is used.

(193) hue **bo** ang. TSM
hua ***mei/bu** hong. MSC
fa **mo** fung Hakka
flower NEG red
'The flower is not red enough.'

(194) gua lang **bo**/*m song-khuai. TSM
wo ren **bu**/*mei shufu. MSC
ngai ngin **mo** sung-song. Hakka
1sg person NEG well
'I'm not feeling well.'

Table 7.6
Negation for stage-level adjectival predication

TSM	MSC	Hakka
bo	*bu*	*mo*

However, another set of negation is for individual-level adjectival predicate. As seen in (195) and (196), *m* is used rather than *bo* in Southern Min. The same applies to Hakka, i.e. *m* is used rather than *mo*. In sum, MSC uses *bu* for both stage and individual-level predicates, while the other two languages differ.

(195) tse hue **m** si ang e. TSM
zhe hua **bu** shi hong de. MSC
lia fa **m** he fung gai. Hakka
t*his flower NEG COP red ASST*
'The flower is not red.'

(196) gua **m** kiann. TSM
wo **bu** pa. MSC
ngai **m** giang. Hakka
1sg NEG fear
'I'm not afraid.'

Table 7.7
Negation for individual-level adjectival predication

TSM	MSC	Hakka
m	*bu*	*m*

We now look at TSM *bo*. Not only does *bo* take adjectives or stative verbs, but it can be used with imperfectives, such as progressive.

(197) gua **bo** tih tsiah png. TSM
wo **mei** zai chi fan MSC
1sg NEG PROG eat meal
'I am not eating (a meal).'

However, unlike TSM *bo*, MSC *mei* doesn't negate habitual progressive *zai*; *bu* is used in Mandarin for habitual rather than *mei*.

(198) gua **bo** tih tsiah-hun. TSM
wo **bu** -- chouyan MSC
1sg NEG PROG smoke
'I do not smoke.'

For psych verbs, progressive *zai* is not compatible, but *bo* is fine. One may see the use of *wo mei zai pa* 我沒在怕 in newspapers or hear it in broadcast in present times, which is considered less canonical in MSC.

(199) gua **bo** tih kiann. TSM
wo **mei** zai pa. MSC (?)
wo **bu** --- pa. MSC
1sg NEG PROG fear
'I'm not being afraid.'

Table 7.8 compares TSM with MSC in terms of predication types. Hakka uses *mo*, *mang*, and *m* in a similar fashion to that of TSM *bo*, *bue* and *m*.

Table 7.8
TSM *bo* versus MSC *mei*

	TSM	MSC	
DP	*bo*	*mei(you)*	negated verb *wu*; *mei* (historically)
VP	*bo*	*mei(you)*	ASP/PFV *mei* (historically)
VP	*(iau) bue*	*(hai) mei*	ASP/PF *wei*/*bu* (historically) also *bu-ceng*
Neg scopes over V_2	*bo*	**mei*	Only allowed *bu* in V-*de/bu*-R in MSC (chapter four)
VP: telic	*bo*	*mei*	
Adj/stative V (stage-level)	*bo*	*bu/*mei*	negator
Adj/stative V (individual-level)	*m*	*bu/*mei*	negator

7.6 Conclusion.

This section addresses several less researched issues on TSM *bo* 'not.have' and *bue* 'not.yet', largely focusing on word order and predication. I also provide my viewpoint on the categorial status of Mandarin *mei*. Table 7.9 is a comparison of the three languages in terms of their use of aspectual negation.

Table 7.9
Aspectual negation in synchronic Chinese

	Hakka	Mandarin	Southern Min
V: 'not have'	*mo*	*mei(you)*	*bo*
NEG.PF	*mang*	*mei(you)*	*bue*
NEG.PFV	*mo*	*mei(you)*	*bo*
Q (PFV)	*mo*	*you-mei.you*	*bo*
Q (PF)	*mang*	*mei(you)*	*bue*

PF = perfect or anterior aspect; PFV = perfective

Chapter 8

SOUTHERN MIN NEGATION AND INTERROGATIVES

This chapter reviews chapters four through seven, and extends the topic to interrogatives reanalyzed from their negative counterparts in Southern Min. The organization of this chapter is as follows: I provide an overview in section 8.1. Section 8.2 focuses on the affirmative modal paradigm and section 8.3 on the negative paradigm. In each section, I provide an overview on Hakka and Mandarin, in addition to a discussion of Southern Min.

8.1 Introduction

In chapters four through seven, I have addressed the negation of the three languages under investigation. A first topic for comparison is the varying number of negatives in the three language varieties. While Southern Min has five basic negatives, Mandarin and Hakka use two and three, respectively. Contexts for the use of negation range from ability, volition, necessity, possession, to perfectivity. The corresponding negative morphemes in Southern Min are *be* 袂 'unable', *m* 毋 'not want', *bian* 免 'not need', *bo* 無 'not have', and *bue* 未 'not yet'.

Mandarin utilizes *mei* 沒 as aspectual negative (both perfective and perfect) and merges the other usages into its other negative *bu* 不, unto which a modal verb is attached, such as *bu-neng* 不能, 'cannot', *bu-yao* 不要 'not-want', and *bu-yong* 不用'not-need'. The Mandarin negation system is, however, not as simple as the commonly held notion of aspectual *mei* versus habitual *bu*, in that *bu* can be volitional or abilitive.

Hakka uses *mo* 無 for possessive and perfective, *mang* 亡 for anterior aspect (perfective), and *m* 毋 for the remainder of the situations such as modal verbs.

Table 8.1 briefs the negative system of each investigated language.

Table 8.1
The negative system of the three languages

	TSM	MSC	Hakka
can.not	*be-hiau* (*abilitive*) *be-sai* (*deontic*)	*bu-neng; bu-hui* (*abilitive*) *bu-keyi* (*deontic*)	*m-voi; m-hiau-ded* (*abilitive*) *zo-m-ded* (*deontic*)
will.not	*be*	*bu-hui*	*m-voi*
not.want	*m*	*bu-yao* *bu*	*mo-oi*
need.not	*bian*	*bu-yong*	*m-sii*
possessive	*bo*	*mei(you)*	*mo*
have.not	*bue*	*mei(you)*	*mang*

8.2 Doublings in the affirmative paradigm

Southern Min modal doublings characterizes an apparent changing paradigm. This phenomenon is not as apparent in the other languages. I discuss these topics in the following paragraphs accordingly.

8.2.1 Modal doublings in Southern Min.

I show the modality paradigm of Southern Min in Table 8.2. For instance, the abilitive *e-hiau* 'can', the volitional *beh-ai* 'want', and the necessity *tioh-ai* 'need', each of which is composed of two near-synonyms.

Table 8.2
The affirmative modal doublings in Southern Min

	VERB	MOD
e 'can'; 'will'	***e-hiau*** *'can; able'*	*e* (futurity) ***e-hiau*** 'can' (ability) ***e-sai*** 'can' (permission)
beh 'want'	***siunn-beh*** ***ai; beh-tih***; ***ai-tih***	**siunn-beh** beh, ai, **beh-ai**
tioh: 'need'	ai	tioh, ai, **tioh-ai**

In each of the relevant chapters, I use Minimalist Feature Economy to account for this process: when feature loss occurs, there is usually a renewal.

Take *e-hiau* as an example. The morpheme *e* originates as a lexical verb as 'to know, to comprehend' and another morpheme *hiau* also has an origin in meaning of 'to know, to understand'.

(1) 解 *e*: [know]

(2) 曉 *hiau*: [understand]

When feature loss occurs in *e*, as in (3), *hiau* as a renewal comes into existence to assist *e*. we see a doubling such as *e-hiau* in (4).

(3) *e*: [know] > iF

(4) *e*: iF + *hiau* [know] > *e-hiau* 'can' (the verbal use)

The same renewal process occurs, leading to the doublings of Southern Min permissive modals. There are three alternatives: *e-sai*, *e-ing* and *e-tang*. Take *e-sai* as an example. The diachronic data also show that *e* was once used as permission modality, just like the English deontic *can*. The lexical use of *sai* 使 is 'to allow, to command'.

(5) *e*: [know] > iF: [permission]

(6) *sai*: [allow, command]

When *e* is losing its semantic features, *sai* is then added as a renewal to strengthen the use of *e* in the deontic sense. Thus, we now have such a doubling as *e-sai*.

(7) *e*: iF + *sai*: [allow] > the doubling *e-sai* 'can'

Along similar lines, the same principle applies to *siunn-beh* and *beh-ai* of the volitional system, and to *tioh-ai* of the necessity system.

The category shift from lexical to verbal taking place in *e* or *e-hiau* is observed in Southern Min, parallel to the development of English modal verb *can*, which also has a lexical origin as 'to know'.

(8) *can*: [know] > iF [ability; permission; probability]

Therefore, we see that English *can* is used in three modality subcategories: ability, permission and probability.

8.2.2 A comparison.

While English *can* is used for three subsystems of possibility modality: the epistemic *can*, the abilitive *can* and the permissive *can*, Chinese makes use of doublings, demonstrated in Table 8.3.

Table 8.3
The modal doublings in the three languages

	TSM	Mandarin	Hakka
possibility	*e* (futurity 'will') ***e-hiau*** 'can' (ability) ***e-sai*** 'can' (permission)	***ke.neng*** 'may/can' *hui* 'will' *hui*; *neng* 'can' ***ke.yi*** (permission)	*voi* 'will' *voi;* ***hiau-ded*** 'can' ***zo-ded*** (permission)
volition	*e* 'will' *beh, ai,* ***beh-ai*** 'want'	*hui* 'will' ***xiang-yao***; *yao*	*voi* ***siong-oi****; oi*
necessity	*tioh, ai,* ***tioh-ai***	*yao*	*oi*

These three investigated Sinitic languages differ in their mechanism of doubling. Take the abilitive modal as an example.

In Southern Min, we observe that *e* is the basic for possibility modality, despite the fact that *e* varies in its modality: *e* 解 for epistemic *e-hiau* 解曉 for abilitive, , and *e-sai* 解使 for deontic permission.

In comparison, the Mandarin system is, however, less consistent. Under the possibility modality paradigm, Mandarin makes use of both *neng* 能 'able' and *ke* 可 'allow'. Therefore, Mandarin has doublings such as *ke.neng* 可能 for epistemic 'can', *neng*(*gou*) 能夠 for abilitive, and *ke.yi* 可以 for deontic permission. The additional bound morphemes among these modal verbs are *gou* 'enough' and *yi* 'to use'. As noted, modal doublings are not randomly made; the doublings are

often near-synonyms. The permissive modal *ke.yi* ‘can’, composed of *ke* ‘permit’ and *yi* ‘use’, literally means ‘receiving permission to use’.

Mandarin morpheme *hui* 會 ‘can; will’ can be used in two subsystems: possibility and volition. Southern Min *e* is the same. Just like Mandarin *hui* and Southern Min *e*, Hakka uses a monosyllabic *voi* 會 for both abilitive ‘can’ and future/volitional ‘will’. Another abilitive *hiau-ded* 曉得 in Hakka has a similar development path as that of Southern Min *e-hiau-tit* 解曉得. The use of *tso-ded* 做得 as deontic permissive in Hakka is neither attested in modern Southern Min nor Mandarin. Yet, the morpheme *tso* has a verbal origin as ‘to do’, the permissive sense thus arise when *tso* is combined with another morpheme *ded* ‘to obtain’.

(9) V_1: *tso* ‘do’ + V_2: *ded* ‘obtain’ > V/modal: *tso-ded* ‘can’ (permission)

The morphology of today’s Sinitic languages has been preserved from different eras of Middle Chinese. Each individual language branch has adopted different verb series in syntax initially as V_1-V_2. Gradually the verb serial system comes to the morphological level, as one verb. So, today we observe divergent doublings in each of these languages.

Note that aspectual markers are not discussed here in that they do not have doublings, possibly because they have less verbhood than modal verbs.

8.3 The Negative Paradigm

I address in the first portion the origins of Southern Min negation. The next portion reviews the affirmative and negative paradigm of Southern Min,

focusing on how negation is projected in syntax. The third subsection provides an overview of the grammaticalization of Southern Min negation with an extension to the reanalysis of negatives into interrogatives. What follows is a discussion on one particular negative: *bo*. The last two subsections compare and contrast the negation system within the three languages.

8.3.1 Origins of Southern Min negation.

I first review the origins of the negatives in Southern Min in Table 8.4. As seen, three of the negatives come from an origin 'to die' or 'to lack'. This phenomenon patterns with one of the three ways, proposed by van der Auwera (2010), for negation to come into use cross-linguistically.

Table 8.4
The origins of Southern Min negatives

be 'can.not'	possibly, NEG + *e* 'can'
m 'not.want'	no corresponding character
bian 'need'	免 'to exempt, to avoid'
bo 'not.have'	無; 沒 'not die, to lack' *bo* = possessive 'have'; perfective 'not have'
bue 'not yet'	未 'to die'

I found no corresponding Chinese characters for the first two negatives, however. *Be* 'can.not' is likely a fused word from a negator and the affirmative counterpart, as suggested by scholars such as Teng (1992). In Classical Chinese, modality is used as prohibitive. I have not discovered a possible character to

represent *m*. A possibility is that *m* is chosen as a borrowing from a non-Chinese language community, for the native layer of the Min language, thus not shown in Chinese written records.

8.3.2 Southern Min negative paradigms.

I show the current affirmative versus negative paradigm in Taiwanese Southern Min in Table 8.5.

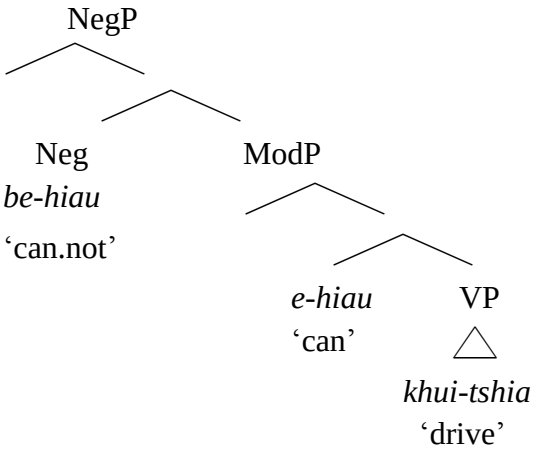
Table 8.5
Southern Min negation in morpho-syntax

	affirmative	negative	Negation in morpho-syntax
abilitive	*e*	*be*	*be* 'cannot' = Neg + Mod: *e*
volitional	*beh*	*m*	*m* 'not.want': Neg.Mod *bo-beh* 'not-want' = Neg: *bo* + Mod: *beh*
necessitive	*tioh*	*bian*	*bian* 'not.need': Neg.Mod
possessive	*u*	*bo*	*bo* 'not have' = Neg.V (possessive) *bo* 'not.have' = Neg.Asp *bo* = Neg.Hab
perfect	--	*bue*	*bue* 'not.yet': Neg.Asp

As noted in the table, some negatives project a Mod/Asp head and move to the head of NegP above (such as *m*, *bian*, *bo* ,and *bue*), while the other negatives simply head a NegP above the ModP/AspP (such as *be* and *bo-beh*). In what follows, I explain one by one of the negatives shown in the table.

First, in the possibility modal system, *be* is a fused word from a negative and the affirmative *e*. There is a NegP above the ModP headed by *e* ‘can’. I show the tree representation below, along with its example.

(10) *be* ‘cannot’ = Neg + Mod: *e*



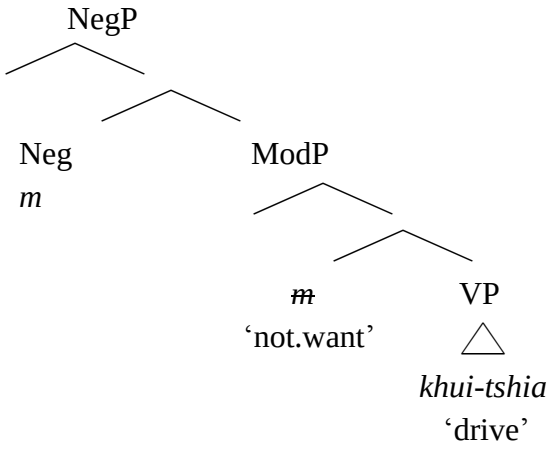
(11) i **be-hiau** khui-tshia. TSM
3sg *can.not-know* *drive-car*
‘He doesn’t know how to drive.’

Next, the volitional modals (*beh* and *m*) are not alike in morphology, and there are two negation subsystems. The volitional negative *m* is special as it is monosyllabic but serves two functions, negation and modality. Also special is its affirmative counterpart *beh*, which is postulated as a borrowing from a non-Sinitic language, as suggested by Chang (2009) among others.

In the case of *m*, which characterizes modality and negation, *m* heads a ModP and is further reanalyzed to another head of the NegP. I show its tree diagram below.

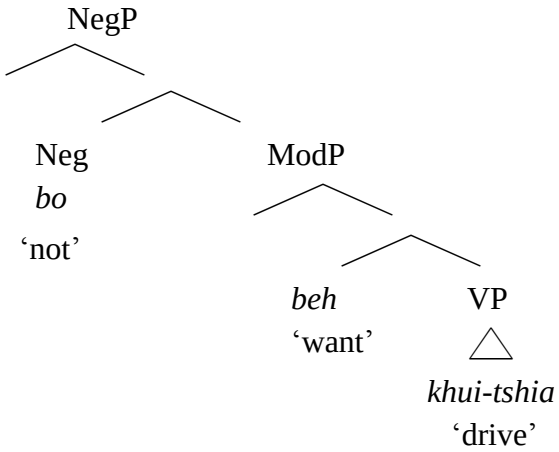
(12) i **m** khui-tshia (lai). TSM
3sg *not.want* *drive-car* *come*
‘He doesn’t want to drive.’

(13) *m* ‘not.want’ = Mod > Neg



However, the volitional paradigm characterizes two subsystems for negation. The fused *m* is one, and the analytical *bo-beh* or *bo-ai* is the other. Under the latter system, the modal verb *beh* ‘want’ or *ai* ‘want’ is situated in ModP, while *bo* ‘not’ heads the NegP, independent from the ModP. The tree for *bo-beh* resembles that for *be* in (10).

(14) *bo-beh* ‘not-want’ = Neg: *bo* ‘not’ + Mod: *beh* ‘want’



(15) i **bo-beh** khui-tshia (lai). TSM

3sg *not-want* *drive-car* *come*

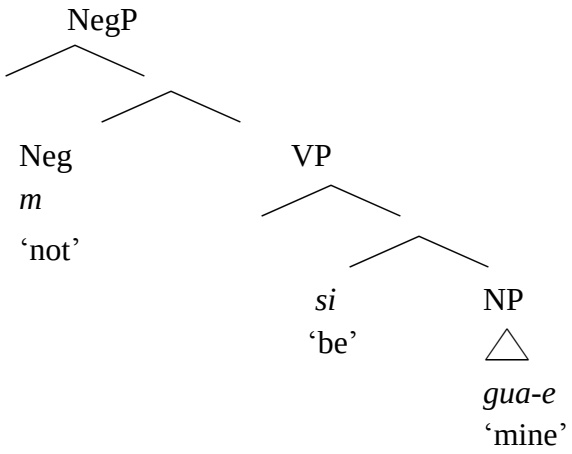
‘He doesn’t want to drive.’

I return to this topic in section 8.3.4, when discussing the grammaticalization of the aspectual negative *bo*.

There is another *m* 'not'. The literature often labels this use as m_2 in order to distinguish the volition *m*, labeled as m_1. As a pure negator, this *m* heads its own NegP. Below I provide two typical environments where the pure negative *m* appears.

(16) tse **m** si gua-e. TSM
this NEG COP mine
'This is not mine.'

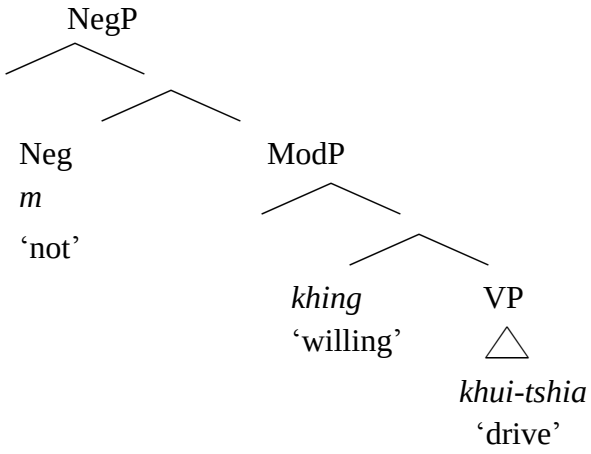
(17) *m* 'not' = Neg



The above *m* appears with a copula and below is an example of *m* with a modal verb.

(18) i **m** khing khui-tshia (lai). TSM
this NEG willing drive come
'He is not willing to drive.'

(19) *m* ‘not’ = Neg



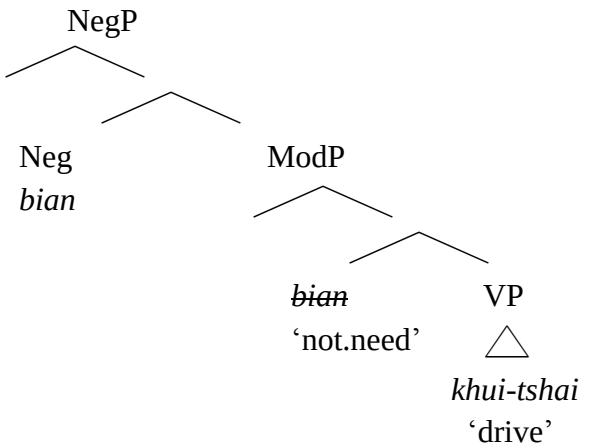
We now move to the third system in Table 8.4. The necessity modal pair (*tioh* ‘need’ versus *bian* ‘not.need’) is also special, in that these two are independent morphemes. While *tioh* originates as ‘to attach, to persist in’, *bian* means ‘to exempt, to avoid’. Therefore, *bian* is not presented as (20). The tree representation comes back to that for the fused negative *m* ‘not.want’.

(20) **bian* ‘not.need’ = Neg + Mod: *tioh* ‘need’

(21)	i	**bian**	khui-tshai	(lai).	TSM
	3sg	*not.need*	*drive-car*	*come*	

‘He doesn’t have to drive.’

(22) *bian* ‘not.need’ = Mod > Neg



Note that *be-hiau* ‘can.not’ and *bo-beh* ‘not-want’ both have lexical verbal usage. The tree diagram is similar to their modal counterparts, however. I then skip them.

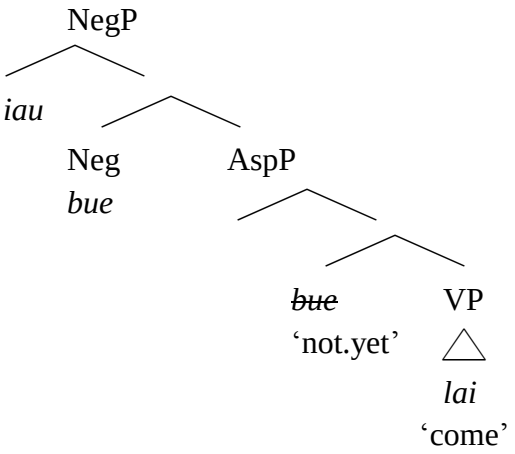
The remainder two negatives in Table 8.4 are aspectual. The aspectual negative *bue* means ‘not.yet’, which is accompanied by an adverb *iau* ‘yet’. I show an example along with its syntactic diagram below.

(23) i iau **bian** lai. TSM

3sg *yet* *not.yet* *come*

‘He has not come yet.’

(24) *bue* ‘not.yet’ = AsP > Neg



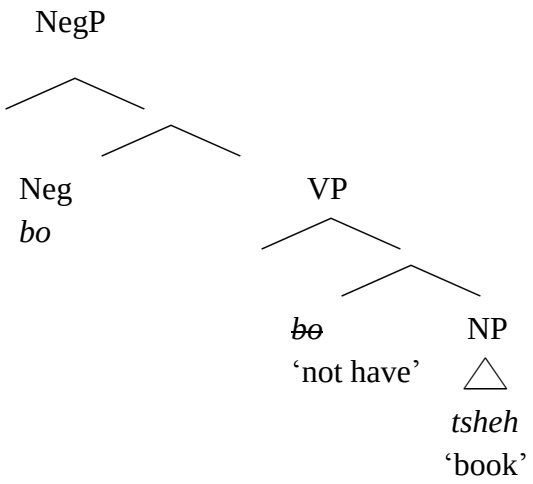
The other aspectual negative *bo* can be treated in two ways: *bo* ‘not.have’ as an independent Neg head from Asp, or *bo* as a negative fused from a negative and the affirmative *u*. Both proposals are claimed in the literature.

(25) *bo* ‘not.ASP’ = ASP > Neg

(26) *bo* ‘not.ASP’ = Neg + *u* (perfective)

The morpheme *bo* has a wide range of category. Here I discuss three negative occasions: *bo* as a negated verb, an aspectual negative and a habitual negative. For convenience, I see *bo* as one head.

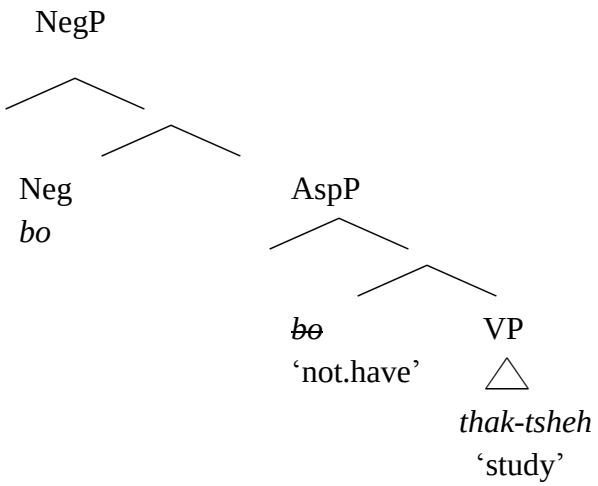
(27) V: *bo* 'not have'



(28) i bo tsheh. TSM
3sg *not.have* *book*
'He doesn't have a book.'

When *bo* is used as an aspectual negative, it heads an AspP and then as the head of NegP above the AspP.

(29) The aspectual *bo* 'not.have' = Asp > Neg

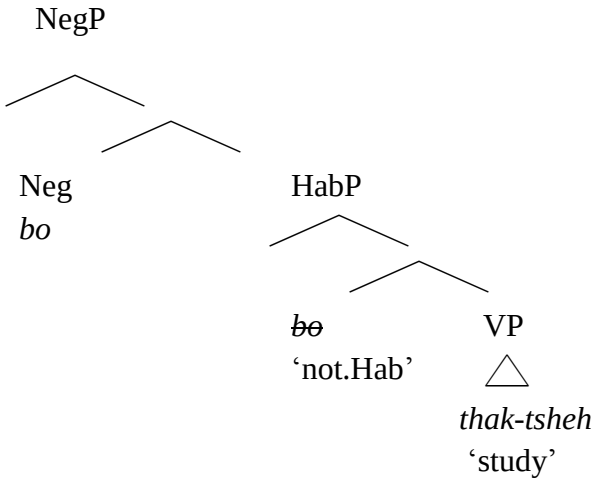


(30) i bo thak-tsheh. TSM
3sg *not.have* *study*
'He didn't study.'

There is also another use of *bo*: the habitual *bo*. I use the same example from above, but the projection changes to HabP.

(31) i bo thak-tsheh. TSM
3sg *not.have* *study*
'He doesn't go to school.'

(32) The habitual *bo* = Hab > Neg



In (32), where *bo* is read as habitual, the sentence has a meaning of 'He doesn't go to school' or a metaphor of 'He is not educated/ He is illiterate.'

I have discussed the syntax of Southern Min negation, including three modal verbs (*be* 'can.not; will.not', *m* 'not.want', and *bian* 'need.not') and two aspect markers (*bue* 'not.yet' and *bo* 'not.have'). The following section extends to a discussion of a bigger picture about negation.

8.3.3 The grammaticalization of Southern Min negation.

Let us examine how individual negatives in Southern Min differ and are alike in terms of categorial shifts. The divergence is that only *be-hiau* 'can.not' and *bo* 'not have' maintain their lexical usage to this date. The other negatives have lost their verbhood. *M* 'not.want' and *bian* 'need.not' require certain environments for them to be used as verbs. I see them as modals. *M* and *bo* are often used as discourse markers (cf. Chang 1997).

I show the categories of Southern Min negatives in Table 8.6, and address similarities immediately following.

Table 8.6
The categorial status of Southern Min negatives

	verb	TMA	NEG	Q	DM
be 'can.not' 'will.not'	√ *be-hiau*	Mod	√	√	
m_1 'not.want'	--	Mod	√	√	?
m_2 'not'	--	--	√	√	√
bian 'need not'	--	Mod	√	?	
bo 'not.have'	√	Asp	√	√	√
buei 'not.yet'	--	Asp	√	√	

The similarity lies in TMA marking, negation, and question uses. Five of them, *bo*, *be*, *m*, *bue* and *bian*, can serve as negative markers as well as modality or aspect. Also, four of them are also reanalyzed as question markers. In principle,

these question markers match with modality/aspect in the declarative part of a sentence. For instance, *e* 'will' and *be* 'will.not' are affirmative and negative counterparts in (34). *Beh* 'want' and *m* 'not.want' are counterparts in (35). *Bo* 'not.have' is the negation of perfective aspect *u* in (36).

(34) i **e** khi **be**?
3sg *will* *go* *Q*
'Will he go?'

(35) i **beh** khi **m**?
3sg *want* *go* *Q*
'Does he want to go?'

(36) i **u** khi **bo**?
3sg *ASP* *go* *Q*
'Did he go?'

The question markers *be*, *m* and *bo* in (34)-(36) are reanalyzed from their negatives. As the reanalyzed interrogatives are well matched with their affirmative counterparts in these examples, I suggest that there is checking feature between the modality/aspect and the interrogative head: *be*, *m* and *bo* in these examples.

Next, we look at the negatives in terms of grammaticalization. As seen, the grammaticalization of each of these negatives is not at the same pace. Although most of them have undergone the pathway: V > Neg > Q, (except for *bian* 'not.need', which I consider is not a Q yet,) one interrogative may be used more productively than another.

According to my corpus analysis together with fieldwork results, *m* has become less common as a final particle Q, presumably due to the weakness of its

phonology. However, *m* is often observed as a discourse marker, and one example is (37), where *m* is used as emphatic for the necessity modal *tioh*.

(37) li **m** tioh khah kin. TSM
2sg *M* *need* *more* *quick*
'Hurry up.'/ You need to act more quickly.'

Two negatives, *be* 'can.not' or 'will.not' and *bue* 'not.yet', are phonologically mixed among many speakers of Taiwanese Southern Min, so it is difficult to decide on their current use as interrogatives. The pronunciation of *bue* or *be* is dialect-based. They have become allophones in many cases, with *be* winning over *bue*.

(38) i khi iau **bue**/**be**?
3sg *go* *or* *not.yet*
'Has he left yet?'

Bo is the most flexible among all of these negatives, as it is often used as interrogative with mismatched modality/aspect, a topic to which I return in section 8.3.4.

Next, the reanalysis from Neg to C is observed not only in questions, but in discourse marking. However, out of these negatives, only *m* and *bo* have undergone this grammaticalization path. DM stands for discourse markers.

(39) *bo*; *m*: V > Neg > Q > DM

By the large, the diachronic development of the negatives follows a pattern from V to T (aspect; modality) and to C (interrogative; discourse), assuming split TP and CP under the cartographic approach. This unidirectionality is evident

cross-linguistically. However, each negative morpheme differs synchronically in its categorial status due to a different grammaticalization pace.

8.3.4 Grammaticalization of *bo.*

I have chosen *bo* as a more in-depth discussion in that *bo* covers a full range of category: verb, aspect, negative, interrogative, and discourse marker. What follows focuses on two particularly interesting phenomena in the negative morpheme *bo*.

I first address the issue where *bo* replaces other interrogatives in questions. Below is an example where *bo* replaces *be* for Q.

(40)	i	**e**	khui-tshia	khi	**be/bo**? TSM
	3sg	*PFV*	*drive-car*	*go*	*Q*
	'Will he drive (to get there)?'				

Despite the fact that *be* is still used by some speakers (matching with its modality *e* in the sentence), *bo* may be chosen over *be* by other speakers. Although this phenomenon has been addressed in previous studies, such as Crosland (1998) and Chang (1997), no theoretical accounts are provided.

In comparison, (41) demonstrates how *bo* is used: *bo* matches with the affirmative u in aspect in the sentence. Again, the match of aspect between *u* and *bo* still exists in contemporary Southern Min.

(41)	i	**u**	khui-tshia	khi	**bo**?	TSM
	3sg	*PFV*	*drive-car*	*go*	*Q*	
	'Did he drive (to get there)?'					

These indicate that the paradigm in Southern Min interrogatives is undergoing changes. The long-established affirmative-negative match in aspect or modality becomes less systematic.

The other major change found in Southern Min negative paradigm is that the original volitional *m* 'not want' is competing with two other forms, namely *bo-beh* and *bo-ai* 'not-want'. We observe the use of *bo* to negate a volition modal such as *beh* 'want'.

This change is intriguing in that *bo* is not a typical negator for modal verbs in Southern Min. There is a set pattern for negation of modality in Chinese: The negative for Southern Min volitional modal verbs is *m*, as in *m-kann* 不敢 'not-dare', and *m-khing* 不肯 'not.willing' and *bu-guan* 'not.willing'. Hakka uses *m* for its modality, and Mandarin has *bu*. *M* or *bu* in these cases is a pure negator.

The significance of this phenomenon is a shift of the negative *bo* from aspectual to non-aspectual. Now, *bo* unexpectedly becomes the negator for the volitional modal system, which is a later development.

(42) i **m/bo-beh** khi. TSM
3sg *'not.want'/ 'not-want'* *go*
'He doesn't want to go.'

I connect this non-aspectual use of *bo* (42) to the fact that *bo* is replacing other interrogatives, as shown in (40). The semantics of *bo* however differ in these two syntactic environments. In the case of volition *bo-beh*, *bo* is non-aspectual in (42), but negative features still remain in *bo*. As for the interrogative *bo* in (40), feature loss occurs in both negation and aspect.

This also points to a possibility: *bo* is becoming a candidate for a universal question marker. Mandarin neutral question marker *ma* 嗎 is an instance of such change. I predict that when *bo* loses its aspectual features, it will become base-generated as an interrogative in the C position.

The Neg to Q claim is by no means new in the literature. For instance, Wei (2007) has shown the diachrony of negation changing to interrogatives in the history of Chinese. Synchronically, Hsin (1999) regards four Southern Min question words *bo, be, m,* and *bue* as mood markers (Hsin1999: 83-85), and argues for Southern Min sentence final particles as situated in the head of CP (Hsin 1999: 88). My analysis differs from Hsin (1999). For one, I use feature checking, and, for another, her notion is only partially true, which I explain immediately.

On a comparison of Cantonese, Mandarin and Southern Min, Cheng, Huang and Tang (1996) propose that the formerly negative words in the Southern Min interrogative construction are base-generated in the head of CP. They suggest a free choice among the four available negatives (Cheng et al. 1996: 45) as in (43), where none of the negative particles has negative features.

(43) i **e** lai **m/bo/bue/be**? TSM
s/he will come not/not-have/not-yet/not-FUT
'Will s/he come?'

Yet, based on my corpus analysis and field work, their claim is too strong. For instance, several of my consultants do not treat the four particles equally; the first two *bo* and *be* are typically their choices. It is more accurate that layering of

the aspectual and non-aspectual *bo* exists in contemporary Taiwanese Southern Min.

Briefly, these negative words (more accurately, question markers) are restricted in one way or another. As noted, *bo* is the most flexible interrogative. Based on my corpus analysis, *bo* is not replaced by another interrogative. However, double interrogatives occur in some speakers of Southern Min. An utterance such as (44) can be encountered.

(44)	i	**kann/kam**	**u**	khui-tshia	khi	**bo**?	TSM
	3sg	*KANN/KAM*	*PFV*	*drive-car*	*go*	*Q*	
	'Did he drive (to get there)?'						

Kann/*kam* 敢 is also a common question marker for eliciting neutral yes/no answers. The pronunciation varies. Some speakers distinguish *kann* for neutral questions from *kam* for assertive questions, while others think of *kam* for both. The question marker *kam* 敢 shares the same character with the volitional modal *kann* 敢 'dare'. The additional *kam* in a question with *bo* as the final particle in (44) further indicates that *bo* is losing its interrogative features. This analysis is not possible, as *bo* is also used as a discourse marker.

The categorial status of *bo* is summarized in Table 8.7.

Table 8.7
Semantic layering of *bo*

category	examples
negated verb	(45) i **bo** tsinn. *3sg not.have money* 'He doesn't have money.'
aspectual negative	(46) i **bo** khi. *3sg not.PFV go* 'He didn't go.'
aspectual interrogative	(47) i u khi **bo**? *3sg PFV go Q* 'Did he go?'
Pure negator	(48) i **bo** beh lin-go. *3sg not want apple* 'He doesn't want apples.' (49) i **bo** beh khi. *3sg not want go* 'He doesn't want to go.'
Non-aspectual interrogative	(50) i beh lin-go **bo**? *3sg want apple Q* 'Does he want apples?' (51) i beh khi **bo**? *3sg want go Q* 'Does he want to go?' (52) i e khi **bo**? *3sg will go Q* 'Will he go?'

8.3.5 A comparison between Southern Min and Mandarin.

As noted in previous chapters, Mandarin has two negatives only: *bu* 不 and *mei* 沒. A straightforward way to distinguish one from the other is modality versus aspect. That is, *bu* is for modal verbs and *mei* is aspectual. For example, to negate *hui* 'can, will', *bu* is used, so *bu hui* means 'can.not' or 'will.not'. In comparison, *mei* is used as possession, existential, and perfective.

Table 8.8 clearly shows distributions between *bu* and *mei* in Mandarin as well as the negative versus modality/aspect matching system in the negatives.

Table 8.8
The negative system between Southern Min and Mandarin

	TSM	MSC
can.not	*be-hiau* (*abilitive*) *be-sai* (*deontic*)	***bu**-neng; **bu**-hui* (*abilitive*) ***bu**-keyi* (*deontic*)
will.not	*be*	***bu**-hui*
not.want	*m*	***bu**-yao*
need.not	*bian*	***bu**-yong*
possessive	*bo*	***mei**(you)*
have.not	*bue*	***mei**(you)*

I provide two sets of examples before moving to a review of the under-researched topics.

In terms of categories, *bu-hui* ‘can.not’ can be used as a lexical verb, just like Southern Min *be-hiau*. *Mei*(*you*) ‘not have’ can be lexical too, as its Southern Min counterpart *bo*. Modern English does not have lexical use of *can*, however.

(53) wo **bu-hui** yingwen. MSC
1sg *not-can* *English*
‘I don’t understand English.’

(54) wo **mei**/**mei-you** qian. MSC
1sg *not.have)/not-have* *money*
‘I don’t have money.’

Mandarin *bu-yao* ‘not-want’ can be used as lexical, as opposed to its Southern Min counterpart *m*, which is non-lexical.

(55) wo **bu-yao** pingguo. MSC
1sg *not-want* *apple*
‘I don’t want apples.’

What follows next is two neglected issues within the Mandarin negation system. One is that *bu* is not necessarily a pure negative for modals or a habitual negator for activity or stative verbs. *Bu* can be volitional. For instance, (56) can be read in two ways: one is habitual and the other is volitional.

(56) ta **bu** changge. MSC
3sg *NEG* *sing*
a. ‘He doesn’t sing.’
b. ‘He doesn’t want to sing.’

One way to disambiguate (56) is adding *de* to give rise to the meaning of (56a) and adding *yao* to *bu* to yield a reading as (56b). The volitional use of *bu* may be regional, and more research needs to be conducted for a firm conclusion.

(57) ta bu changge **de**. MSC
3sg NEG sing ASST
'He doesn't sing.'

(58) ta bu-**yao** changge. MSC
3sg not-want sing
'He doesn't want to sing.'

The other under-researched topic is the dual aspectual function of *mei*.

(59) ta **mei** changge. MSC
3sg NEG.PFV sing
'He didn't sing.'

(60) ta hai **mei** changge. MSC
3sg yet not.yet sing
'He has not sung.'

I now move to a discussion of interrogatives in Mandarin. Mandarin negatives, *bu* and *mei(you)*, are also reanalyzed as interrogatives.

(61) Hufei **hui** qu **bu**? Cheng et al. (1996: 47)
Hufei will go Q
'Will Hufei go?'

(62) Hufei qu-**le** **meiyou**? Cheng et al. (1996: 47)
Hufei go-ASP Q
'Did Hufei go?'

The choice of *bu* over *mei*(you) in (61) is based on a reanalysis that patterns negation. That is, the negation of modal *hui* 'will' is *bu*, and thus *bu* is selected as

the interrogative in (61). Along the same lines, the affirmative aspect *–le* has a negative counterpart of *mei*(*you*); therefore, (62) makes use of the reanalyzed interrogative *mei*(*you*).

The interrogative in (61) or (62) can be replaced by a neutral question marker *ma* 嗎 or *m* 麼. These two neutral question markers are diachronically connected to *mei*(*you*).

One topic on interrogatives that is worth discussing is that unlike Southern Min, Mandarin does not make use of modal verbs as its question markers. For instance, the modal verb *bu hui* 'not.will' does not function as a question marker. To make the sentence grammatical, a verb *lai* 'come' is needed.

(63)	ta	mingtian	hui	lai	**bu-hui**	*(lai)?	MSC
	3sg	*tomorrow*	*will*	*come*	*not-will*	*come*	
	'Will he come tomorrow?'						

The use of modal- or aspect-final interrogative particles is unique in the Sinitic varieties other than Mandarin. The Southern Min sentence below is equivalent to (64), where the interrogative *be* is reanalyzed from its disjunctive interrogative *be* 'will.not'.

(64)	i	bin-a-tsai	e	lai	**be**?	TSM
	3sg	*tomorrow*	*will*	*come*	*Q*	
	'Will he come tomorrow?'					

The disjunctive negative is then reanalyzed as an interrogative (cf. Wei 2007). This follows the Head Preference Principle (van Gelderen 2004).

(65)	i	**e**	lai	a-si	**be**	lai?
	3sg	*will*	*come*	*or-COP*	*will.not*	*come*
	‘Will he come or not (come)?’					

On the other hand, Southern Min is restrictive in the use of the A-not-A question pattern; see (66) and (67).

(66)	ta	mingtian	**hui-bu-hui**	lai?	MSC
	3sg	*tomorrow*	*will-not-will*	*come*	
	‘Will he come tomorrow?’				
(67)	*i	bin-a-tsai	**e-be**	lai?	TSM
	3sg	*tomorrow*	*will-not.will*	*come*	
	‘Will he come tomorrow?’				

There are other differences between these two languages; I only address the areas relevant to negation here.

8.3.6 A comparison between Southern Min, Mandarin and Hakka.

Two basic negatives in Hakka are *m* and *mo*: the former for modal verbs and the latter for perfective. Thus, the counterparts are Mandarin *bu* and *mei*. A major different between Mandarin and Hakka is the use of *mang* ‘not.yet’ in Hakka, which is lacking in Mandarin. Mandarin merges perfective and perfect in one morpheme *mei*, meaning ‘not.have’ or ‘not.yet’.

As Hakka uses *m* for its modal verbs, its modal negation is formed by means of doublings, such as *m-voi* ‘not-can; not-will’, *mo-oi* ‘not-want’, and *m-sii* ‘not-permit’. The aspectual negatives are fused words in that *bo* means a negated verb ‘not have’ or perfective, and *bue* alone is used for ‘not.yet’.

Table 8.9 compares negation between Southern Min and Hakka.

Table 8.9
The negative system between TSM and Hakka

	TSM	Hakka
can.not	*be-hiau (abilitive)* *be-sai (deontic)*	*m-voi* (*abilitive*) *m-hiau-ded* (*abilitive*) *zo-m-ded* (*deontic*)
will.not	*be*	*m-voi*
not.want	*m*	*mo-oi*
need.not	*bian*	*m-sii*
possessive	*bo*	*mo*
have.not	*bue*	*mang*

I highlight the negation of Hakka abilitive modals as it is more complex. The use of *m-voi* 'not-can' is similar to MSC *bu-hui*, with *bu* as Neg and *hui* 'can' as Mod.

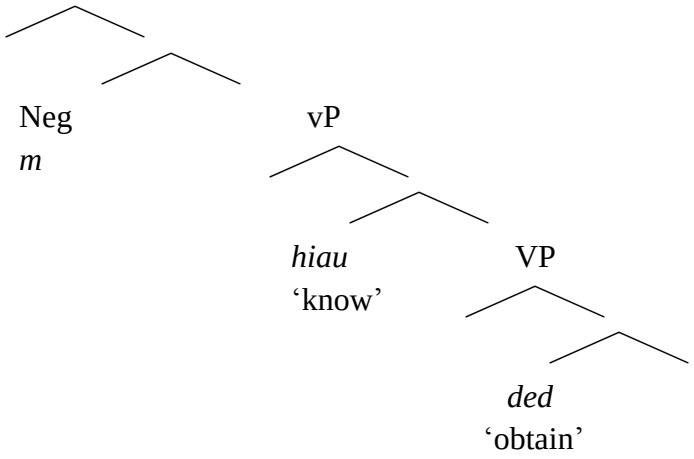
(68) *bu-hui* 'can.not; will.not' < Neg: *bu* + *hui* 'will; can' MSC

However, morphology in another Hakka abilitive modal *m-hiau-ded* differs. *M-hiau-ded* is from a different verb series. Note that *ded* can be dropped.

(69) *m-hiau-ded* < Neg: *m* + *hiau* + *ded* Hakka
'not' + 'know' + 'obtain'

As the affirmative counterpart of (69) is *hiau-ded*'can, able', I analyzed a Neg head *m* on top of a ModP projected by *hiau-ded*.

(70) NegP



(71) gi **m**-hiau rhin-vun. Hakka
3sg *NEG-know* *English*
'He doesn't understand English.'

The morphology and phonology in (69) differs from the Southern Min counterpart *be-hiau*; see (72).

(72) *be-hiau* < Neg: *m* *e* + *hiau* TSM
'can.not' 'not' 'know' 'comprehend'

Basically, the two languages make use of different syntactic strategies and, resulting in a different reanalysis in the morphology of their negation. A comparison is (73); I use modal verbs here. I analyze both situations as having a NegP above the ModP (*hiau-ded* in Hakka and *e-hiau* in TSM).

(73) gi **m**-hiau-ded sii-cha-er Hakka
i **be**-hiau sai-tsiah. TSM
3sg *cannot* *drive-car*
'He doesn't know how to drive.'

Hakka permissive modal *tso-m-ded* has a negative infix. I show the morphology and the meaning for each morpheme below.

(74)	*zo-m-ded*	<	*zo*	+	*m*	+	*ded*	Hakka
			‘do’		‘not’		‘obtain’	

(75)	ngi	**zo-m-ded**	hi.	Hakka
	li	**be-sai**	khi.	TSM
	2sg	*can.not*	*go*	
	‘You can’t go. (permissive)’			

I suggest for an analysis of Mod for *zo-m-ded* as one unit, which moves to Neg, projecting a NegP above the ModP.

I have shown from the above paraphrases how the coexisting patterns of the inter-linguistic data are related to one another within the history of Chinese. These negative morphemes may have originated from different strata of history. Within Southern Min, some negatives can be grouped into the analytical system such as *bo* and *be* with a Neg plus Mod/Asp, while others are independent morphemes such as the necessity pair: *tioh* ‘need’ versus *bian* ‘need.not’. The two volitional modals, *beh* ‘want’ and *m* ‘not.want’, do not seem to be from the Chinese language stratification, but are possibly semantics borrowings from neighboring linguistic communities.

In sum, in despite of the addressed parametric differences, the grammaticalization of the negatives demonstrates resemblance within these three Sinitic language branches.

8.4 Conclusion

This chapter reviews major findings found in this dissertation. Also addressed is the topic on reanalysis of negatives morphemes into interrogatives. Results have shown that consistency occurs in the grammaticalization of negation within Southern Min and intra-linguistically among the three investigated Sinitic languages. Parametric differences are found at the morphological level.

Chapter 9

CONCLUSION

This last chapter addresses the contributions of this dissertation and suggests directions for future research.

9.1 Contributions

This dissertation examines the interface between morphology, syntax and semantics for the three Sinitic languages of Hakka, Mandarin and Southern Min. Specifically, I treat the subject of the grammaticalization of negation. I also incorporate a cross-linguistic comparison among the three aforementioned languages. This dissertation contributes to the field of linguistics in the following aspects:

First, this dissertation provides an overview of negation among three language branches. This dissertation adds new insights into the complexity of Chinese negation. Chinese negation is among the best researched topics in the literature; however, prior research either deals exclusively with negation in one language, or with one or two of the negative morphemes in a single language. This dissertation not only examines the entire negation system of Southern Min, but extends its scope to the other two Sinitic languages, Hakka and Mandarin. While Southern Min has five basic negatives, Mandarin and Hakka only have two and three, respectively. Thus, a major attempt is made to compare and contrast the varying negatives among these languages.

Second, in its discussion of negation, this dissertation also addresses the affirmative systems. The reason is that Southern Min negative morphemes are often fused with modality or aspect. Only by separating the affirmative from the negation system can the entire negation be discovered. Under this inquiry, two under-addressed topics are therefore revealed. One is that the modality paradigm shows an overlap between the possibility, volition, and necessity systems. The other topic is related to the doublings found in affirmative modals. Special attention is paid to the doublings of the affirmative modality, as affirmative aspect markers do not have doublings.

Additionally, this dissertation examines negation from both synchronic and diachronic perspectives. I have looked at individual negative morphemes of Southern Min on their synchronic categorial status and syntactic behaviors. I have also examined the origin of Southern Min negatives, consulting Chinese dictionaries for the range of usage in each morpheme.

The incorporation of corpus data also makes this dissertation unique. Contemporary corpus data are used for Southern Min together with my fieldwork. A corpus analysis in diachronic data is also included, particularly when a topic is not covered in the literature. The use of corpus data has helped to account for the reanalysis of the negatives and their affirmative counterparts.

Also contributing to the field of linguistics is the comparative studies portion in this dissertation. I provide English examples as comparison for each modal or aspect markers. The inclusion of three Sinitic languages is a huge project but certainly new to this field. Results have shown that consistency occurs

in the grammaticalization of negation within Southern Min and intra-linguistically among the three investigated Sinitic languages. Parametric differences are found at the morphological level.

This dissertation has demonstrated a connection between generative and grammaticalization frameworks as well. The use of generative frameworks is by no means innovating; however, the incorporation of cartography into the minimalist Feature Economy Principle is a new pursuit.

Finally, the introduction of three Sinitic languages to the English-speaking academia makes a significant contribution to the field of linguistics.

9.2 Directions for Future Research

During my writing, I have addressed many areas to be explored. Due to space and time constraints, I can only leave them for future research. I outline major ones below.

First, I have addressed briefly in chapter eight the reanalysis of negatives into interrogatives in Southern Min. As negative morphemes in Southern Min are each fused with modality or aspect, the modality/aspect is often carried to their reanalyzed interrogatives. However, corpus analysis reveals that there are mismatched cases between modality/aspect and the interrogatives. Some interrogatives are losing modality/aspect on the way to become interrogatives, which results in one negative replacing another regardless of different modality or aspect. For instance, the initially aspectual *bo* 'not.have' replaces the modal negative *be* 'will.not' as an interrogative, which means *bo* is losing its aspect. A theory is needed to account for such a change.

In terms of empirical data, the synchronic Hakka and Mandarin data in this dissertation are checked with my consultants mainly. Future research should extend to a corpus analysis and/or a larger scale of fieldwork on these two languages. An investigation of more historical texts in order to deepen the investigation of diachrony of negation is also suggested.

Word order differences between Mandarin and the other two languages also serve as a good topic for future research. I have touched on this issue in several places in this dissertation. A synthesis is worthwhile as word order changes involve these grammatical functions: modality, aspect and negation.

In my studies of Southern Min negation, I also found double negation and double modals interesting. Sentence final mood markers other than interrogatives are important as well, as they may or may not co-occur with question particles. These are less studied topics suggested for future pursuit.

REFERENCES

Abraham, W. (2002). Modal verbs: Epistemics in German and English. In S. Barbiers, F. Beukema, & W. van der Wurff, *Modality and its interaction with the verbal system* (pp. 19-50). Amsterdam/Philadelphia: John Benjamins.

Baker, M. (1997). Thematic roles and syntactic structure. In L. Haegeman (Ed.), *Elements of grammar* (pp. 73-137). Kluwer, Dordrecht.

Baker, M., O. T. Stewart. (1999). *On double-headedness and the anatomy of the clause*. Ms. Rutgers University.

Baxter, W. H. (1992). *A handbook of Old Chinese phonology*. Berlin; New York: Walter de Gruyter.

Belletti, A. (2001). Inversion as focalization. In Hulk, A., & Pollock J-Y. (Eds.) *Subject Inversion in Romance and the Theory of Universal Grammar* (pp. 60-90). Oxford: Oxford University Press.

Belletti, A. (2004). Aspects of the low IP area. In L. Rizzi (Ed.), *The Structure of CP and IP* (pp. 16-51). Oxford: Oxford University Press.

Belletti, A. (2005). Extended doubling and the VP periphery. *Probus: International Journal of Latin & Romance Linguistics, 17*(1), 1-35.

Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *Longman grammar of spoken and written English*. Harlow: Pearson Education.

Bisang, W. (2008). Grammaticalization and the areal factor: The perspective of East and mainland Southeast Asian languages. In M. J., Lopez-Couso & E. Seoane (Eds.), *Rethinking grammaticalization: New perspectives* (pp. 15-36). Amsterdam & Philadelphia: John Benjamins.

Bošković, Ž. (1997). *The syntax of nonfinite completmentation*. Cambridge, MA: The MIT Press.

Boudin, Philippe. (2009). On the "great modal shift" sustained by come to VP. In R. Salkie, P. Busuttil, & J. van der Auwera (Eds.), *Modality in English: Theory and description* (pp. 349-373). Berlin; New York: Mouton de Gruyter.

Bybee, J. L., Perkins, R. D., & Pagliuca, W. (1994). *The evolution of grammar:Tense, aspect, and modality in the languages of the world*. Chicago: University of Chicago Press.

Bybee, J., & Fleischman, S. (1995). Modality in Grammar and Discourse: An Introductory Essay. In J. Bybee, & S Fleischman (Eds.), *Modality in Grammar and Discourse* (pp. 1-14). Amsterdam: John Benjamins.

Bybee, J., Pagliuca, W., & Perkins, R. D. (1991). Back to the future. In Traugott, E. C. and Heine, B. (Eds.), *Approaches to Grammaticalization*, Vol. 2 (pp. 17-58). Amsterdam: John Benjamins.

Chang, M.-H. (1997). *Discourse functions of negatives Bo and M in Taiwanese*. Unpublished doctoral dissertation. National Taiwan Normal University.

Chang, M.-H. (2009). Metaphorization and metonymization: Diachronic development of verbs of volition in Southern Min. *Taiwan Journal of Linguistics, 7*(1), 53-84.

Chang, M.-H., and Chen, M. Y. (2003). *Volition verb movement in Taiwanese Southern Min and Mandarin Chinese*. Paper presented at the Conference on Comparative Diachronic Syntax. University of Leiden, The Netherlands.

Chao, Y.-R. (1968). *A grammar of spoken Chinese*. Berkeley: University of California Press.

Chen, F.-H. (2004). *A Study on the Semantic Development and Grammaticalization of ZHE*. Unpublished master's thesis. Providence University.

Chen, S.-C. (2003). *Grammaticalization of Tioh in Taiwanese Southern Min*. Unpublished master's thesis. National Taiwan Normal University.

Cheng, L. L.-S., Huang, J.C.-T., & Tang, J. C.-C. (1996). Negative particle questions: A dialectal comparison. In J. R. Black, & V. Motapanyane (Eds.), *Microparametric Syntax and Dialect Variation* (pp. 41-78). Amsterdam/Philadelphia: John Benjamins.

Cheng, R. L. (1980). Modality in Taiwanese. *Journal of the Chinese Language Teachers Association*, 15, 45-93.

Cheng, Y. (2003). A study on the diachronic development of Chinese modals from the perspective of the dialectal comparison. *Journal of Taiwanese Languages and Literature, 1*(1), 107-143.

Cheng, Y. (2007). *Patterns of negative words of A-not-A questions in Taiwan Southern Min*. Unpublished master thesis. National Tsing Hua University.

Chomsky, N. (1955). *The logic structure of linguistic theory*. Springer.

Chomsky, N. (1995). *The minimalist program*. Cambridge, Mass.: The MIT Press.

Chomsky, N. (2004). Beyond explanatory adequacy. In A. Belletti (Ed.), *Structures and beyond: The cartography of syntactic structures* (pp. 104-130). Oxford: Oxford University Press.

Chomsky, N. (2005). Three factors in language design. *Linguistic Inquiry*, *36*(1), 1-22.

Chomsky, N. (2007). Of minds and language. *Biolinguistics*, 1, 9-27.

Chung, M.-L. (2001). *The Polysemous Word 'tioh8' in Li Jing Ji.* Unpublished Master's thesis. National Tsing Hua University.

Chung, R.-F. 鍾榮富. (2007). The langauge policy in Taiwan and its impact on the use of Hakka. In Cheng. C.-C. (Eds.), *Yuyan zhengci de duoyuan wenhua sikao* 語言政策的多元文化思考 (pp. 219-236). Taipei: Academia Sinica.

Cinque, G. (1999). *Adverbs and functional heads :A cross-linguistic perspective*. New York; Oxford: Oxford University Press.

Cinque, G. (2002). *Functional structure in DP and IP*. Oxford; New York: Oxford University Press.

Cinque, G. (2004). Issues in adverbial syntax. *Lingua, 114*(6), 683-710.

Cinque, G. (2006). *Restructuring and functional heads*. Oxford; New York: Oxford University Press.

Coates, J. (1983). *The semantics of the modal auxiliaries*. London: Croom Helm.

Collins, P. (2009). *Modals and Quasi-modals in English*. Amsterdam/New York: Rodopi.

Comrie, B. (1976). *Aspect:An introduction to the study of verbal aspect and related problems*. Cambridge; New York: Cambridge University Press.

Cormack, A., & Smith, N. (2002). Modals and negation in English. In S. Barbiers, F. Beukema, & W. van der Wurff, *Modality and its interaction with the verbal system* (pp. 133-164). Amsterdam/Philadelphia: John Benjamins.

Croft, W. (1991). The evolution of negation. *Journal of Linguistics, 27*(1), 1-27.

Crosland, J. (1998). Yes-no question patterns in Southern Min: Variation across some dialects in Fujian. *Journal of East Asian Linguistics*, 7, 257-285.

Dahl, Ő. (1979). Typology of sentence negation. *Linguistics*, *17*, 79-106.

Dahl, Ő. (2010). Typology of negation. In L. R. Horn (Ed.), *The expression of negation* (pp. 9-38). Berlin; New York: Mouton de Gruyter.

de Haan, F. (2006). Typological approaches to modality. In W. Frawley (Ed.), *The expression of modality* (pp. 27-69). Berlin; New York: Mouton de Gruyter.

Depraetere, I., & Reed, S. (2006). Mood and modality in English.. In B. Aarts, & A. McMahon (Eds.), *The handbook of English Linguistics* (pp. 269-288). Blackwell.

Detges, U., & Waltereit, R. (2002). Reanalysis vs. grammaticalization: A semantic-pragmatic account of functional change in grammar. *Zeitschrift für Sprachwissenschaft,* 21, 151-195.

Djamouri, R. (1991). Particules de negation dans les inscriptions sur bronze de la dynastie des Zhou. *Cahiers de Linguistique—Asie Orientale*, *20*(1), 5-76.

Dobson, W. A. C. H. (1966). Negation in archaic Chinese. *Language*, *42*(2), 278-284.

Ernst, T. (1995). Negation in mandarin Chinese. *Natural Language & Linguistic Theory*, *13*(4), 665-707.

Evans, N., & Wilkins, D. (2000). In the mind's ear: The semantic extensions of perception verbs in Australian languages. *Language*, *76*(3), 546-592.

Fang, Z.-C. (1994). *A Study on Hakka Negation*. Unpublished master's thesis. National Tsing Hua University.

Gillon, C., & H.-L. Yang. (2010). *Southern Min postverbal negation*. Elanguage, the Linguistic Society of America.

Givón, T. (1984). *Syntax: A functional-typological introduction*. Amsterdam; Phladelphia: John Benjamins Publishing Co.

Givón, T. (1990). *Syntax: A functional-typological introduction.* Vol. 2. Amsterdam: John Benjamins.

Goossens, L. (1985). Differentiating the English modals in functional grammar. Antwerp Studies in Functional Grammar. In J. Nyyts (Ed.), *Antwerp Papers in Linguistics* 39 (pp. 49-71). Antwerp: Universiteit Antwerpen.

Gotti, M. (2003). Shall and will in contemporary English: A comparison with past uses. In R. Facchinetti, M. Krug, and F. Palmer (Eds.), *Modality in contemporary English* (pp. 267-300). Berlin; New York: Mouton de Gruyter.

Haegeman, L. (2002). Anchoring to Speaker, adverbial clauses and the structure of CP. In: Mauck, S., & Mittelstaedt, J. (Eds.), *Georgetown University Working Papers in Theoretical Linguistics*, Vol. 2 (pp. 117–180).

Haegeman, L. M. V. (1997). *Elements of grammar :Handbook in generative syntax*. Dordrecht; Boston: Kluwer Academic Publishers.

Hanyu dazidian bianji weiyuanhui 漢語大字典編輯委員會. (2010). *Hanyu da zidian* 漢語大字典. 2nd ed. Chengdu: Sichuan cishu chubanshe 四川辭書出版社.

Harris, A. C., & Campbell, L. (1995). *Historical syntax in cross-linguistic perspective*. Cambridge: Cambridge University Press.

Hashimoto, M. J. (1973). *The Hakka dialect: A linguistic study of its phonology, syntax and lexicon*. Cambridge: Cambridge University Press.

He, H.-J. (1997). *Mood in Taiwanese: Negative modal markers bo^{5}, be^{7} and m^{7}*. Unpbulished master's thesis. Fu Jen Catholic University.

Heine, B., & Claudi, U. (1986). *On the rise of grammatical categories: Some examples from Maa*. Berlin: Reimer.

Heine, B., Claudi, U., & Hünnemeyer, F. (1991). *Grammaticalization:A conceptual framework*. Chicago: University of Chicago Press.

Heine, B., T. Kuteva. (2002). *World lexicon of grammaticalization*. Cambridge: Cambridge University Press.

Hengeveld, K. (1988). Illocution, mood, and modality in a functional grammar of Spanish. *Journal of Semantics*, *6.3*(4), 227-269.

Herburger, E. (2001). The negative concord puzzle revisited. *Natural Language Semantics*, *9*, 289-333.

Hofmann, T. R. (1976). Past tense replacement and the modal system. In J. D. McCawley (Ed.), *Syntax and semantics 7: Notes from the linguistic underground* (pp. 85-100). New York: Academic Press.

Hopper, P. (1991). On some principles of grammaticalization. In E. C. Taugott, & B. Heine (Eds.), *Approaches to grammaticalization*, Vol.1 (pp. 17-55). Amsterdam/New York: John Benjamins.

Hopper, P. J., & Traugott, E. C. (2003). *Grammaticalization* (2nd ed.). Cambridge, UK; New York, NY: Cambridge University Press.

Hsieh, C.-L. (2002). *Modal verbs in Chinese*. Unpublished doctoral dissertation. National Tsing Hua University.

Hsieh, M.-L. (2001). *Form and meaning: Negation and question in Chinese*. Unpublished doctoral dissertation. University of Southern California.

Hsin, A. (1999.) *Modality in Taiwan Southern Min*. Unpublished doctoral dissertation. National Tsing Hua University.

Hu, W, and Cheng Y. (1999-2003). (Eds.) *Yunlin xian minnanyu gushi ji* 雲林縣閩南語故事集 [Collection of Southern Min Folktales, Yunlin county]. Yunlin 雲林: Yunlin xian wenhuaju 雲林縣文化局.

Hu, W, Kang Y., and Cheng Y. (1994). (Eds.) *Zhanghua xian minjian gushi ji* 彰化縣民間文學集 [Collection of Folktale literacy, Zhanghua county]. Zhanghua 彰化: Zhanghua xian wenhuaju 彰化縣文化局.

Hu, W. (1993). (Ed.) *Shigang xiang minnanyu gushi ji* 石岡鄉閩南語故事集 [Collection of Southern Min Folktales, Township of Shigang]. Taizhong 台中: Zhongxian wenhua 中縣文化.

Hu, W. (1994). (Ed.) *Shalü zhen minnanyu gushi ji* 沙鹿鎮閩南語故事集 [Collection of Southern Min Folktales, Township of Shalü]. Taizhong 台中: Zhongxian wenhua 中縣文化.

Hu, W. (1996). (Ed.) *Qinshui zhen minnanyu gushi ji* 清水鎮閩南語故事集 [Collection of Southern Min Folktales, Township of Qinshui]. Taizhong 台中: Zhongxian wenhua 中縣文化.

Hu, W. (1998-1999). (Ed.) *Ta'an xiang minnanyu gushi ji* 大安鄉閩南語故事集 [Collection of Southern Min Folktales, Township of Da'an]. Taizhong 台中: Zhongxian wenhua 中縣文化.

Hu, W. (1999). (Ed.) *Fengshan shi minnanyu gushi ji* 鳳山市閩南語故事集 [Collection of Southern Min Folktales, Fengshan city]. Fengshan 鳳山: Fengshan shi wenhuaju 鳳山市文化局.

Hu, W. (2000). (Ed.) *Dongshi zhen minnanyu gushi ji* 東勢鎮閩南語故事集 [Collection of Southern Min Folktales, Township of Dongshi]. Taizhong 台中: Zhongxian wenhua 中縣文化.

Hu, W. (2001). (Ed.) *Miaoli xian minnanyu gushi ji* 苗栗縣閩南語故事集 [Collection of Southern Min Folktales, Miaoli county]. Miaoli 苗栗: Miaoli xian wenhuaju 苗栗縣文化局.

Hu, W. (2001). (Eds.) *Tainan xian minjian gushi ji* 臺南縣閩南語故事集 [Collection of Folktale literacy, Tainan county]. Tainana 台南: Tainan xian wenhuaju 台南縣文化局.

Hu, W. (2003). (Ed.) *Nantou xian fulao gushi ji* 南投縣福佬故事集 [Collection of Southern Min Folktales, Nantou county]. Nantou 南投: Nantou xian wenhuaju 南投縣文化局.

Hu, W., and Huang, C. (1995). (Eds.) *Dajia zhen minnanyu gushi ji* 大甲鎮閩南語故事集 [Collection of Southern Min Folktales, Township of Dajia]. Fengyuan 豐原: Zhongxian Wenhua 中縣文化.

Hu, W., and Huang, C. (1997). (Eds.) *Xinshe xiang minnanyu gushi ji* 新社鄉閩南語故事集 [Collection of Southern Min Folktales, Township of Xinshe]. Taizhong 台中: Zhongxian wenhua 中縣文化.

Hu, W., Wang, Z., and Zhang Y. (1998). (Eds.) *Waipu xiang minnanyu gushi ji* 外埔鄉閩南語故事集 [Collection of Southern Min Folktales, Township of Waipu]. Taizhong 台中: Zhongxian wenhua 中縣文化.

Huang, H.-Y. (2009). *The reinvestigation of the so-called Taiwanese postverbal negation [V u/bo 'have/not-have' NP]*. Unpublished master's thesis. National Tsing Hua Universtiy.

Huang, Y.-Z. (2007). *A study of Taiwanese modality e and its derived compounds*. Unpublished master's thesis. National Hsinchu University of Education.

Ji, M. (2007). *A synchronic and diachronic study of Chinese left periphery: Sentential adverbs, mood particles and complementizers*. Unpublished doctoral dissertation, Arizona State University.

Kayne, R. (1994). *The antisymmetry of syntax*. Cambridge, MA: The MIT Press.

Klinge, A. (2005). When there is a will, there is a modal. In A. Klinge, & H. H. Müller (Eds.), *Modality: Studies in form and function* (pp. 169-186). London: Equinox.

Kratzer, A. (1977). What 'must' and 'can' must and can mean. *Linguistics and philosophy*, 1, 337-355.

Kratzer, A. (1978). *Semantik der rede*. Königstein: Scricripor.

Langacker, R. (1977). Syntactic reanalysis. In C. N. Li (Ed.), *Mechanisms of Syntactic Change* (pp. 57-139). Austin, London: University of Texas Press.

Larson, R. K. (1988). On the double object construction. *Linguistic Inquiry*, 19, 335-391.

Lehmann, C. (1982). *Thoughts on Grammaticalization. A programmatic Sketch*. Vol. 1. Arbeiten des Kölner Universalien-Projekts, Nr. 48.

Lehmann, C. (1986). Grammaticalization and language typology. *General Linguistics, 26*(1), 3-23.

Lehmann, C. (1995). *Thoughts on grammaticalization*. Munchen: LINCOM Europa.

Li, B. (2006). *Chinese final particles and the syntax of the periphery*. Doctoral dissertation, University of Leiden.

Li, C. N., & Thompson, S. A. (1981). *Mandarin Chinese :A functional reference grammar*. Berkeley: University of California Press.

Li, C. N., R. M. Thompson, & S. A. Thompson. (1982). The Discourse Basis of the Perfect Aspect: The Mandarin Particle *le.* In P. J. Hopper (Ed.), *Tense and Aspect* (pp. 19-44). Amsterdam: John Benjamins.

Li, M. (1999). *Negation in Chinese*. Unpublished doctoral dissertation, University of Manchester.

Li, R. (2003). *Modality in English and Chinese: A typological perspective*. The University of Antwerp, Belgium.

Li, R. 李如龙. (2007). *Minnan fangyan yufa yanjiu* 闽南方言语法研究. Fuzhou: Fujian renmin chubanshe 福建人民出版社.

Lien, C. (1997). Aspects of the Evolution of tit in Taiwanese Southern Min. In C. F. Sun (Ed.) *Studies on the History of Chinese Syntax* (pp. 167-190). Journal of Chinese Linguistics Monograph Series 10. Project on Linguistic Analysis. University of California at Berkeley.

Lien, C. (2001). The semantic extension of *tioh*[8] in Taiwanese Southern Min: A construction –based account. *Language and Linguistics, 2*(2), 173-202.

Lien, C. (2003). Coding causatives and putatives in a diachronic perspective. *Taiwan Journal of Linguistics*, 1, 1-28.

Lien, C. (2005). Phonological and Lexical Strata in Taiwanese Southern Min. In D.-A. Ho, & Tzeng, O. J. L. (Eds.), POLA FOREVER Festschrift in Honor of Professor William S-Y. Wang on his 70the Birthday. *Language and Linguistics Monograph Series Number W-3* (pp. 195-225). The Institute of Linguistics, Taipei: Academia Sinica.

Lien, C. (2008). *An analysis of the desiderative modals and negatives in Taiwan Southern Min: Competion and change*. Paper presented at the International Symposium on Dialects in South-East China: Diachronic Change and Language Contact. Hong Kong, The Chinese University of Hong Kong.

Lien, C. (2010). The evolution of a family of the *Tit*[4] constructions in Southern Min. paper presented at *The 12th International Symposium on Chinese Languages and Linguistics* (IsCLL-12). Taipei, Taiwan.

Lien, C. 連金發. (2006). Verb classification, Aktionsart, and constructions in the *Li Jing Ji*. *Languages and Linguistics, 7*(1), 27-61.

Lieu, Y.-H. 劉英享. (2000). *A study of Tungshih Hakka modality: With particular reference to grammaticalization of oi and voi* 東勢客家話情態詞研究—並以「愛」與「會」為例談語法化. Unpublished master's thesis. National Tsing Hua University.

Lightfoot, D. (1979). *Principles of diachronic syntax*. Cambridge; New York: Cambridge University Press.

Lightfoot, D. (1999). *The development of language: Acquisition, change and evolution*. Oxford: Blackwell.

Lightfoot, D. (2006). *How new languages emerge*. Cambridge, UK: Cambridge University Press.

Lin, H.-L. (2004). Lexical vs. Syntactic Negation in Taiwanese. *Concentric: Studies in Linguistics* (Taiwan), *30*(1), 107-128.

Lin, J. (2004). *Event structure and encoding of arguments: The syntax of the Mandarin and English verb phrase*. Unpublished doctoral dissertation, MIT.

Lin, J.-W. (2003). Aspectual selection and negation in mandarin chinese. *Linguistics, 41*(3), 425.

Lin, S.-F. (1974). Reduction in Taiwanese A-not-A questions. *Journal of Chinese Linguistics*, 2, 37-78.

Liu, L.-C. (2003). *The diachronic development of hui* 情態詞會的歷史演變. Unpublished master's thesis. Providence University.

Lo, S.-G. 羅肇錦. (1988). *Keyu yufa* 客語語法 [*Hakka grammar*]. 2nd rev. Taipei: Student Publishing .

Lü, K.-C. 盧廣誠. (2003). *Taiwan Minnanyu gaiyao* 台灣閩南語概要. Taipei: SMC Publishing 南天書局.

Lui, H. (2004). *Complex predicates in Mandarin Chinese: Three types of bu-yu structures*. Unpublished doctoral dissertation. The University of California at Los Angeles.

Lyons, J. (1977). *Semantics*, Vol. 2. Cambridge : Cambridge University Press.

Ma, B. (2002). *Early modern Mandarin prepositions*. Beijing: Zhong hua Book Co.

Mei, T.-L. 梅祖麟. (1988). The source of the three functional uses of ZHE in Sinitic Languages 漢語方言裡虛詞「著」字三種用法的來源. *Journal of Chinese Linguistics* 中國語言學報, 3, 193-216.

Mei, T.-L. 梅祖麟. (1999). A perfective construction in Pre-Qin and Han eras: Origin of modern Chinese perfectives 先秦兩漢的一種完成貌句式—兼論現代漢語完成貌句式的來源. *Zhongguo yuwen* 中國語文, 4, 285-294.

Miestamo, M. (2005). *Standard negation: The negation of declarative verbal main clauses in a typological perspective*. Berlin; New York: Mouton de Gruyter.

Newmeyer, F. J. (1998). *Language form and language function*. Cambridge, MA: The MIT Press.

Norman, J. (1988). *Chinese*. Cambridge/New York: Cambridge University Press.

Norman, J., & W. S. Coblin (1995). A new approach to Chinese historical linguistics. *Journal of the American Oriental Society*, *115*(4)576-584.

Nuytes, J. (2006). Modality: Overview and linguistic issues. In W. Frawley (Ed.), *The Expression of Modality* (pp. 1-26). Berlin/New York: Mouton de Gruyter.

Nuyts, J. (2005). The modal confusion: on terminology and the concepts behind it. In A. Klinge, & H. H. Müller (Eds.), *Modality: Studies in form and function* (pp. 5-38). London: Equinox.

Ouhalla, J. (1990). Sentential negation, relativized minimality and the aspectual status of auxiliaries. *The Linguistic Review*, 7, 183-231.

Oxford English Dictionary. (2012). Online version.

Palmer, F. (1974). *The English verbs*. London: Longman.

Palmer, F. (1986). *Mood and Modality*. Cambridge: CUP.

Palmer, F. (1990). *Modality and the English modals*. London: Longman Group UK Limited.

Palmer, F. (2003). Modality in English. In R. Facchinetti, M. Krug, & F. Palmer (Eds.), *Modality in contemporary English* (pp. 1-17). Berlin; New York: Mouton de Gruyter.

Palmer, F. R. (2001). *Mood and modality* (2nd ed.). Cambridge, U.K.; New York: Cambridge University Press.

Pan, W. 潘悟云. (2002). On the etymology of Chinese negative words 汉语否定词考源：兼论虚词考本字的基本方法. *Zhongguo Yuwen* 中国语文, *289*(4), 302-309.

Paul, W. (2005). Low IP area and left periphery in Mandarin Chinese. *Recherches linguistiques de Vincennes*, 33, 111-133.

Payne, J. (1985). Negation. In T. Shopen (Ed.), *Language typology and syntactic description* (pp. 197-242). Cambridge: Cambridge University Press.

Pollock, JY. (1989). Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry*, *20*(3), 365-424.

Portner, P. (2007). *What is meaning: Fundamentals of formal semantics*. MA: Blackwell.

Pulleyblank, E. G. (1995). *Outline of Classical Chinese grammar*. Vancouver: UBC Press.

Rizzi, L. (1997). The fine structure of the left periphery. In L. Haegemen (Ed.), *Elements of grammar* (pp. 281-337). Dordrecht: Kluwer.

Rizzi, L. (2001). On the position 'Int(errogative)' in the Left Periphery. *In* G. Cinque, & G. Salvi (Eds,), *Current studies in Italian syntax: Essays offered to Lorenzo Renzi* (pp. 286–296). New York: Elsevier.

Rizzi, L. (2004). Locality and the left periphery. In A. Belletti (Ed.), *Structures and beyond: The cartography of syntactic structures*. New York: Oxford University Press.

Rizzi, L. (2004). *The structure of CP and IP*. The cartography of syntactic structures, vol. 2, Oxford; New York: Oxford University Press.

Rizzi, L., & Cinque, G. (2009). *The cartography of syntactic structures*. Ms. University of Venice and University of Siena.

Roberts, I. G., & Roussou, A. (2003). *Syntactic change :A minimalist approach to grammaticalization*. Cambridge, U.K.; New York: Cambridge University Press.

Roussou, A. (2000). On the left periphery. Modal particles and complementizers. *Journal of Greek Linguistics*, 1, 65–94.

Sagart, L. (1999). *The roots of Old Chinese*. Amsterdam; Philadelphia: John Benjamins Pub. Co.

Salkie, R., Busuttil, P., & van der Auwera, J. (2009). *Modality in English:Theory and description*. Berlin; New York: Mouton de Gruyter.

Shi, Y. (2002). *The establishment of Modern Chinese Grammar*: *The formation of the resultative construction and its effects*. Amsterdam/Philadelphia: John Benjamins.

Shi, Y., & Li, C. (2004). *A history of grammaticalization in Chinese*. Beijing, China: Peking University Press.

Smith, N. (2003). Changes in the modals and semi-modals of strong obligation and epistemic necessity in recent British English. In R. Facchinetti, M. Krug, & F. Palmer (Eds.), *Modality in contemporary English* (pp. 241-266). Berlin; New York: Mouton de Gruyter.

Stewart, O. (2001). T*he serial verb construction*. New York: Garland.

Sun, C. (1996). *Word-order change and grammaticalization in the history of chinese*. Stanford, CA: Stanford University Press.

Sun, C. (1998). Aspectual categories that overlap: A historical and dialectal perspective of the Chinese ZHE. *Journal of East Asian Linguistics*, *7*(2), 153-174.

Sun, C. (2006). *Chinese: A Linguistic Introduction*. Cambridge, England: Cambridge University Press.

Sybesma, R. P. E. (1999). *The mandarin VP*. Dordrecht, Netherlands; Boston: Kluwer Academic Publishers.

Tai, J. H.-Y., & M. Chan. (1998). Some reflections on the periodization of the Chinese language. In A. Peyraube, & C. F. Sun (Eds.), *Studies in Chinese Historical Syntax and Morphology: Linguistic Essays in Honor of Mei Tsu-lin* [Collection des Cahiers de Linguistique d'Asie Orientale] (pp. 223-239). Paris: Ecole des Hautes Etudes en Sciences Sociales.

Tang, T.-C. (1994). On the semantics and syntax of negatives in Southern Min. *Studies on Chinese Morphology and Syntax* 5, 119-169. Taipei: Student Book Co., Ltd.

Teng, S.-H. (1978). Negation in Chinese. *Journal of the American Oriental Society*, *98*(1), 50-60.

Teng, S.-H. (1992). Diversification and unification of negation in Taiwanese. *Symposium Series of the Institute of History and Philology Academia Sinica. Chinese Languages and Linguistics I* (pp. 609-629). Taipei: Academia Sinica.

Teng, Y.-H. (1995). *The Situation Types of Taiwanese Sentences and Their Relations with Perfective Aspect*. Unpublished master's thesis. National Tsing Hua University.

Ting, J. (2003). The nature of the particle *suo* in Mandarin Chinese. *Journal of East Asian Linguistics*, 12, 121-139.

Ting, J. (2006). NegP and the particle *suo* in Mandarin Chinese. *Concentric: Studies in Linguistic*s, *32*(2), 71-92.

Traugott, E. C. (1972). *A history of English syntax: A transformational approach to the history of English sentence structure*. New York: Holt, Rinehart and Winston.

Traugott, E. C. (2006). Historical aspect of modality. In W. Frawley (Ed.), *The Expression of Modality* (pp.107-139). Berlin; New York: Mouton de Gruyter.

Travis, L. (2005). P-internal structure in a VOS language. In A. Carnie, H. Harley, & S. A. Dooley (Eds.), *Verb First: On the syntax of verb-initial languages* (pp. 203-224). Amsterdam: John Benjamins.

Travis, L. (2010). *Inner aspect: The articulation of VP*. Series: Studies in Natural Language and Linguistic Theory, Vol. 80. Springer.

Tsai, W.-D. (2008). Left periphery and how-why alternations. *Journal of East Asian Linguistics, 17*(2), 83.

Tsangalidis, A., Facchinetti, R., & Palmer, F. R. (2009). *Studies on English modality:In honour of Frank Palmer*. Bern, Switzerland; New York: Peter Lang.

Tsao, F.-F., & Cheng, Y. (1995). Five uses of *u* in Southern Min and their relationship. *Zhongguo Yuwen Yanjiu*, 11, 155-167.

van der Auwera, J. (2010). On the diachrony of negation. In L.R. Horn (Ed.), *The Expression of negation* (pp. 73-101). Berlin: Mouton.

van der Auwera, J., & Plungian, V. (1998). Modality's semantic map, *Linguistic Typology*, 2, 79-124.

van Gelderen, E. (2004). *Grammaticalization as economy*. Amsterdam; Philadelphia: John Benjamins Pub.

van Gelderen, E. (2008). Negative cycles. *Linguistic Typology*, *12*(2), 195–243.

van Gelderen, E. (2009a). Features in reanalysis and grammaticalization. In E. Traugott, & G. Trousdale (Eds), *Gradience, gradualness, and grammaticalization* (pp. 129-147). Amsterdam: John Bengamins.

van Gelderen, E. (2009b). Grammaticalization from a biolinguistic perspective. In R. Botha, & C. Knight (Eds.), *The prehistory of language,* Vol. 1 (pp. 225-243). Oxford: Oxford University Press.

van Gelderen, E. (2011). *The linguistic cycle: Language change and the language faculty*. New York: Oxford University Press.

van Gelderen, E. (2012; in progress). *The minimalist clause*. Cambridge: Cambridge University Press.

Verplaetse, H. (1999). The expression of volition in political interviews reconsidered. *Belgian Essays on Language and Literature* (BELL) (pp. 91-117).

Verplaetse, H. (2003). What you and I want: A functional approach to verb complementation of modal *want to*. In R. Facchinetti, M. Krug, & F. Palmer (Eds.), *Modality in contemporary English* (pp. 151-189). Berlin; New York: Mouton de Gruyter.

von Wright, G. H. (1951). *Deontic logic*. Mind, New series. 60(237), 1-15.

Wang, C.-A. (2010). *The microparametric syntax of resultatives in Chinese languages*. Unpublished doctoral dissertation. New York University.

Wang, L. 王力. (2000). *Wangli gu hanyu cidian* 王力古漢語字典. Hong Kong: Chung Hwu Book Co 中華書局.

Wang, P.-Y., & Lien, C. (2001). A-Not-A questions in Taiwanese Southern Min. *Journal of Chinese Linguistics*, *29*(*2*), 350-376.

Wang, Y.-Y. (2008). Postverbal Negation in Taiwanese. Paper presented at *the 11th International Symposium on the Chinese Languages and Linguistics*. National Chiao Tung University, Taiwan.

Wei, P.-C. 魏培泉. (2007). From negatives to interrogatives 從否定詞到疑問助詞. *The Bulletin of Chinese Linguistics* 中國語言學集刊, *1*(2), 23-57.

Wei, P.-C. 魏培泉. (2010). The origin of the *shifou*-V(N)P construction 是否-V(N)P 句式的由來. *Language and Linguistics* 語言暨語言學, *11*(2), 335-392.

Whaley, L. (1997). *Introduction to Typology: The unity and diversity of language*. London: SAGE.

Wu, C.-H. T. (2004). On *de*/*bu* and the syntactic nature of resultative verb compounding. *Language and Linguistics*, *5*(1): 271-329.

Wu, C.-W. (2009). *The unified analysis of Taiwanese negation markers.* Unpublished master's thesis. National Chiao Tung Univeristy.

Wu, F. 吴福祥. (2004a). *Zhuzi yulei* jilüe *yufa yanjiu* 朱子语类辑略语法研究. Kaifeng: Henan daxue chubanshe 河南大学出版社.

Wu, F. 吴福祥. (2004b). *Duanhuang bianwen shier zhong yufa yanjiu* 敦煌变文 12 种语法研究. Kaifeng: Henan University Press 河南大学出版社.

Wu, F. 吴福祥. (2006). *Yufahua yu hanyu lishi yufa yanjiu* 语法化与汉语历史语法研究 [*Grammaticalization and Studies in Chinese historical syntax*]. Anhui: Anhui jiaoyu Publishing 安徽教育出版社.

Wu, Z. X. (2004). *Grammaticalization and language change in Chinese : A formal view*. London; New York: Routledge Curzon.

Xiandai hanyu da cidian bianweihui 现代汉语大词典编委会. (2010). *Xiandai hanyu da cidian*. Shanghai : Shanghai cishu chubanshe 上海辞书出版社.

Xing, J. Z. (2003). *Grammaticalization of verbs in mandarin Chinese*. Muenchen: Lincom Europa.

Xu, S. (2003). On the evolution of the negative "*mei*" and "*mei you*". *Journal of Huzhou Teachers College* (China), *25*(1), 1-6.

Xu, S. 許慎. (1969). *Shuowen jiezi* 說文解字. Taibei: Shangwu yinshuguan 商務印書館.

Yang, H.-F. (2001). The forms and meaning of the word JIE: A historical perspective. *Language and linguistics*, *2*(2), 261-297.

Yang, H.-F. 楊秀芳. (1991). *Taiwan minnanyu yufa gao*. 台灣閩南語語法稿 [*The grammar manuscripts of Taiwanese Southern Min*]. Taipei: Da-an Publishers 大安書局.

Yang, H.-F. 楊秀芳. (1992). A historical linguistics perspective on Southern Min *tioh* and continuous aspect 從歷史語法的觀點論閩南語著及持續貌. *Hanxue yanjiu* 漢學研究 [*Chinese Studies*], *10*(1), 349-394.

Yang, H.-L. (2006). *Grammaticalization of the Chinese morpheme bei: Using synchronic and diachronic corpora*. Unpublished master's thesis. Arizona State University.

Yu, S.-I. S. (2002). *Fuzhou Negatives: Morphosyntactic and Semantic Analysis*. Unpublished master's thesis, National Tsing Hua University.

Yu, S.-I. S. (2007). *Semantics of modal verbs in Chinese: A dialectal perspective*. Unpublished doctoral dissertation. National Tsing Hua University.

Zhang, Z.-X. (1999). *A Preliminary Study of Modal Verbs in Southern Min*. Unpublished master's thesis. National Taiwan Normal University.