Negation and Aspect: A comparative study of Mandarin and Cantonese varieties

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Chit Yu Lam

Section of Theoretical and Applied Linguistics

Hughes Hall

University of Cambridge

This dissertation is submitted for the degree of Doctor of Philosophy

September 2018

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In negative declaratives without aspectual marking (bare negatives), Chapter 2 shows that where a variety has more than one standard negator, the distribution of the negators mostly creates systematic semantic contrast instead of any grammaticality consequence: Mandarin *méiyǒu,* Hong Kong Cantonese *mou5* and Gaozhou Cantonese *mau5* consistently offer a situation non-existent reading, while Mandarin *bù* and Hong Kong Cantonese *m4* always involve a modality reading (habitual or volitional). Based on the relative distribution of negation and different types of adverbs, Chapter 4 suggests that all standard negators in the four Chinese varieties are generated in the outermost specifier of *v*P. The uniformity in negator position challenges previous accounts that *méiyǒu* and *mou5* are higher in Asp, and urges a rethinking of the nature of these negators. Following Croft's (1991) Negative-Existential Cycle and supported by corpus data from Taiwan Mandarin, the chapter demonstrates that *méiyǒu, mou5* and *mau5* are standard negators developed from the negative existential predicate (non-existence of entities) and have now extended their function to verbal negation (non-existence of situations). Therefore, *méiyǒu* and *mou5* as negative-existential-cum-verbal-negators consist of negation and the existential quantifier, whereas, *bù* and *m4* receive their modality interpretation by being the negative form of the generic operator (Gen) (Chierchia

1995). The compatibility between these two classes of negators and different situation types is accounted for by the presence/absence of a habituality feature ([Hab]) on V: the presence of [Hab] licenses Neg-Gen (i.e. *bù* or *m4*), and its absence licenses Neg-∃ (i.e. *méiyǒu* or *mou5*).

When overt aspectual marking is present, Chapter 3 shows that *bù* and *m4* are incompatible with aspectual marking across the board, while *méiyǒu, mou5* and *mau5* are only compatible with experiential aspect; the incompatibility is found weaker with imperfective aspects. With a review of existing proposals for the negation-aspect compatibility, Chapter 5 argues that the sensitivity to aspect is stemmed from the exceptionally low position of the aspectual markers in V, hence the featural composition of the aspectual markers will determine their compatibility with negation. Precisely, the aspectual markers are argued to encode definiteness (*a la* Ramchand 2008a, b) and only indefinite aspects are compatible with negation involving *méiyǒu, mou5* or *mau5* since definite aspects impose existential presupposition on the predicates which clashes with the non-existence semantics of the negators. *Bù* and *m4,* on the other hand, are not compatible with any aspectual marking in standard negation, as the aspectual marker on V prohibits the presence of [Hab] feature which the generic operator in *bù* and *m4* probes for. Therefore, the Chinese varieties display a typologically distinct type of definiteness encoding, where definiteness is not encoded by articles or case morphology in the nominal system, but realised in the verbal domain as aspectual distinctions.

The dissertation therefore resolves the well-known Chinese negation puzzle with novel generalisations based on systematic, original comparative synchronic and diachronic data, which contribute important empirical and theoretical implications to Chinese linguistics and beyond, particularly regarding the clausal-nominal parallel.

Declaration

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text.

It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. I further state that no substantial part of my dissertation has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text.

It does not exceed the prescribed word limit for the relevant Degree Committee.

Word count: 79989

Cherry Lam, September 2018

Acknowledgements

The whole idea of this project started with a telephone conversation I overheard several years back. The conversation was between my friend (my mother's student) and her mother in their home variety of Cantonese, which (surprisingly) I failed to decipher. Curiosity brought me to explore the syntactic workings of that variety which ultimately marked the birth of this project on negation in Mandarin and Cantonese varieties.

I am truly grateful to my supervisors, Ian Roberts and David Willis. They have been the perfect and the kindest pair of supervisors that anyone could ask for. Ian has always allowed me with the greatest independence to probe into topics that puzzles me, while also carefully guides me through the maze so that I won't lose track to my ultimate targets. His patience and openness, and his wealth of knowledge have provided me with constant support in this journey. David has been most thoughtful and supportive in the entire process of the project, from the design of the methodology, to the interpretation of the data, to the shaping of my analysis. I am fortunate to have David here to discipline me to 'just start writing(!)' when I so wanted to procrastinate about it, and to encourage me whenever my self-confidence wavers. Thank you so much, Ian and David! Your understanding and tireless guidance have made this journey bump-free and full of joy.

There are two teachers from the University of Hong Kong to thank for making this Cambridge experience possible, Adams Bodomo and Janny Leung. Adams is my first syntax teacher back in my undergraduate times. He patiently 'directed' me to see the wonders of the abstract structure of sentences, and firmly encouraged me to apply for graduate school in Cambridge. Janny, my BA thesis supervisor and a Cambridge alumnus herself, has provided me with great support and confidence in making that important application. I am grateful to both for their trust in my ability and their sensible advice.

I also wish to thank other linguists who have generously shared their ideas with me and enriched my work at various stages. In Cambridge, I would like to thank my advisor, Theresa

Biberauer for her constant enthusiasm in my research and perceptive feedback on my work (even very sketchy ones); her endless energy, her passion for the subject, and her kindness and generosity, have given me a great motivation to move forward. I have also been greatly indebted to the inspiring academic discussions with Freddy Xuhui Hu, Alison Biggs, Jamie Douglas, Tam Blaxer (who also helped me a lot with statistics), Julio Song, Jim Baker, Oliver Mayeux, Yingjie Lan, Alice Corr, and Kari Kinn. Abroad, I thank Stephen Matthews (my teacher from HKU), Meichun Liu, Elly van Gelderen, and Ljuba Veselinova for their great interest in and useful feedback on my work on negative cycle in Chinese. Last but not least, I am truly grateful to my examiners, Adam Ledgeway and Lisa Cheng (from Leiden), for their patient reading, thorough understanding and inspiring discussion of my thesis.

This dissertation would remain a wild idea without the contribution of my participants, most of them are good friends of mine and their connections. Though I cannot name them all, I would like to thank the following groups of friends for being so helpful in my pilot studies and/or in recruiting speakers for my questionnaires. For Mandarin data, I thank Wenlei Shi, Alim Tusan, Mengying Chris Xia, Wenzhe Yang, and Yanyu Guo for their contributions to the Beijing variety; and Margaret Lee, Jiaqi Yu, Amy Hsieh, and Natasha Huang for their help with the Taiwan Mandarin data. For Cantonese, Irene Lam, Phoebe Lee, Carrie So, Selina Ng, Polly Ching, Ricky Chan, Stephanie Ho, and Helen To have helped me a lot with the Hong Kong Cantonese data; and my friend Zhu Lin and her parents who have worked selflessly in facilitating my data collection for Gaozhou Cantonese and Junshao Zhang for sharing his pioneer work on language documentation in Gaozhou. The Lins have not only been wonderfully hospitable during my field trip in Gaozhou but have also devoted so much effort in contacting their friends and relatives for my questionnaire. 叔叔、阿姨，謝謝你們這四年來不辭勞苦地為我的論文奔波，多次為我的問卷花了不少時間精力。你們的支持和信任我畢生感激！

Life in Cambridge has been so much more than writing a dissertation. I am lucky to have an amazing bunch of friends who have kept me company through ups and downs, and have filled this journey with laughter, excitement and enlightenment of all sorts! I thank Abhimanyu Sharma for his regular dissemination of witty and not-so-witty jokes that have surely

brightened up my days when cheering up is most needed; Geraldine Kwek, Jamie Douglas, Dimitrios Alikaniotis, Giulia Bovolenta, Kayeon Yoo, and Valentina Colasanti for being wonderful teammates in LingSoc and for building up my confidence to socialise (Jamie, particularly, has effectively 'taught' me the importance of pub visits). I thank Giulia Bovolenta, Elspeth Wilson, Mengying Chris Xia, Alim Tusan, Carla Pastorino Campos, Yan Huang, and Pallawi Sinha for some of the best memories I have in Cambridge, from the many hearty lunch+tea/coffee+snack+dinner breaks at the EFB kitchen to deep and thought-provoking conversations/debates about religion and politics in the office. I also wish to thank my two MPhil buddies, Irene Plank and Damar Hoogland for being the best travel mates, and Irene for making our annual reunions possible and so much fun. Last but surely not the least, I thank my friends from home — Irene, Polly, Selina, Carrie, Jenny, and Phoebe — for staying by my side and encouraging me all along, when I am abroad and home.

Finally, I would like to give my greatest and deepest thanks to my mother. She has always been my tower of strength and font of wisdom, my role model, my mentor, and my best friend for life! Without her understanding and her perseverance during these four years, I could never have accomplished any of this. Thank you so much, mom, for everything! This dissertation is for you.

Abstract

This dissertation examines the interaction between standard negation and aspect in Chinese under two conditions: bare negation showing negation-situation type compatibility, and negation with overt aspectual marking. The comparative study of Beijing Mandarin, Taiwan Mandarin, Hong Kong Cantonese, and the previously unstudied Gaozhou Cantonese demonstrates that the aspectual sensitivity of negation is governed by more general structural properties than idiosyncratic aspectual selection requirements of the negators.

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When overt aspectual marking is present, Chapter 3 shows that *bù* and *m4* are incompatible with aspectual marking across the board, while *méiyǒu, mou5* and *mau5* are only compatible with experiential aspect; the incompatibility is found weaker with imperfective aspects. With a review of existing proposals for the negation-aspect compatibility, Chapter 5 argues that the sensitivity to aspect is stemmed from the exceptionally low position of the aspectual markers in V, hence the featural composition of the aspectual markers will determine their compatibility with negation. Precisely, the aspectual markers are argued to encode definiteness (*a la* Ramchand 2008a, b) and only indefinite aspects are compatible with negation involving *méiyǒu, mou5* or *mau5* since definite aspects impose existential presupposition on the predicates which clashes with the non-existence semantics of the negators. *Bù* and *m4,* on the other hand, are not compatible with any aspectual marking in standard negation, as the aspectual marker on V prohibits the presence of [Hab] feature which the generic operator in *bù* and *m4* probes for. Therefore, the Chinese varieties display a typologically distinct type of definiteness encoding, where definiteness is not encoded by articles or case morphology in the nominal system, but realised in the verbal domain as aspectual distinctions.

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Abbreviations

This dissertation adopts the following non-Leipzig glosses:

CL	Classifier
CONT	Continuous aspect
CPL	Completive aspect
EXP	Experiential aspect
IMPFV	Imperfective aspect
MOD	Modal auxiliary
PRO	Pronominal
SFP	Sentence-final particle

BM	Beijing Mandarin
TM	Taiwan Mandarin
HKC	Hong Kong Cantonese
GZC	Gaozhou Cantonese
Mand.	Mandarin (unclassified)
†	data retrieved from field recordings

Contents

Chapter 1

Introduction

1.1 Introduction

One of the oldest puzzles that remains open in Chinese syntax is the distribution of negation. In contemporary Mandarin Chinese, there are two productive negators, *bù* 'not' and *méi(yǒu)* 'not (have)'. It is generally believed that *méi(yǒu)* is the negator for perfective sentences, while *bù* is the general or neutral negator that applies to all other circumstances. This idea is widely assumed for other Chinese varieties as well. However, great controversy persists with regard to why such a connection between negation and aspect, particularly perfectivity, should exist in Chinese, and the question of whether this connection sheds any light on the emergence of such a system of two negators in Mandarin is little explored. These are the central issues that this dissertation aims to address. In this dissertation, I will systematically re-examine the relation between negation and aspect which is crucial in resolving the negation puzzle in contemporary Chinese. At the same time, the investigation extends to a previously unexplored variety of Cantonese spoken in Gaozhou, a county in the southwestern part of Guangdong Province, China (see Map C2 in Appendix C for the geographical location of Gaozhou). Gaozhou Cantonese presents a system of negation with only one standard negator *mau5* 'not', which may sound familiar from an Indo-European perspective but greatly challenges the established picture of Chinese negation, one involving a 'not'-'not have' division. This study also devotes considerable attention to the diachronic development of this 'not have' negator in the history of Chinese, which not only shows how such a negator emerged in history, but also has important implications about the connection that negation has with non-existence which prompts a reconsideration of the received understanding of Chinese negation.[1]

[1] All Mandarin examples are romanised using Hanyu Pinyin, and all Cantonese examples with Jyutping. Tones are marked on Chinese words mentioned in textual discussions and tables, but not in examples or trees.

In the rest of this chapter, I will first sketch out the central puzzle of negation that a considerable amount of literature has attempted to solve. This puzzle presents important observations which draw ties between negation and aspect. Sections 1.3 and 1.4 will present the scope of this thesis. In section 1.3, I will introduce the four Chinese varieties to be investigated in the rest of the study, namely, two Mandarin varieties — Beijing Mandarin (BM), Taiwan Mandarin (TM) — and two Cantonese varieties — Hong Kong Cantonese (HKC) and Gaozhou Cantonese (GZC). Section 1.4 will state the focus of this dissertation in terms of the kind of negative structure to be examined, which in this case is standard negation; the concept of 'standard negation' will be defined there. Section 1.4 will also explain the method I use to approach the issue, particularly in terms of the data used and the acceptability annotations employed in the rest of the thesis. Section 1.5 will provide a brief account of the clause structure of Chinese which forms the groundwork for the structural analysis in later chapters. Finally, section 1.6 lays out the structure of the thesis.

1.2 The Chinese negation puzzle

What is well-known as the (Mandarin) Chinese negation puzzle can be presented as follows:

(1) Affirmative:

a. 我買書

wo *mai* *shu*

I buy book

'I buy books.' (Mand.; Wang 1965)

Negative:

b. 我不買書

wo ***bu*** *mai* *shu*

I **not** buy book

'I do not buy books.' (Mand.; ibid.)

(2) Affirmative:

a. 我買了書

wo *mai-le* *shu*

I buy-PFV book

'I bought books.' (Mand.; ibid.)

Negative:

b. *我不買了書

wo** **bu** *mai-**le *shu*

I **not** buy-**PFV** book

Intended: 'I did not buy books.' (Mand.; ibid.)

c. *我沒有買了書

wo** ***mei-you *mai-**le*** *shu*

I **not-have** buy-**PFV** book

Intended: 'I did not buy books.' (Mand.; ibid.)

d. 我沒有買書

wo ***mei-you*** *mai* *shu*

I **not-have** buy book

'I did not buy books.' (Mand.; ibid.)

(3) Affirmative:

a. 我買過書

wo *mai-guo* *shu*

I buy-EXP book

'I have bought books (before).' (Mand.; ibid.)

Negative:

b. *我不買過書

wo** **bu** *mai-**guo *shu*

I **not** buy-**EXP** book

Intended: 'I have not bought books (before).' (Mand.; ibid.)

c. 我沒有買過書

wo	***mei-you***	*mai-**guo***	*shu*
I	**not-have**	buy-**PFV**	book

'I have not bought books (before).' (Mand.; ibid.)

In the first example, the simple verbal declarative stands without any aspect marking (henceforth 'bare sentence'; a.k.a. 'plain sentence' in Wang 1965). The default negative form is to insert *bù* 'not' in the position immediately preceding the verb (1b); the meaning is the reverse of what the proposition in the affirmative asserts in (1a), i.e. the denial that the speaker buys books. The other two examples show aspect-marked sentences in their affirmative and negative forms. The affirmative sentence in (2a) is marked as perfective by the postverbal marker *le.* Naturally, if *bù* is the general or default negator in Mandarin, one would expect (2b) to be the negative form, but this is false. Alternatively, *méi(yǒu)* 'not have', also a productive negator in Mandarin considered to be specialised for perfective context, could be inserted into the sentence, as in (2c), but the sentence is still ill-formed, unless the perfective marker *le* is omitted, as in (2d). In a similar vein, the affirmative sentence in (3a) is also marked as perfective, this time by the experiential marker *guo. Bù* is again regarded as inappropriate, (3b), but contrary to the case in (2c), *méi(yǒu)* can, and indeed needs to, appear with the experiential *guo* as in (3c).

This negation puzzle establishes the fact that *bù* and *méi(yǒu)* are both standard negators — the functional items that are applicable to the most basic clausal construction to reverse the truth value of the proposition the clause expresses (see section 1.4.1 for more discussion on 'standard negation') — in Mandarin. However, it presents two issues as well: first, there seems to be a neat system wherein the distribution of the negators is conditioned by the presence of aspect markers. Contrasting example (1) with (2-3), *bù* fails to perform its negator function when an affirmative sentence is aspect-marked; the only appropriate negator is *méi(yǒu).* Huang (1988) suggested that *bù* and the perfective markers cannot co-occur because *bù* must cliticize onto the verb first and marking a non-event (an event already negated or denied) as completed or realised would result in semantic anomaly. In other words, the incompatibility is an interpretational matter that stems from the narrow scope of negation. Ernst (1995)

proposed that *bù* is unacceptable in the presence of perfective markers due to its unboundedness requirement, i.e. that *bù* has an intrinsic requirement to select for an unbounded situation as its complement. Therefore, a terminated or completed event would be incompatible with *bù.* Lin (2003) made a similar suggestion by stating that *bù* requires its complement to be a stative situation that does not need further energy input. Li (1999/2007) uses a feature-checking approach to account for negation-aspect compatibility. She proposes four atomic aspectual features that the aspect markers and negators both possess, but different markers have different inherent values for these features, and their compatibility is a result of their feature compatibility.

The second issue concerns the connection between *méi(yǒu)* 'not have' and perfective aspect. As shown above, *méi(yǒu)* can occur with the experiential marker *guo* (3c) but not with the perfective marker *le* (2c). Wang (1965) was the first to propose that *yǒu* 'have' in *méi(yǒu)* and *le* are morphological alternants in complementary distribution — the former in negative contexts, the latter only in affirmatives. This idea has been adopted, explicitly or implicitly, in subsequent research on Mandarin negation, except for Li (1999/2007). The details of the accounts proposed in the literature will be discussed in later chapters where relevant, but it suffices to say at present that because of the negation puzzle presented above, investigations of Chinese negation have devoted their attention to the relationship between negation and aspect. This is the focus of this thesis as well.

The idea that negation has a close relationship with temporality is no novelty; and to suggest aspect as the temporal system with which negation is connected in Chinese is very plausible as well, since aspect is the most prominently and overtly expressed temporal category in Chinese varieties. The aim of this dissertation is to bring forth a new understanding of this old puzzle of Chinese negation by examining the negation strategy in four varieties of Chinese under two conditions: negation without overt aspect marking, and negation with overt aspect marking. There are two motivations behind this organisation. On the one hand, it is inspired by the two-component theory of aspect in Smith (1997), who argues that the type of situation denoted by the predicate (a.k.a. situation type or Aktionsart) and the perspective that the speaker holds in viewing the situation (a.k.a. viewpoint aspect) are two essential components of aspect. In light of this, this dissertation will consider both components of aspect in order to present a

comprehensive picture of how negation works in Chinese. On the other hand, although most studies have argued for a close relation between aspect and the distribution of negators in Mandarin, it is often unclear which component of aspect they have examined — situation type or viewpoint, following Smith. Hence, it is necessary to keep the two factors apart and examine both thoroughly in order to see how negation is sensitive to each component, and to what extent.

1.3 Varieties of Chinese

Before embarking on a thorough investigation of Chinese negation, it is necessary to gain a better understanding of what the linguistic label 'Chinese' stands for, and what significance the diversity behind it has in the present discussion. Traditionally, the term 'Chinese' has been predominantly used to refer to Mandarin; all other Sinitic varieties are considered to be 'Chinese dialects'. This is a textbook case of how the language or dialect status is a socio-political decision. On the one hand, we have Norwegian, Swedish, and Danish as cases for largely mutually-intelligible varieties politicised as separate languages; on the other hand, we have mutually non-intelligible Chinese varieties conceptualised as dialects (or *fāngyán* 'regional speech') in China for political reasons. The reality is that Mandarin itself is not one single uniform variety of Chinese but a subfamily containing further regional subdivisions, each with a sizeable number of member varieties; the same is true for Cantonese, which is traditionally considered to be a southern Chinese dialect. According to Norman (1988, 1993), there are at least four main streams within the Mandarin subfamily, namely, Northern Mandarin, North-western Mandarin, South-western Mandarin, and Eastern Mandarin. What is known as standard Mandarin or Putonghua today is an official variety based on the Northern Mandarin varieties, particularly the Beijing variety. For Cantonese, traditional dialectology has divided it into five zones within Guangdong Province and a further four zones in Guangxi Province, though the exact boundaries are still controversial. Based on phonological variation, Yue-Hashimoto (1991) classifies the Guangdong Cantonese-speaking areas into: Siyi zone, Yangjiang-Yangchun zone, Northern Pearl Harbour Delta zone, Southern Pearl Harbour Delta

zone, and Canton zone. The Canton zone is the most prestigious as it is where Guangzhou (a.k.a. Canton City) is located and the variety spoken there is generally considered to be standard.

Given the diversity within Mandarin and Cantonese, it is necessary, for the sake of an in-depth and unambiguous analysis, to remove the smoke screen that regional variation is likely to bring and look at specific varieties rather than the entire subfamily. In that way, cross-linguistic comparison becomes much more effective. In this thesis, I will investigate two Mandarin varieties and two Cantonese varieties. The two Mandarin varieties are Beijing Mandarin and Taiwan Mandarin; they are selected as representatives of Northern and Southern Mandarin respectively. For Cantonese, Hong Kong Cantonese and Gaozhou Cantonese are chosen: Hong Kong Cantonese represents the so-called standard variety of Cantonese for its strong resemblance to Guangzhou Cantonese while Gaozhou Cantonese is a more colloquial variety with very scarce documentation, let alone formal investigation. The choice of Chinese varieties in this study serves several purposes. First, in terms of Mandarin, by examining a northern variety and a southern variety, it helps disentangle the frequent debate over empirical observations which are likely due to the Mandarin variety investigated by the researcher. In fact, Taiwan Mandarin is not only a representative of southern Mandarin but a Mandarin variety that has been suggested to be strongly influenced by Taiwanese (a.k.a. Taiwanese Southern Min), a Southern Min variety brought to Taiwan when immigrants from Fujian (a province in Mainland China) settled in the territory since the late 13th century (Kuo 2005: Chapter 4)[2]. Therefore, considerable structural differences, in addition to phonological contrasts, have been reported in the literature, particularly regarding the use of *yǒu* 'have' as

[2] As a demographic remark, the Southern Min speakers did not arrive in Taiwan until the late 13th century. According to Kuo (2005), by the 1660s, the linguistic situation in Taiwan had changed substantially from a predominantly Austronesian-speaking territory to a population where 67% are Min speakers. Prior to the Chinese Civil War (1945-1949), the Min-speaking group has grown to almost three-quarter of the overall population. With the influx of mainland immigrants during and after the Civil War, the Sinitic group grew further and the need for a national language, Taiwan Mandarin or *Guoyu,* for communication across speech communities became prominent. The 2010 national census reported that 83.5% of the Taiwan population are Taiwan Mandarin speakers, and 81.9% are Taiwanese/Taiwanese Southern Min speakers (Taiwan National Statistics 2010), which shows the inevitable connection and contact between the two Chinese varieties.

an auxiliary (cf. R. Cheng 1985; Kubler 1979, 1985; Kuo 2005; Ye 1991, 1995). Since the use of *yǒu* 'have' would form part of the core argument of this dissertation, the choice of Beijing and Taiwan Mandarin as a contrast pair is necessary. Second, a cross-variety comparative study would reveal the structural diversity that lies within subfamilies. This is especially true for Cantonese. As we shall see in later discussion, the negation system in Gaozhou Cantonese differs substantially from that in Hong Kong Cantonese, although Yue-Hashimoto (1991) groups them both under the Canton zone.

1.4 Methodology

1.4.1 Standard negation

Given the vastness of the topic of negation, the focus of this dissertation is on standard negation. The term 'standard negation' is first mentioned in Payne (1985), with a clear intention of providing fieldworkers with a guiding definition to identify basic negation strategies in any language. Therefore, Payne set the criterion for 'standard negation' as: the negation that is applicable to "the most minimal and basic sentences" — main clauses precisely, and ideally with a minimal amount of noun phrases and adverbials. A related but independent type of negation is 'sentential negation' (contra 'constituent negation'), which is the negation of a proposition — a proposition is negated when its truth value is reversed (or anti-veridical in Giannakidou's (1998) framework; cf. Forest 1993 and Miestamo 2005 for analyses of 'negation of proposition' when the affirmative structure does not have a straightforward negative counterpart, i.e. affirmative-negative asymmetry). In a nutshell, both 'sentential negation' and 'standard negation' build on the idea of clausal negation, but 'standard negation' puts additional emphasis on the negation strategy to be productively and generally applicable to the most basic verbal constructions (Miestamo 2005). The present discussion follows Miestamo's (2005: 42) definition of 'standard negation' (SN) as quoted below:

> A SN construction is a construction whose function is to modify a verbal declarative main clause expressing a proposition *p* in such a way that the

modified clause expresses the proposition with the opposite truth value to *p*, i.e. ¬*p*, or the proposition used as the closest equivalent to ¬*p* in case the clause expressing ¬*p* cannot be formed in the language, and that is (one of) the productive and general means the language has for performing this function.

This definition carries four main assertions that 'standard negation' should be: (i) clausal negation (i.e. negation of the proposition); (ii) a strategy used for simple verbal declarative main clauses; (iii) a productive strategy, meaning that it is not a strategy limited to a small idiosyncratic set of verbs; and (iv) an obligatory and primary strategy to express negation in a given environment, which excludes any available but secondary alternatives in expressing negation for the same given environment. Since it is not the core interest of this thesis to sketch out the frequencies of different negation strategies across Chinese varieties, the key criteria employed to define a standard negator are taken to be as (4):

(4) X is a standard negator iff:
   a. X can reverse the truth value of (a.k.a. negate) the proposition of a simple verbal declarative clause, and
   b. X is the primary and obligatory strategy needed to negate the proposition of the simple verbal declarative clause.

Having set the focus on standard negation, the core of this thesis is built upon empirical findings on the simplest verbal declarative main clauses. Cases involving constituent negation, negation in complex sentences, negation of non-declarative sentences may be discussed where necessary but only briefly. It has been firmly established that the standard negators in the Mandarin varieties are *bù* 'not' and *méi(yǒu)* 'not have'. Their counterparts in Hong Kong Cantonese, *m4* 'not' and *mou5* 'not.have', are also standard negators, although there are other productive negative markers in the Cantonese varieties. *Mei6* 'not yet', for instance, is a highly productive negative marker in both Cantonese varieties. It indicates that the situation described in the proposition has not been realised up to the time of utterance without indication of whether it will be realised later. However, productivity is only one of the four criteria for a standard negator, the semantics of *mei6,* however, does not fit the definition of standard negation as stated (4) since it adds additional propositional meaning, and thus will

not be included in the present study. Similarly, the negator 'not' often combines with the copula 'be' in the four varieties of Chinese, and this 'not be' marker is sometimes considered as another negator (e.g. Mandarin *bú shì* 'not be') but this too cannot be a standard negator for similar reasons as *mei6*, and is hence excluded in this discussion.

The most problematic case is Gaozhou Cantonese. One fundamental issue to settle before any analysis of the relationship between negation and aspect in the variety can proceed is to identify its standard negator(s); the primary task is to test the negator status of *mau5 jau5* 'not have' in Gaozhou Cantonese. To establish this, in the remainder of this section, I will present evidence from two sources, namely, (i) official documentation in *Gāozhōu Xiànzhì* (or the *Gaozhou County Chronicle*) published in 2006, and (ii) spontaneous conversation recordings and transcription made in Gaozhou in 2014. These illustrate the ambiguous status of *mau5 jau5* 'not have' in Gaozhou Cantonese. In the end, I will put forward the hypothesis that *mau5* 'not' is the only standard negator in this variety of Chinese, a conclusion which will be further examined — and corroborated — in Chapters 2 and 3.

1.4.2 Standard negator(s) in Gaozhou Cantonese

The first piece of evidence concerning the system of standard negation in Gaozhou Cantonese comes from the only documentation of Gaozhou Cantonese syntax to date,[3] found in the *Gaozhou County Chronicle* published in 2006, under the subsection of *fāngyán* 'dialects' edited by Junshao Zhang. Zhang (2006) has named three negators: *mau5* 'not', *mau5 jau5* 'not have', and *mei6* 'not.yet'. According to Zhang's description, *mau5 jau5* functions the same way as Mandarin *méiyǒu*, and can be used interchangeably with *mau5;* in other words, where *jau5* 'have' appears in negation it is often optional. Here, I quote and translate Zhang's analysis in the *Chronicle*:

[3] The PRC government has been carrying out large scale documentation of a range of minority (and potentially endangered) varieties, including Gaozhou Cantonese, since 2005. However, the data so far remain unpublished and inaccessible.

「冇有」是否定動詞，其意義及句法功能跟否定動詞「冇」和普通話的否定動詞「沒有」相同，能用否定動詞「冇」的地方都可以換成「冇有」，而且，「冇有」的使用頻率比「冇」要高。

[*Mau5 jau5* is a negative verb, its meaning and functions are the same as the negative verb *mau5* or *méiyǒu* in Mandarin. So, wherever the negative verb *mau5* can occur, *mau5 jau5* can also be interchangeably used, and the latter is more frequently used] (Zhang 2006: 1741).

Zhang illustrates the meaning and distribution of *mau5 jau5* with the following six examples (5-10). The square brackets are added to the original examples to indicate the appropriate constituency for the specified interpretation; the reasons for the bracketing will become apparent shortly in the discussion that follows.

(5) 佢**冇有**仔女

keoi ***mau*** [***jau*** *zai.nui*]
3.SG **not** **have** children
'He doesn't have children.' (GZC; Zhang 2006: 1741)

(6) 阿芳**冇有**大學畢業文憑

aaFong ***mau*** [***jau*** *daaihok* *batjip* *manpang*]
aaFong **not** **have** university graduation certificate
'Fong doesn't have university graduation certificate.' (GZC; ibid.)

(7) 張師傅肯定**冇有**存摺

Zoeng sifu *hangding* ***mau*** [***jau*** *cyunzip*]
Zoeng master sure **not** **have** passbook
'Master Cheung certainly doesn't have a passbook.' (GZC; ibid.)

(8) 武打電影最**冇有**睇頭

moudaa *dinjing zeoi* ***mau*** [***jau*** *taitau*]

martial.art movie most **not** **have** attraction

'Action movies are the least attractive.' (GZC; ibid.)

(9) **冇有**人強迫佢參加比賽

mau [***jau*** *jan*] *koengbik* *keoi* *caamgaa* *beicoi*

not **have** people force 3.SG join competition

'Nobody forced/forces him to join the competition.' (GZC; ibid.)

(10) 你**有**手機嗎？— **冇有**

nei ***jau*** *saugei* *maa* — ***mau*** ***jau***

you **have** mobile.phone Q — **not** **have**

'Do you have a mobile phone? — No.' (GZC; ibid.)

An important observation follows from these six examples: *jau5* 'have' in all six examples functions as a lexical verb meaning 'to exist' or 'to possess'. For instance, in (5), the sentence literally means 'he not possesses children' where the subject 'he' is the possessor and the direct object 'son-daughter'/ 'children' is the possessed, hence 'he does not have children'; this is fully comparable to the meaning of 'have' in the English translation. In (8) the meaning of *jau5* is still 'to possess' although the subject is an inanimate one with an abstract property as the possessed entity, thus can be paraphrased as 'the movie does not possess (any) attraction' or 'the movie is not attractive'.

According to Holmberg's (2016) typological analysis of yes-no questions and answers, Mandarin belongs to the class of languages where answers to yes-no questions — whether as A-not-A questions or particle questions — take the form of 'verb-echo answers'. What this means is that the finite verb in the question is used as the affirmative answer, and the negative counterpart embeds the finite verb under the sentential negation. This is precisely what we see in (10). We can identify *jau5* 'have' as the finite verb in the yes-no question, partly because it is the only verbal element in the question, and the fact that *jau5* appears in the answer

scoped under the negator *mau5* 'not' constitutes another piece of evidence for *jau5* 'have' to be a finite verb in the question, and in this case, the only lexical verb. Therefore, the structure *mau5 jau5* in these examples should be [not V_{HAVE}], which contradicts Zhang's description that *mau5 jau5* 'not have' is another negator in Gaozhou Cantonese.

If the analysis of *mau5 jau5* as [not V_{HAVE}] is on the right track, we expect this structure to hold whenever the *mau5 jau5* complex appears in actual speech. This expectation is largely borne out in production data in fieldwork recordings I collected in 2014. In ten hours of spontaneous speech recorded over a week, 474 instances of *mau5* were found, including 37 tokens where *mau5* is immediately followed by *jau5* and 36 cases of *mau5 hai6* 'not be'. Closer scrutiny of these 37 tokens of *mau5 jau5* reveals that the majority of cases involve negative existential (11-12) and negative possession (13); these uses of *mau5 jau5* have been illustrated in (5-10) as well.

(11) 佢**冇有**招牌打出嚟架呢

keoi	***mau***	***jau***	*ziupaai*	*daa*	*ceot*	*lei*	*gaa*	*ne*
3.SG	**not**	**have**	signboard	place	out	come	SFP	SFP

'It [the restaurant] doesn't have a signboard out there.' (GZC† [U])

(12) 法律上**冇有**規定個都冇辦法

faatleotsoeng	***mau***	***jau***	*kwaiding*	*go*	*dou*	*mau*	*baanfaat*
legally	**not**	**have**	restriction	GEN	all	NEG	way

'Whatever has no legal restriction (we) have no way.' (GZC† [U])

(13) 己**冇有**子嗲個

gei	***mau***	***jau***	*zi*	*de*	*go*
this/now	**not**	**have**	seeds	SFP	SFP

'It [the tree] doesn't have seeds now.' (GZC† [B])

Nonetheless, there are six instances of *mau5 jau5* where *jau5* is not the only predicate and is potentially not the predicate targeted for negation. These are presented in (14-19).

(14) **冇有**聯繫

mau jau *lyunhai*

not **have** contact

'Haven't contacted (someone) (for long).' (GZC† [A])

(15) 講白好似**冇有**講'煲爽飯' 喎

gong *Baak* *houci* ***mau*** ***jau*** *gong* *bousongfaan* *wo*

speak Cantonese seem **not** **have** say bousongfaan SFP

'Cantonese doesn't seem to have the expression, *bousongfaan.*' (GZC† [M1])

(16) 啲米**冇有**需要好多水架喎

di *mai* ***mau*** ***jau*** *seoijiu* *hou* *do* *seoi* *gaa* *wo*

that rice **not** **have** need very much water SFP SFP

'That rice doesn't need a lot of water.' (GZC† [A])

(17) 講話**冇有**限購架

gong waa ***mau*** ***jau*** *haan* *kau* *gaa*

say speech **not** **have** restricted purchase SFP

'(It) said there isn't restricted purchase.' (GZC† [F5])

(18) 竟然**冇有**開門個！

gingjin ***mau*** ***jau*** *hoimun* *go*

unexpectedly **not** **have** open SFP

'It isn't open, I'm surprised!' (GZC† [A])

(19) 個女**冇有**教到跳舞嗲

go *neoi* ***mau*** ***jau*** *gaau-dou* *tiumou* *de*

CL daughter **not** **have** teach-CPL dancing SFP

'My daughter isn't teaching dancing.' (GZC† [F6])

The demographic background of these tokens is noteworthy: these sentences are either produced by a particular speaker (speaker [A]) or by speakers who are multi-dialectal in neighbouring Chinese varieties — [M1] is a Hakka-Cantonese bilingual, [F5] and [F6] also speak another neighbouring Cantonese variety in Maoming city and Huazhou respectively. The issue of multilingualism and its impact on speaker's linguistic competence in Gaozhou Cantonese could be crucial, but that will be reserved for further language acquisition and language contact research. For the current discussion, the crucial finding is the ambiguity that these potential counterexamples present — the status of *jau5* as a lexical verb or part of the negator often depends on the interpretation. Example (14) is a clear case in point. One way to parse the sentence is to treat *jau5* 'have' has part of the negator and *lyun4hai6* 'contact' as the predicate, the meaning is then '(X) have not contacted (Y)' where *mau5 jau5* 'not have' is a perfective negator. Alternatively, *lyun4hai6* 'contact' can be analysed as a nominal (cf. the ambiguity with English *contact*), in which case the only verb that *lyun4hai6* 'contact' can be an argument to would be *jau5* 'have', and the meaning is understood as 'there exists no contact (between X and Y)'. The status of *jau5* is equally ambiguous between an existential reading and an eventive reading in (15-17), for similar reasons. The genuinely problematic cases for the generalisation are (18-19). In both instances, the constituent following *mau5 jau5* is apparently the predicate — *hoi1mun4* literally 'open-door', here it means idiomatically that the shop is open in (18), and in (19) the finite verb is *gaau3* 'to teach' which is aspectually marked with the completive marker *dou3*. Therefore, in these two examples, *jau5* cannot be the finite verb and must be part of the negator, i.e. *mau5 jau5.* Taking the data from both the official documentation and the spontaneous speech recorded in the field into account, the status of *jau5* as an auxiliary, and thus the status of *mau5 jau5* as another standard negator is rather weak, though still cannot be definitively ruled out. Therefore, I put forward the hypothesis in (20) which will be further tested by systematic judgment data in the next two chapters.

(20) *mau5* is the standard negator and *jau5* 'have' is not part of the negator but a lexical verb.

To summarise, Table 1.1 presents the negators in the four Chinese varieties that this study will focus on; *mau5 jau5* is excluded for arguments made in this section.

Table 1.1. Negation markers in the Chinese varieties.

	BM	TM	HKC	GZC
'not'	*bù*	*bù*	*m4*	*mau5*
'not have'	*méi(yǒu)*	*méi(yǒu)*	*mou5*	

1.4.3 Data and grammaticality annotations

The data which form the basis of this thesis are — unless otherwise specified — collected from online acceptability judgment questionnaires conducted on four Chinese varieties: Beijing Mandarin, Taiwan Mandarin, Hong Kong Cantonese, and Gaozhou Cantonese. A total of 130 participants have been recruited: 42 for Beijing Mandarin, 24 for Taiwan Mandarin, 52 for Hong Kong Cantonese and 19 for Gaozhou Cantonese. All participants are native speakers of the respective variety aged 20-40 (except for Gaozhou Cantonese which involves a few speakers in their 60s) and have lived in the relevant area for at least ten years — most of them have not resided elsewhere.

These questionnaires cover two main issues: (i) negation and aspect compatibility; and (ii) negation and adverb distribution. In the online surveys, speakers are presented with a randomised selection of five sets of simplex sentences:

(i) affirmative sentences WITHOUT aspect marking
(ii) affirmative sentences WITH aspect marking
(iii) negative sentences WITHOUT aspect marking
(iv) negative sentences WITH aspect marking
(v) negative sentences with adverbs without aspect marking

The same set of predicates which cover the full range of situation types (e.g. states, activities; Chapter 2 section 2.2 will elaborate on the issue of situation type and present the predicates examined in these surveys) has been used in the first four sets of sentences, which would reveal the relationship between negation, situation type, and viewpoint aspect. The last set of sentences focuses on the distributional pattern of different standard negators and various kinds of adverbs. Chapters 2-3 will only discuss the findings on negation and aspect

compatibility; results on the issue of negation and adverb placement will be analysed in Chapter 4. For all four varieties explored in this study, a subset of speakers was selected for a follow-up interview after their completion of the online judgment task. At the interview, speakers were asked to specify the meaning of some negative sentences. The findings of the follow-up interview will be elaborated in Chapter 2 section 2.3.3.

All data taken from the online questionnaires are annotated on a four-level grammaticality scale (✓, ?, ??, *)[4] in this thesis. The procedure taken to establish this scale is as follows. First, speakers of each variety are given a set of sentences to rate their grammaticality on a five-point scale — 1 being completely ungrammatical, and 5 completely grammatical. Within the set of sentences are nine control sentences: five well-formed structures, and four ill-formed structures.[5] The range of average scores given by each group of speakers for these control sentences sets the threshold for completely acceptable (✓) and completely unacceptable (*) sentences respectively. The median between the two range boundaries defines the point of division between slightly marginal (?)-sentences and very marginal (??)-sentences. This procedure generates a unique set of grammaticality ranges for each variety as presented in (21) — their average being (✓) 4.5-5.0, (?) 3.0-4.4, (??) 1.6-2.9, and (*) 1.0-1.5.

(21) Beijing Mandarin: (✓) 4.7-5.0, (?) 3.0-4.6, (??) 1.4-2.9, (*) 1.0-1.3
Taiwan Mandarin: (✓) 4.5-5.0, (?) 3.0-4.4, (??) 1.6-2.9, (*) 1.0-1.5
Hong Kong Cantonese: (✓) 4.4-5.0, (?) 3.0-4.3, (??) 1.6-2.9, (*) 1.0-1.5
Gaozhou Cantonese: (✓) 4.4-5.0, (?) 3.2-4.3, (??) 2.0-3.1, (*) 1.0-1.9

Overall, Beijing Mandarin speakers show more black-and-white judgments for grammaticality, which presumably can be attributed to the stronger force of standardisation in China, especially since Beijing is the capital city. In contrast, Gaozhou Cantonese speakers are the least clear-cut with grammaticality, and the explanation is two-fold: (i) its lack of institutionalisation — Gaozhou Cantonese is the only variety that is not an official language in

[4] ✓ = completely acceptable, ? = slightly marginal, ?? = very marginal, * = completely unacceptable. For simplicity, examples unmarked for acceptability are completely acceptable.

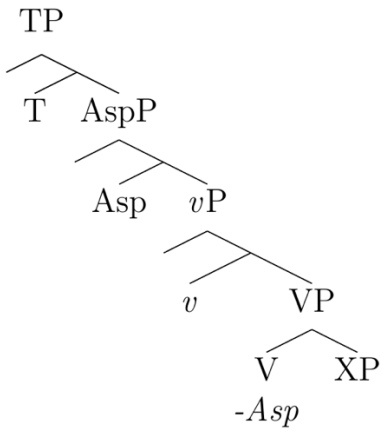
[5] See Appendix A for the set of control sentences used and their average scores.

the region where it is spoken[6] — and (ii) the written stimulus used in the questionnaires, since Gaozhou Cantonese is a primarily spoken variety.

1.5 Chinese clause structure

Having explained the scope and design of this study, it is helpful for further discussion that we establish the basic clause structure of Chinese in the first place. In this thesis, I adopt the structure argued for in Huang, Li, and Li (2009) and that in Li (1999/2007) which is presented in (22).

(22) Chinese clause structure (I)



I assume a TP projection in Chinese. It is a highly-debated topic whether Chinese has tense or not, and hence whether or not there should be a TP in Chinese clause structure. The classic arguments against the presence of T in Chinese are: (i) there is no morpho-syntactic form to realise tense in Chinese; and (ii) temporal information is expressed by adverbials. The second argument can be quite conveniently supported by examples such as (23).

[6] All others are: Beijing Mandarin as official language of the People's Republic of China (henceforth China), Taiwan Mandarin (a.k.a. 國語 *Guóyǔ*) as the official language of the Republic of China (henceforth Taiwan), Hong Kong Cantonese as the official language of Hong Kong Special Administrative Region of China (henceforth Hong Kong).

(23) 張三 **1989 年**住在這兒

Zhangsan ***1989*** ***nian*** *zhu* *zai* *zher*

Zhangsan **1989** **year** live at here

'Zhangsan lived here in 1989.' (Mand.; Sybesma 2007: 581)

Nevertheless, sentences not marked by a temporal adverbial can still receive a temporal interpretation. Removing the adverb, the sentence in (23) gets a present tense interpretation in (24).

(24) 張三住在這兒

Zhangsan *zhu* *zai* *zher*

Zhangsan live at here

'Zhangsan lives here.' (Mand.; ibid.)

Following Sybesma (2007), the source of this default present tense interpretation cannot come from the context because no context is provided. The tense cannot be changed by non-linguistic information either; suggesting that Zhangsan is deceased would not change (24) to past tense, but simply render the sentence infelicitous. Therefore, the only way to modify the tense interpretation is the addition of adverbials, otherwise the default, in this case with an atelic situation, is present tense (see Smith & Erbaugh 2001, J-W. Lin 2003b, T-H. J. Lin 2007 for more detailed discussion on this topic). In fact, Li (1999/2007: 10-14) has made an explicit claim for an overt, though not very productive, expression of T — the marker *jiāng* 'will' in Mandarin. Li suggests that it is a future tense marker based on examples like (25).

(25) *Jiāng* and temporal adverbs

a. 警察**將**(於下個月)起訴他盜竊

jingcha ***jiang*** *(yu* *xia* *ge* *yue)* *qisu* *ta* *daoqie*

police **will** in next CL month accuse him theft

'Police will accuse him of theft (next month).' (Mand.)

b. 警察**將**(*現在)起訴他盜竊

jingcha ***jiang*** *(*xianzai)* *qisu* *ta* *daoqie*

police **will** now accuse him theft

Intended: 'Police will accuse him of theft (now).' (Mand.)

c. 警察**將**(*昨天)起訴他盜竊

jingcha ***jiang*** *(*zuotian)* *qisu* *ta* *daoqie*

police **will** yesterday accuse him theft

Intended: 'Police will accuse him of theft (yesterday).' (Mand.)

It appears that when *jiāng* is present the sentence must be interpreted as future tense and the temporal adverbial becomes optional as in (25a). At the same time, *jiāng* is not compatible with non-future adverbials, such as *xiànzài* 'now' (25b) and *zuótiān* 'yesterday' (25c). For the purpose of this thesis, there is no need to take side in the tense debate. I will assume a TP projection in Chinese as the anchoring layer, universal for all languages, between the thematic domain within *v*P and the discourse domain in CP.

Apart from the controversial TP projection, the analysis of postverbal aspect markers adopted in this thesis also deserves some attention. Three approaches have been proposed in the literature: (i) verb-raising approach, (ii) affix-hopping approach, and (iii) LF feature checking approach. The verb-raising approach suggests that the aspect markers are base-generated in Asp^0 and the verb adjoins to Asp^0 through cyclic head movement. This is theoretically plausible and neat in producing the word order, [V-Asp], but it is not consistent with empirical facts concerning adverb distribution in Chinese. Unlike SVO languages like English, adverbs are consistently preverbal in Chinese; (26) illustrates the point.

(26) Verb-raising approach and adverb placement

a. 他(**已經**)看了這封信

ta ***(yijing)*** *kan-le* *zhe* *feng* *xin*

he **already** read-PFV this CL letter

'He has read this letter already.' (Mand.)

b. 他看了(***已經**)這封信

ta	*kan-le*	***(*yijing)***	*zhe*	*feng*	*xin*
he	read-PFV	**already**	this	CL	letter

Intended: 'He has read this letter already.' (Mand.)

Since *yǐjīng* 'already' is a frequency adverb understood to be adjoined within VP (Tang 1990, Ernst 1994, Cinque 1999), the assumption that the landing site of the verb is Asp^0 in the presence of overt aspect markers like *le, guo,* and *zhe* in Mandarin and their counterparts in other Chinese varieties, would produce an ill-formed structure in (26b), where the adverb follows [V-Asp]. An alternative approach is to allow the aspect markers base-generated in Asp^0 to lower and right adjoin to V^0, which can avoid the problem of adverb distribution in Chinese. Finally, as first proposed in Ernst (1995) and later adopted in Li (1999/2007), and Huang, Li, and Li (2009), the third approach suggests that postverbal aspect markers are lexically inserted with the verb in V^0, hence their realisation as verbal suffixes; they later move to Asp^0 at LF to receive the appropriate interpretation. The discussion so far has ruled out verb-raising as a plausible account for postverbal aspect marking, but a new analysis of Chinese aspect marking will be presented in Chapter 3 section 3.8.

1.6 Structure of this thesis

The remainder of this thesis will be devoted to a thorough discussion of original empirical findings, both synchronic and diachronic, in order to shed light on the relation between negation and aspect in the four Chinese varieties, and how that relation conditions the distribution of negative markers. A brief description of each chapter follows.

Chapter 2 establishes the theoretical ground for further discussions on aspect and introduces empirical findings on bare negatives in the four Chinese varieties. In the first part of Chapter 2, I will review some key concepts related to the definition of 'aspect', with a focus on two components: situation type (a.k.a. Aktionsart) and aspectual viewpoint, following Smith's (1997) two-component theory of aspect. I will also introduce the aspect markers under

investigation in the four Chinese varieties, namely, perfective aspect, experiential aspect, a preverbal imperfective marker, and a postverbal imperfective marker. The rest of the chapter focuses on Chinese bare negatives, i.e. the negation of simple verbal declaratives with no aspect marking. The purpose here is to explore the relationship between negation and situation types as encoded in the predicates. To illustrate how these two components interact, a fixed set of predicates covering five situation types are examined: states (psych and non-psych), activities, accomplishments, achievements, and semelfactives. The findings reveal that, where a variety has more than one standard negator, these negators are not always in complementary distribution; where bare negatives are concerned, the distribution of these negators often creates systematic semantic contrasts, and rarely produces a grammaticality effect. The chapter closes with a tentative structure which postulates that Mandarin *bù* is at the left edge of *v*P.

Chapter 3 explores the compatibility between negation and aspectual viewpoints. To identify the relationship between negation and different aspect markers, this chapter begins with an examination of the relationship between situation types and aspectual viewpoints in affirmative sentences. The same set of predicates used in Chapter 2 is employed in this chapter. The findings largely concur with the descriptions in the literature. Based on the findings in Chapter 2 and the affirmative sentences, I consider the acceptability of negative sentences in the presence of overt aspect marking. The results, once the influences of negation-situation type compatibility and situation type-viewpoint aspect compatibility have been discounted, show a clear and novel pattern that negation with *bù* in Mandarin and *m4* in Hong Kong Cantonese are incompatible with aspect marking across the board, whereas negation with Mandarin *méi(yǒu),* Hong Kong Cantonese *mou5* and Gaozhou Cantonese *mau5* are only acceptable with experiential aspect and no other aspect. Finally, this chapter draws on Ernst's (1995) LF movement analysis of Chinese aspect, and proposes that postverbal aspects in Chinese are base-generated in V^0 and receive their interpretation via Agree with the relevant Asp^0 projections.

Chapter 4 presents an analysis for bare negatives in Chinese. The focus of this chapter is to identify the nature of the standard negators in the Chinese varieties. Chapter 4 presents three arguments in support of the claim that Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5*

(later termed NegA) are not perfective negators but negators of existence. First, I establish, based on corpus data, the status of *yǒu/jau5* 'have' as an existential auxiliary rather than a perfective (or aspectual) auxiliary as commonly understood in the literature. Second, adverb distribution data indicates that NegA is not in $Asp_{terminative}$ or $Asp_{perfect}$, instead all the five standard negators under investigation (i.e. NegA, NegB — Mandarin *bù* and Hong Kong Cantonese *m4* — and Gaozhou Cantonese *mau5*) are in spec-*v*P. The final piece of evidence comes from diachronic data dating back to Old Chinese, which reveals that negators in the class of NegA share a common historical origin as negative existential predicates. Following Croft's (1991) Negative-Existential Cycle, these negative existential predicates evolved to also express standard negation, yet still encode non-existence. Then, based on Chen's (2007) classification of Chinese predicates and Chierchia's (1995) proposal of a generic operator, I account for the modality (volitional/habitual) reading expressed by NegB by suggesting that negators of this group are the negative form of the generic operator, which probes for and is licensed by the habituality feature, [Hab], on verbs which allow for an individual-level reading. Finally, I suggest that Gaozhou Cantonese *mau5* is different from NegA and NegB since it is the only standard negator in the system; *mau5* expresses 'pure' propositional negation leaving the bare negatives open for multiple interpretations.

Chapter 5 addresses the final issue of the relationship between negation and aspectual viewpoints. This chapter first considers the three existing approaches to negation-aspect relations in Chinese, namely, the morphological approach introduced by Wang (1965), the Principle P approach in Huang (1988), and the aspectual selection approach in Ernst (1995), Lin (2003), and Li (1999/2007). Based on the conclusions drawn in Chapter 4, I advocate a reconsideration of the issue from a broader perspective which does not build on the assumptions that the negators in Chinese have inherent aspectual values and that the aspectual compatibility in negation is an epiphenomenon attributed to the presence of multiple negators in the system. This chapter attributes the aspectual sensitivity in negation to the position of aspect in the Chinese clause structure. While the compatibility between negation and individual aspect markers can be captured by an extension of the concepts of definiteness and presupposition effect to the verbal domain. I argue that aspect can encode definiteness of the assertion time relative to the time frame of the event (cf. Ramchand 2008a, b). The definiteness of the aspect marker then determines its compatibility with negation:

definite aspects are incompatible with negation while indefinite aspects are compatible. The reason is due to the presupposition of existence which definiteness imposes on the element it modifies; this, I suggest, applies to nominals as well as to predicates (and hence propositions). The indiscriminate incompatibility between NegB and aspect is explained by the lack of a modality feature in the structure which the generic operator in NegB probes for. This chapter illustrates how this account can capture the apparent counterexamples where NegB can appear with aspect-marked predicates.

Chapter 6 summarises the key arguments of this dissertation and points to directions for further research on the topic.

Chapter 2

Negation in non-aspectual clauses

2.1 Introduction

This chapter focuses on the negation of sentences without overt aspect marking in Chinese. Before opening that discussion, it is essential to establish a fundamental understanding of aspect and the aspectual system of Chinese. For that purpose, this chapter will begin with a review of some key theories of aspect in the literature, devoting particular attention to Smith's (1997) two-component theory of aspect, which is the theory adopted in this thesis. Following Smith's model, situation type and viewpoint aspect are two indispensable components of aspect. With the workings of the aspect system clarified, the discussion returns to negation and examines the relationship between negation and situation type; hence the investigation of bare negative sentences in this chapter. The findings in this chapter serve two purposes: first, they form a contrast to the results in the next chapter which probes into negative aspect-marked sentences; results from the two conditions together give a more comprehensive picture of negation-aspect interaction. Apart from that, the decision on whether or not negation is indeed sensitive to viewpoint aspect (as we shall see in Chapter 3) requires a clear picture of how situation type and viewpoint, as well as negation and situation type, relate, independently of each other. Otherwise, the results will be ambiguous and indeterminate when all three variables come together in negative aspect-marked sentences. The structure of this chapter is as follows. Section 2.2 provides the theoretical background for further discussion on negation and aspect by reviewing key literature on theories of aspect. Section 2.3 focuses on how negation works in bare sentences across varieties. Section 2.4 highlights important findings and presents a preliminary analysis of the data so far, before drawing conclusions in section 2.5.

2.2 Theoretical framework for Chinese aspect

Research on aspect has been conducted for decades. Although an exhaustive review of that rich literature is beyond the scope and purposes of this thesis, a brief overview of some crucial discoveries and generalisations is a prerequisite for our understanding of the relation between aspect and the choice of negation in Chinese. The aim of this section is to introduce the aspect system in Chinese varieties within some key theoretical frameworks, and support it with empirical evidence. To achieve that goal, I will first argue for a working definition of aspect in section 2.2.1, and then the following three subsections will outline the general understanding regarding the two concepts that are often discussed under the topic of aspect — situation type (a.k.a. Atkionsart or verb classes) and viewpoint (what is usually understood as 'aspect'), and their interaction. Each concept will be explained using contemporary theories and illustrated with Chinese examples.

2.2.1 Definition of 'Aspect'

To begin with, terminological confusion regarding the term 'aspect' has been well-known (i.a. Friedrich 1974, Comrie 1976, Brinton 1988, Smith 1997, and Xiao & McEnery 2004). Originally, 'aspect' referred only to the perspectival nature of temporal marking. The classical definition comes from Comrie: aspect refers to the "different ways of viewing the internal temporal constituency of a situation" (1976: 3). Later works have extended the definition to include the internal/intrinsic temporal structures of situations, drawing inspiration from Agrell's (1908) *Aktionsart* 'kinds of action' — the classification of lexical verbs by their temporal properties (cf. Xiao & McEnery 2004 for a more thorough description of the transformation in terminology). Smith (1997), in her two-component theory of aspect, terms the first approach to aspect 'viewpoint aspect', and the second approach 'situation aspect'. In more recent studies on aspect, the two-component approach of viewpoint aspect and situation aspect has been conceptualised and formally analysed as Outer Aspect and Inner Aspect in a way to show the syntactic connection that predicates bear in encoding different situation types (cf. Tsai 2008 and Travis 2010, see also Ramchand 2008b for an elaborate account of the VP shell for the representation of different classes of predicates). I refer to the inherent temporal properties

of the predicates as 'situation type' and the speaker's view of the temporal structure of the situation as 'viewpoint aspect', and consider them both as two essential components of the meta-category 'aspect', largely following Smith's model.

2.2.2 Situation type

Systematic classification of predicates into situation types, or 'verb classes' in Vendler's original phrasing, dates back to Vendler (1957). In his classic paper on temporal properties of verbs, Vendler identified four types of situation that a predicate can inherently denote: state, activity, accomplishment, and achievement. Three diagnostics have been proposed for the classification of predicates. The progressive test[7] is the most well-known to distinguish stative predicates from non-stative ones. Among the four classes of verbs, activities and accomplishments can appear in the progressive form in English but states and achievements cannot. Vendler attributes this contrast to the fact that activities and accomplishments are situations that consist of "phases following one another in time" (1957: 144), but states and achievements are not. Specifically, achievement predicates, such as, *to recognise something/someone* or *to reach the hilltop*, happen at one definite moment; and states (e.g. *to like, to know English)* do not fit in to a phase-based model since the situation remains unchanged for its entire duration.

Temporal adverbs provide a second diagnostic for situations with or without a natural endpoint. Predicates that can be modified by *in*-adverbials, such as, *in an hour*, are considered to denote a situation with a natural terminus, in contrast to predicates that are compatible with *for*-adverbials like *for twenty minutes*. Accomplishments are compatible with the *in*-adverbial class and activities with the *for*-adverbial class, hence the former has a natural endpoint (i.e. telic) and the latter does not (i.e. atelic). Finally, Vendler argues that, for states and some achievements, the ability to do something is equal to actually doing it. For example, to be able to know is to know, and to able to spot the plane is to spot the plane. This does not apply to

[7] Vendler used the term 'continuous tense' for the *-ing* suffix in English, as in *I am reading a book*. However, the *-ing* suffix is more conventionally labelled as progressive aspect marker now in contemporary literature, so progressive is the term adopted here.

activities or accomplishments. Vendler thus concludes that activities and accomplishments require deliberation to begin and to terminate. The main contribution of Vendler's account is not simply the identification of four verb classes, but, more importantly, the three diagnostics have implicitly introduced three defining properties for the classification of situations, namely, situation internal structure, natural endpoint, and volition, which are later manifested as more systematic parameters in seminal works like Comrie (1976).

In Comrie (1976), core properties of verb classes are condensed into three features for the parameterisation of situation types. The three features are [± durative] (i.e. durative vs. punctual), [± telic][8] (i.e. telic vs. atelic), and [± dynamic] (i.e. stative vs. dynamic). The first parameter, [± durative], concerns the presence or absence of time intervals between the initial and final endpoints of a situation; in other words, whether the situation has internal structure or not. States, activities, and accomplishments are durative since a length of time exists between the start and potential end of the situation, but achievements and semelfactives (e.g. *to cough*[9] and *to knock at the door*) happen momentarily or instantaneously, so they are punctual situations lacking internal structure. Telicity is characterised by whether a situation has a natural, built-in final endpoint: accomplishments and achievements do, thus are [+telic]; while states and activities have arbitrary endpoints, and semelfactives have the initial and final endpoints overlapping, hence are [–telic]. Finally, dynamicity is what isolates states from all other situation types, especially activities. Comrie (1976: 49) contrasts states with activities in that "unless something happens to change that state, then the state will continue" and it "requires no effort", whereas an activity is a situation that "will only continue if it is continually subject to a new input of energy" (see also Lin 2003a, who applies the notion of 'energy input' as a criterion that determines the distribution of negators in Mandarin). Table 2.1 summarises the classification Comrie proposed; I shall adopt this three-parameter approach to situation type classification in the rest of the discussion.

[8] The term [telic] came from Garey's (1957) discussion of the French aspect system.

[9] Comrie distinguishes *cough* in the sense of one single cough from a series of coughs. The former is a punctual event (semelfactive), while the latter is a durative event he terms 'iterative'.

Table 2.1. Comrie (1976) situation type classification.[10]

	Dynamic	Durative	Telic
State	–	+	–
Activity	+	+	–
Accomplishment	+	+	+
Achievement	+	–	+
Semelfactive	+	–	–

Based on Comrie's framework, five types of situation will be studied here, namely, state, activity, accomplishment, achievement and semelfactive. Within the class of stative predicates, I make a further distinction between psych-predicates and non-psych predicates, following Cheng & Sybesma (2015). Table 2.2 lists the predicates whose Chinese counterparts will be used as exemplars of each situation type for further analysis.

[10] Xiao & McEnery (2004) have argued for two more features for the classification of situation types in Chinese, [±result] and [±bounded]. [±Result] concerns whether the verb "includes a reference to a changing point at which the final spatial endpoint denoted by the verb starts holding" (2004: 48). Achievement encodes a result, and accomplishment implies a result. Following Tenny (1994), Xiao & McEnery suggested that [±bounded] is distinct from [±telic] in that boundedness relates to temporal final endpoint, and telicity associates with spatial final endpoint. In general, [+result] entails [+telic] which in turn entails [+bounded]. The addition of these two parameters, however, seems redundant, as the main motivation is to avoid the so-called "double lexicon entry" problem (i.e. the classification of 'sing' as activity, but 'sing this song' as accomplishment, and the like) encountered by the traditional three-parameter approach. This 'problem' can be easily resolved by taking the whole predicate into consideration in the classification, as has been practised in almost all current work on situation types. So, this thesis continues to adopt Comrie's three-parameter approach.

Table 2.2. Exemplar predicates for each situation type.

Situation aspects	Predicates used
State	[+psych] 'to fear'
	[+psych] 'to like'
	[–psych] 'to know (about something)'[11]
	[–psych] 'to know (someone)'
Activity	'to stroll'
	'to sing'
	'to read books'
	'to run'
Accomplishment	'to eat this piece of cake'
	'to write this letter'
Achievement	'to win a race'
	'to recognise Mr Chan'
	'to shatter a mug'
Semelfactive	'to knock on the door'
	'to hiccup'

2.2.3 Viewpoint aspect

Where viewpoint aspect is concerned, the most important dichotomy is between perfective and imperfective. Comrie's (1976) definition is the most commonly adopted in the literature. He states perfective as viewing a situation without "explicit reference to the internal temporal constituency of a situation", and imperfective, standing as its opposite, is characterised as viewing a situation from within. An alternative conceptualisation of perfectivity, or indeed of

[11] The status of the concept of 'knowing' may be ambiguous in terms of [±psych] since, on the one hand, the external arguments of the predicate 'to know (someone)' or 'to know about (something)' is a Holder, not an Agent; on the other hand, 'to know' is dissimilar to other canonical psych predicates such as 'to like', 'to fear', or 'to hate' which have an Experiencer as their external argument. In this study, I will classify 'to know' as a non-psych stative predicate.

viewpoint in general, is found in Smith (1997), where viewpoints are understood to be always present in a sentence even if they are not overtly phonologically realised. The argument follows that: viewpoints are obligatory in a sentence as the focus they put on a sentence determines which part of the temporal schema of the situation is 'visible' — "available to the receiver for truth-conditional issues and entailments" (1997: 62) — and what is visible is asserted semantically and cannot be changed or cancelled. Smith does not rule out the possibility that hearers/receivers make pragmatic inferences, but inferences are cancellable by additional contextual information. On the principle of visibility, Smith defines perfectivity and imperfectivity in terms of information openness[12]: perfective viewpoints present situations in their entirety, "as complete with both endpoints", i.e. informationally closed; imperfective viewpoints, on the other hand, do not specify or make visible the final endpoint of a situation, thus leaving the completion of the situation open to inference (1997: 65). This characterisation is so far in accordance with previous analyses of perfectivity and imperfectivity, but Smith also provides thorough cross-linguistic comparison to show how the definition of specific viewpoints, such as, perfective and imperfective, display substantial idiosyncrasy. One of the languages included in her comparative study is Mandarin (Smith 1994, 1997), which will be discussed presently.

Smith identifies two special features in the Mandarin aspect system. First, Mandarin viewpoints are only compatible with non-statives, which differs considerably from languages like English, Russian, and French where viewpoints can apply to all situation types.[13] Second, in Mandarin, the concepts of termination and completion are separate, and perfectivity only entails the former but not the latter (1) (Smith 1997: 68). This again stands in contrast with, for instance, English perfective which entails both termination and completion regardless of the telicity of the situation (2).

[12] According to Smith, the distinction between closed and open situations pertains not to real time but to conceptual or narrative time (1997: 66).

[13] Smith suggests that these temporal schemas of perfective and imperfective are in UG, but statives do not fit in to those schemas, which explains their cross-linguistic variability in viewpoint compatibility (1997: 69).

(1) 我昨天寫了信，可是沒寫完

wo	*zuotian*	*xie-le*	*xin*	*keshi*	*mei*	*xie-wan*
I	yesterday	write-LE	letter	but	not	write-finish

'I wrote a letter yesterday but didn't finish it.' (Mand.; Smith 1997: 265)

(2) a. #Lily swam in the pond and she may still be swimming. [Activity]

b. #Mrs. Ramsay wrote a letter, but she didn't finish writing it. [Accomplishment]

Among the four Mandarin viewpoint markers examined — perfective *le* and *guo,* and imperfective *zai* and *zhe* — Smith considers *le* to represent unmarked perfective viewpoint which "spans the initial and final endpoint of an event" (1997: 263), while *guo* is a marked perfective since it "extends beyond the final endpoint of a situation" and presents a discontinuity that "the final state of the earlier situation no longer obtains" (ibid.: 266). That experiential aspect is a marked perfective viewpoint is not a novel idea. Comrie (1976) has also noted experiential aspect, which he terms 'experiential perfect', as one of the four instantiations of perfect. The function of experiential perfect is to indicate that a given situation has held at least once during some time in the past leading up to the present.[14] Furthermore, Iljić also analysed *guo* as an indefinite "specifying the occurrence of a situation as one of a class of occurrences" (1987: 71). So far, the analyses of experiential aspect — experiential *guo* in Mandarin, specifically — share a common observation which is that experiential aspect does not set a temporal limit to the initial endpoint (i.e. the beginning) of the situation. In other words, the exact time of occurrence of the situation does not matter to the speaker when an experiential aspect is used, so long as the situation denoted happened at least once up to the present time of speech. This would explain why experiential aspect has

[14] Comrie (1976) lists four types of perfect: Perfect of result, Experiential perfect, Perfect of persistent situation, and Perfect of recent past. Experiential *guo* in Mandarin, as mentioned in the text, is a case of Experiential perfect. Perfect of result is also of particular relevance to Chinese. Comrie cited perfective *le* (or verb-final *le*) in Mandarin as an example of Perfect of result when it is applied to states. The viewpoint here indicates that the state denoted in the predicate is a result state from some previous situation; this is the so-called 'change-of-state *le*' in traditional grammar.

also been known in the literature as 'existential perfect' or 'indefinite perfect'. This property of experiential aspect will play a significant role in the analysis proposed in Chapter 5.

Looking at imperfective aspect, Smith (1997), similarly, identifies *zai* as the unmarked imperfective which puts focus on the internal stages of any non-stative situation, while *zhe* is a marked imperfective which specifies the "state that follows the final endpoint of a telic event", and is thus regarded as the 'resultative/stative imperfective'. The contrast between the two imperfective aspects, *zai* and *zhe,* can be seen in the following examples.

(3) 張三**在**寫一封信

Zhangsan	***zai***	*xie*	*yi*	*feng*	*xin*
Zhangsan	ZAI	write	one	CL	letter

'Zhangsan is writing a letter.' (Mand.; Smith 1997: 272)

(4) 門上寫**著**四個字

men	*shang*	*xie-**zhe***	*si*	*ge*	*zi*
door	on	write-ZHE	four	CL	character

'Four characters are written on the door.' (Mand.; Smith 1997: 273)

Both examples involve the same verb *xiě* 'to write', with *zai* in (3) the event of letter-writing is marked as progressive, focusing on the writing event as ongoing. Whereas in (4), *zhe* conveys that the state of 'having four characters written' stays true, hence the focus here is on the result state but not the activity of 'writing four characters' per se. Therefore, Smith suggests that *zhe* has "a static property…imposed on all situations that the viewpoint focuses" and is thus "available neutrally to statives" (1997: 77). (5) presents the temporal schemas proposed for the four viewpoints in Smith (1997).[15]

[15] Following Smith (1997: 3), 'I' stands for initial endpoint of a situation, 'F' as final endpoint, the dots represent "internal stages of the event", and slashes '/' stand for "the interval of the situation presented in the sentence".

(5) Mandarin viewpoint schemas

a. Perfective (*le*): 

b. Experiential (*guo*): 

c. Dynamic imperfective a.k.a. progressive (*zai*): 

d. Resultative/stative imperfective (*zhe*): 

To summarise the generalisations discussed so far, I follow Smith's (1997) two-component theory of aspect and present the analyses made in existing accounts on Mandarin aspect below.

Table 2.3. Generalisations on situation-viewpoint compatibility in Mandarin.

			Situation types	Viewpoints			
Dynamic	Durative	Telic		*le*	*guo*	*zai*	*zhe*
–	+	–	State	*	*	*	?
+	+	–	Activity	✓	✓	✓	✓
+	+	+	Accomplishment	✓	✓	✓	✓
+	–	+	Achievement	✓	✓	*	✓
+	–	–	Semelfactive	✓	✓	*	*

There are, in fact, more strategies to mark viewpoint aspect in Mandarin, including resultative verb complement (RVC) (cf. Smith 1997, Xiao & McEnery 2004), and compounds like *qǐlái* 'up.come' and *xiàqu* 'down.go' which are considered to be inceptive and continuative viewpoints respectively. Nevertheless, since the focus of this thesis is not on aspect per se but its relationship with negation in the Chinese varieties, it is necessary to narrow down the scope of investigation to the five situation types mentioned in section 2.2.2 and four viewpoint markers in each Chinese variety explored. For the Mandarin varieties, the four markers examined by Smith, namely, *le, guo, zai* and *zhe,* will be the focus of the study. There are three reasons for this choice: (i) these four are the most well-established and well-studied viewpoint aspect markers in Mandarin; (ii) their counterparts in the two Cantonese varieties are easily

identifiable; and (iii) the interaction between these four viewpoints and negation is sufficient to provide a conclusive picture. Taking the properties of the situation types to be cross-linguistically applicable, the remainder of this section will provide a preliminary account of how viewpoint is marked in the two Cantonese varieties; beginning with Hong Kong Cantonese, which is generally regarded as 'standard', followed by an account of Gaozhou Cantonese aspect.

Discussion of aspect in Hong Kong Cantonese (or rather 'standard' Cantonese) can be found in traditional grammars, dating from seminal works like Chao's (1947) *Cantonese Primer* and Cheung's (1972) *Cantonese as spoken in Hong Kong* — the first systematic grammar written of Hong Kong Cantonese — to the most recent comprehensive grammar by Matthews & Yip (2011). Generally, viewpoint markers in Cantonese are considered as a kind of verbal particle, on a par with categories such as quantificational, directional, and resultative particles, depending on the classification of the author. The earliest grammar of Cantonese[16] recorded only two viewpoint markers: perfective *zo2* and progressive *gan2* (Chao 1947: 44). Subsequent documentations varied widely in the number of postverbal markers classified under 'aspectual markers': ranging from seven or eight (cf. Cheung 1972; Yuan 1989; Matthews & Yip 1994, 2011; Li, Huang & Shi 1995; Chor 2004), to over ten (cf. Gao 1980; Yue-Hashimoto 1993; Li 1994), to over twenty (Kwok 1968, 1971). Five viewpoint markers have been included in almost all grammars, they are: perfective *zo2,* progressive *gan2* and *hoi1,* durative *zyu6,* and experiential *gwo3;* all appearing immediately after the verb. Formal analyses of this issue have been scarce. To the extent that such analyses exist, their focus has been predominantly on one particular postverbal quantifier, *saai3* 'all' (cf. Mo 1993, Lee 1994, Teng 1996, Au Yeung 1998, Lee & Pan 2011), with sparse literature on Cantonese imperfective markers — progressive *gan2,* durative *zyu6* and *hai2dou6* 'be.loc' (cf. Zhan 1958, Peng 1996, Zhang 1998, Lam 2009, Zhang 2015).

[16] In the present discussion, I exclude Cantonese textbooks written by missionaries in the late 19th century — from Morrison's (1828) *Vocabulary of the Canton Dialect* to Ball's (1924) 4th edition of *Cantonese Made Easy* — since the Cantonese documented in these pedagogical materials is 'early Cantonese' rather than 'contemporary Cantonese' which this study is interested in.

Going beyond the 'standard' variety, documentation and discussion of aspect in other Cantonese varieties have been limited and virtually absent for Gaozhou Cantonese. Therefore, the first step here is to look for viewpoint markers in Gaozhou Cantonese, by means of comparing Gaozhou Cantonese examples taken from field recordings and their Hong Kong Cantonese counterparts. The Gaozhou Cantonese-Hong Kong Cantonese translations provided in the examples have been confirmed by Gaozhou Cantonese native speakers. The search is not meant to be exhaustive, rather, the aim is to identify the counterparts of the four Mandarin aspect markers — perfective *le,* experiential *guo,* progressive *zai,* and continuous *zhe* — in Gaozhou Cantonese. A note on the side: Hong Kong Cantonese is used as a standard of comparison to identify Gaozhou Cantonese aspect markers because (i) Hong Kong Cantonese and Gaozhou Cantonese are typologically more closely-related varieties; and (ii) Hong Kong Cantonese aspect marking does not run into the confusion that Mandarin aspect marking sometimes does, especially in the case of *le,* which, the literature argues, can mark perfective, inchoative, and be a sentence-final particle.

In Hong Kong Cantonese, the aspectual and sentence-final particle functions are unambiguously realised as two phonological forms — *zo2* and *laa3* respectively. As illustrated in (6), the two markers can co-occur in a perfective sentence (6b), but the perfective marker *zo2* cannot be omitted (6c) if the perfective reading is to be preserved.

(6) Hong Kong Cantonese *zo2* and *laa3*

a. 公園度種咗好多玫瑰花

gungjyun	*dou*	*zung-**zo***	*hou*	*do*	*muiguaifaa*
park	LOC	plant-**PFV**	very	many	roses

'There are many roses grown in the park.' (HKC)

b. 公園度種咗好多玫瑰花**喇**

gungjyun	*dou*	*zung-**zo***	*hou*	*do*	*muiguaifaa*	***laa***
park	LOC	plant-**PFV**	very	many	roses	**SFP**

'There are many roses grown in the park already.' (HKC)

c. 公園度種好多玫瑰花**喇**

* *gungjyun*	*dou*	*zung*	*hou*	*do*	*muiguaifaa*	***laa***
park	LOC	plant	very	many	roses	SFP

Intended: 'There are many roses grown in the park.' (HKC)

In Gaozhou Cantonese, perfectivity is encoded by a postverbal marker *de6,* as in (7-8). The (a) sentences are Gaozhou Cantonese examples taken from the conversations transcribed, and the (b) sentences are Hong Kong Cantonese translations.

(7) a. 有隻豬來**嗲**

jau	*zek*	*zyu*	*loi-**de***
have	CL	pig	come-PFV

'A pig came.' (GZC†)

b. 有隻豬嚟**咗**

jau	*zek*	*zyu*	*lai-**zo***
have	CL	pig	come-PFV

'A pig came.'(HKC)

(8) a. 一次最多輸**嗲**兩千八

jat	*ci*	*zeoi*	*do*	*syu-**de***	*loeng*	*cin*	*baat*
one	time	most	much	lose-PFV	two	thousand	eight

'Once, at most, (he) lost two thousand eight hundred in one go.' (GZC†)

b. 一次最多輸**咗**兩千八

jat	*ci*	*zeoi*	*do*	*syu-**zo***	*loeng*	*cin*	*baat*
one	time	most	much	lose-PFV	two	thousand	eight

'Once, at most, (he) lost two thousand eight hundred in one go.' (HKC)

Experiential aspect is realised by the same postverbal marker in all four varieties of Chinese, though the phonological realisation differs slightly — toneless *guo* in Beijing and Taiwan Mandarin, and *gwo3* in Hong Kong and Gaozhou Cantonese. The correspondence between Gaozhou and Hong Kong Cantonese experiential aspect is hence straightforwardly found (9).

(9) a. 同人做**過**咁多作業都冇記得個?

tung	*jan*	*zou-**gwo***	*gam*	*do*	*zokjip*
with	person	do-**EXP**	so	many	assignment
dou	*mau*	*geidak*	*go*		
also	NEG	remember	SFP		

'(you) have done so many assignments with him and you can't remember (him)?' (GZC[†])

b. 同人做**過**咁多功課都唔記得?

tung	*jan*	*zou-**gwo***	*gam*	*do*	*gungfo*	*dou*	*m*	*geidak*
with	person	do-**EXP**	so	many	assignment	also	NEG	remember

'(you) have done so many assignments with him and you can't remember (him)?' (HKC)

In both Mandarin varieties and Hong Kong Cantonese, there is a preverbal imperfective marker: *zai* 'be.at' and *hai2dou6* 'be.place' respectively. Gaozhou Cantonese also has a similar preverbal marker *coi5(gei2)* 'be.here' as exemplified in (10).

(10) 冇人講白話個，净係講涯話喎，

mau	*jan*	*gong*	*Baakwaa*	*go*	*zinghai*	*gong*	*Ngaaiwaa*	*wo*
NEG	people	speak	Cantonese	SFP	only	speak	Ngaai	SFP

係喇，冇錯，逼到你**在**講嗲

hai	*laak*	*mau*	*co*	*bik-dou*	*nei*	***coi**(gei2)*	*gong*	*de*
right	SFP	NEG	wrong	force-CPL	you	be.here	speak	DE

'Nobody spoke Cantonese, only Ngaai right, exactly, (it) forces you to speak (Ngaai)' (GZC[†])

The preverbal imperfective marker in Gaozhou Cantonese has a distinctive feature: while the 'be.loc' markers in all four Chinese varieties are polysemous in being both a locative marker and a progressive marker, the locative element is often obscure, but the locative element in Gaozhou Cantonese *coi5(gei2)* 'be.here' is much more transparent and lexical. For instance, *zai* in Mandarin does not involve a locative component morphologically, and *hai2dou6* in Hong

Kong Cantonese is literally 'be.loc' (11a), where *dou6* can be prefixed by a deictic element to mean 'here' or 'there', as illustrated in (11b):

(11) Hong Kong Cantonese *hai2* 'be' + *dou6* 'place/LOC'

a. 我**喺**屋企呀

ngo	***hai***	*ukkei*	*aa*
I	**be.at**	home	SFP

'I am at home.' (HKC)

b. 我**喺**[呢**度**｜嗰**度**]等你呀

ngo	***hai***	[*li*	***dou***	|*go*	***dou***]	*deng*	*lei*	*aa*
I	**be.at**	this	**place**	|that	**place**	wait	you	SFP

'I will wait for you here/there.' (HKC)

In Gaozhou Cantonese, *coi5* can stand alone, similar to Mandarin *zai* 'be.at' and Hong Kong Cantonese *hai2* 'be.at', while *gei2* is a proximal deictic marker itself, meaning 'here' as illustrated in (12).

(12) Gaozhou Cantonese *coi5* 'be' + *gei2* 'here'

a. 佢冇係冼太廟,

keoi	*mau*	*hai*	*Sintaai*	*miu*
3.SG	not	at	Madam.Sin	Temple

佢**在**博物館個

keoi	***coi***	*bokmatgun*	*go*
3.SG	**be.at**	museum	SFP

'It isn't in the Temple of Madam Sin, it is in the museum.' (GZC†)

b. **己**條路又冇幾多車

gei	*tiu*	*lou*	*jau*	*mau*	*gei*	*do*	*ce*
this	CL	road	also	not	quite	many	car

'This road doesn't have many cars.' (GZC†)

Naturally, one would assume that *coi5* can appear alone as a locative expression or progressive marker just like *zai.* The production data indeed show *coi5(gei2)* being commonly used as a locative expression for physical location (13a) and time (13b), but only one example of *coi5(gei2)* as an aspect marker — a progressive marker based on the meaning expressed — which is (10) above.

(13) Gaozhou Cantonese *coi5* as locative expression

a. **在**農村啲細路好健康個

coi	*nungcyun*	*di*	*sailou*	*hou*	*ginhong*	*go*
in	village	GEN	children	very	healthy	SFP

'Village children are very healthy.' (GZC[†])

b. 你**在**廿四小時之前交錢都算個

nei	***coi***	*jaa.sei*	*siusi*	*zicin*	*gaau*	*cin*	*dou*	*syun*	*go*
you	**at**	twenty.four	hour	before	submit	money	also	count	SFP

'It counts if you pay twenty-four hours in advance.' (GZC[†])

However, Gaozhou Cantonese speakers mostly find the sentence very marginal when *coi5* appears alone as an aspect marker without the deictic component *gei2* 'here'. Indeed, in the picture-statements matching task on Gaozhou Cantonese,[17] speakers rated the preverbal progressive form, *coi5gei2* 'be.here', as well-formed. Figure 2.1 shows one of the comic stimuli and the sentences in (14) are the descriptions that Gaozhou Cantonese speakers selected as appropriate for the picture. *Coi5gei2* in these sentences, in contrast to that in (10), can easily be translated as *hai2dou6* in Hong Kong Cantonese and receives the same progressive interpretation.

[17] This is an additional task administered on the Gaozhou Cantonese speakers for preliminary understanding of the aspectual system in Gaozhou Cantonese. In that task, participants are asked to match each picture with the appropriate description(s) provided in the questionnaire; participants can choose more than one and provide a score from 1 to 6 (6 as the full score). A total of 18 native Gaozhou Cantonese speakers have completed the task, among them five are aged 20-35, and the rest are aged around 60.

Figure 2.1

(14) a. [5.5/6.0] 老夫子整**緊**一積蛋糕

Loufuzi	*zing-**gan***	*jat*	*zik*	*daangou*
Loufuzi	make-**PROG**	one	CL	cake

'Loufuzi is making a cake.' (GZC)

b. [4.9/6.0] 老夫子**在己**整一積蛋糕

Loufuzi	***coigei***	*zing*	*jat*	*zik*	*daangou*
Loufuzi	**be.here**	make	one	CL	cake

'Loufuzi is making a cake.' (GZC)

c. [5.8/6.0] 老夫子**在己**整**緊**一積蛋糕

Loufuzi	***coigei***	*zing-**gan***	*jat*	*zik*	*daangou*
Loufuzi	**be.here**	make-**PROG**	one	CL	cake

'Loufuzi is making a cake.' (GZC)

The speakers generally reported all three as expressing the same meaning, i.e. that the event of making a cake is in progress. There is a slight preference for postverbal progressive marker *gan2* among the older speakers while those in their 20s or 30s find *gan2* and the preverbal *coi5gei2* 'be.here' marker equally acceptable. In any case, the use of *coi5(gei2)* 'be.here' as progressive or imperfective marker still constitutes a minority usage of this marker; its most common interpretation is a locative one. For consistency, I will take *coi5gei2* 'be.here' to be the form for preverbal progressive marker in Gaozhou Cantonese in this dissertation.

The Cantonese varieties also share a common postverbal imperfective marker, *gan2* as

illustrated in (14a) and (15). *Gan2* differs from *zhe* in Mandarin as the former expresses progressivity without an additional stative interpretation, while the latter focuses on the result state of a once-ongoing activity.

(15) a. 佢宜家就拍**緊**嗲

keoi	*jigaa*	*zau*	*paak-**gan***	*de*
3.SG	now	then	shoot-**PROG**	SFP

'She is shooting now.' (GZC[†])

b. 佢宜家就(已經)影**緊**喇

keoi	*jigaa*	*zau*	*(jiging) jing-**gan***	*laa*
3.SG	now	then	alreadyshoot-**PROG**	SFP

'She is shooting now.' (HKC)

For the sake of cross-linguistic comparison, the selection of Hong Kong and Gaozhou Cantonese viewpoint aspect markers are based on those in Mandarin, for the obvious reason that the Mandarin aspect system is the best-studied among Chinese varieties. Therefore, for Hong Kong Cantonese, this study will concentrate on: perfective *zo2,* experiential *gwo3,* progressive *gan2* and *hai2dou6* 'be.place'. Durative *zyu6* is excluded from the present discussion, because (i) the correspondence between Mandarin *zhe* and Hong Kong Cantonese *zyu6* lies only in their function as stativizer — making an event stative — but not as an imperfective marker (Zhang 2015); and (ii) there is no equivalent form for *zyu6* in Gaozhou Cantonese. The inclusion of *hai2dou6* 'be.place', on the other hand, is justified on two grounds: first, similar expressions of 'be.locative' exist in all four Chinese varieties — *zai* 'be.at' in Beijing and Taiwan Mandarin, and *coi2gei2* 'be.here' in Gaozhou Cantonese — all polysemous in being both a preposition and a progressive marker; second, the focus of all existing works on Cantonese aspects, except Matthews & Yip (1994, 2011), has been on postverbal particles, hence the inventory reported in other works would only be exhaustive of postverbal viewpoint markers and verbal particles, but not necessarily of viewpoint markers per se.

The viewpoint aspect markers commonly identified in the four Chinese varieties and to be explored in this dissertation are catalogued in Table 2.4.

Table 2.4. Viewpoint aspect markers in Chinese varieties.

	Perfective (PFV)	Experiential (EXP)	BE.LOC	Imperfective (IMPFV)
BM & TM	*-le*	*-guo*	*zai* 'be.at'	*-zhe* Continuous (CONT)
HKC	*-zo2*	*-gwo3*	*hai2dou6* 'be.loc'	*-gan2* Progressive (PROG)
GZC	*-de6*	*-gwo3*	*coi5gei2* 'be.here'	*-gan2* Progressive (PROG)

Note that, the four viewpoint aspect markers under investigation are only a subset of the inventory of aspect markers in these Chinese varieties, but the selection is made to facilitate a more thorough study of the interaction between negation and aspect in the four varieties. The remainder of this chapter will concentrate on showing and analysing negative sentences *without* overt aspect marking; the exclusion of viewpoint aspect markers will reveal how negation interacts with situation type. The interaction between negation and aspectual viewpoints will be the topic of Chapter 3.

2.3 Negation in the absence of overt Aspect

This section will first present what has been proposed in the literature on how the aspectual features of different types of predicate may affect the choice of negator in (Mandarin) Chinese (section 2.3.1). Then the validity of these suggestions will be evaluated based on acceptability judgment results from Mandarin and Cantonese varieties, where the simplest verbal declarative sentences denoting each of the five (or six, counting the [±psych] subdivision) types of situation are marked by the 'not' and 'not have' negators in the four varieties (section 2.3.2). Finally, section 2.3.3 summarises the major findings observed in the Chinese varieties.

2.3.1 Background on negation and situation type

In Chapter 1, the classic Mandarin negation puzzle was summarized. The focus of the puzzle lies primarily in what determines the appropriateness of *bù* or *méi(yǒu)* in negating perfective-marked declarative clauses in Mandarin. What has been often sidelined in the discussion is the missing part in example (1) of Chapter 1, repeated as (16) here.

(16) Affirmative:

a. 我買書

wo *mai* *shu*

I buy book

'I buy books.' (Mand.; Wang 1965)

Negative:

b. 我不買書

wo *bu* *mai* *shu*

I not buy book

'I do not buy books.' (Mand.; ibid.)

The pair of sentences in (16) show that *bù* 'not' is a legitimate negator for a sentence without aspect marking; to be precise, for an activity-denoting declarative sentence without aspect marking. But nothing is said about *méi(yǒu)* 'not (have)'. The example is adapted from Wang (1965), the earliest discussion on the formal constraint on the distribution of *bù* and *méi(yǒu)*, and his assumption is that *bù* is *the* appropriate negator for these bare sentences. But this is not entirely true; *méi(yǒu)* is also acceptable, as illustrated in (17).

(17) 我沒有買書

wo *mei-you* *mai* *shu*

I not-have buy book

'I did not buy books.' (Mand.; ibid.)

One can argue that negation with *méi(yǒu)* has changed the temporal schema of the event denoted: while the affirmative sentence in (16a) is unspecified for event time — i.e. basically tenseless, possibly receives a present tense reading by default — the negative sentence in (17) indicates that the activity of book-buying did not happen, i.e. denying the realisation of the event. Nevertheless, the sentence in (17) is undoubtedly as well-formed as that in (16b). The question thus remains as to how *bù* and *méi(yǒu)* are distributed in sentences without aspect marking like (16a); and if their distribution is not arbitrary, what determines the choice between one and the other. This is the issue to be addressed in this section.

Li & Thompson (1981: 421) state that the choice between *bù* and *méi(yǒu)* in Mandarin is a purely functional one: *bù* expresses neutral negation and *méi(yǒu)* negates the completion of an event. Since *méi(yǒu)* always negates the completion of events, where such negation is inappropriate or not available, the only legitimate negator is *bù.* Li & Thompson cite stative verbs and adjectives, and modal auxiliaries as cases where negation with *méi(yǒu)* is inappropriate; sentences in (18) illustrate their point.

(18) a. Stative adjectives

他不｜沒有**聰明**

ta *bu* |**mei-you* ***congming***

he not |not-have **clever**

Intended: 'He is not clever.' (Mand.; Li & Thompson 1981: 422)

b. Modal auxiliaries

他不｜沒有**應該**去法國

ta *bu* |**mei-you* ***yinggai*** *qu* *faguo*

he not |not-have **should** go France

Intended: 'He should not go to France.' (Mand.; Li 2007: 278)

The ungrammaticality of *méiyǒu* in stative sentences has found support in a more recent account. Lin (2003a) has proposed that the distinction between *bù* and *méi(yǒu)* lies in their aspectual selection requirements; (19) summarises his claims:

(19) Main claims in Lin (2003a: 428)

a. *Bù* aspectually selects as its complement a stative situation that requires no input of energy in order to obtain that situation.

b. *Méi* aspectually selects an event as its complement.

Lin defines states as situations that do not develop or change in time. In other words, states simply obtain in time without conscious effort for their initial obtainment or later continuation. Non-stative situations have the opposite properties, namely, they are situations that change over time, and require energy input both for the initial realisation of the situation and in

sustaining its occurrence (cf. Comrie's (1976) concept of lack of energy input in defining stativity). Lin uses the assumptions in (19) as a diagnostic for stative predicates, i.e. where negation with *bù* is acceptable, the predicate must be stative. This diagnostic has included habituals (attitudinals and pure habituals included) in the group of stative predicates as in (20), in addition to the three cases mentioned in Li & Thompson (1981) — stative verbs and adjectives, and modals.

(20) Habitual sentences

a. Attitudinals

我**不**抽煙

wo ***bu*** *chaoyan*

I **not** smoke.cigarette

'I don't smoke.' (Mand.; Lin 2003a: 434)

b. 'Pure' habituals

(i) 我常常**不**洗澡

wo *chang-chang* ***bu*** *xizao*

I often-often **not** shower

lit. 'I often do not shower.' (also 'I don't want to shower)

(Mand,; Lin 2003a: 434)

(ii) 我**不**常常洗澡

wo ***bu*** *chang-chang* *xizao*

I **not** often-often shower

'I do not often shower.' (Mand.; Lin 2003a: 435)

Since *bù* cannot negate progressive-marked sentences (21), or sentences marked with *zhe* (e.g. sentences marked as continuous (22), locative-inversion sentences (23), and positional sentences (24)), these structures are regarded as non-stative.

(21) Progressive aspect

a. 我 不｜沒**在**洗澡

wo ******bu* |*mei* ***zai*** *xicao*

I not |not.have PROG shower

'I am not taking a shower.' (Mand.; Lin 2003a: 430)

b. 我 不｜沒**在**蓋房子

wo ******bu* |*mei* ***zai*** *gai* *fangzi*

I not |not.have PROG build house

'I am not building a house.' (Mand.; Lin 2003a: 429)

(22) Continuous aspect

他 不｜沒推**着**一輛木頭車

ta ******bu* |*mei* *tui-**zhe*** *yi* *liang* *mutou* *che*

he not |not.have push-CONT one CL wood car

'He is not pushing a wooden trolley.' (Mand.; Lin 2003a: 431)

(23) Locative-inversion sentences

牆上不｜沒掛**着**一幅畫

qiang *shang* ******bu* |*mei* *gua-**zhe*** *yi* *fu* *hua*

wall on not |not.have hang-CONT one CL painting

'There isn't a painting hanging on the wall.' (Mand.; Lin 2003a: 431)

(24) Positional sentences

我 不｜沒在床上躺**着**

wo ******bu* |*mei* *zai* *chuang* *shang* *tang-**zhe***

I not |not.have be.at bed on lie-CONT

'I am not lying on the bed.' (Mand.; Lin 2003a: 431)

While there is little question about the compatibility of *bù* with stative predicates as Lin (2003a) and Li & Thompson (1981) have consistently suggested, Lin's account runs into two problems. Firstly, the argument provided to justify that *bù* only negates stative predicates is circular. Lin,

on the one hand, uses the compatibility with *bù* as a diagnostic for stativity, and on the other hand, uses the same set of data to prove that the difference between *bù* and *méi* is that *bù* aspectually selects for stative predicates. The circularity of his arguments casts doubt on the claims made regarding the distribution of *bù* and *méi* being governed by stativity, which leads to the second issue.

Lin claims that *bù* has an aspectual requirement to select stative predicates as its complement, while *méi* selects eventive predicates. This predicts that *bù* and *méi(yǒu)* are necessarily in complementary distribution, given that a situation cannot be both stative and eventive at the same time. But counterexamples are not hard to find; (25) and (26) are two cases in point.

(25) Stative verbs

a. 我**不**喜歡這個人

wo	***bu***	*xihuan*	*zhei*	*ge*	*ren*
I	**not**	like	this	CL	person

'I do not like this person.' (Mand.)

b. 我**沒有**喜歡這個人

wo	***mei-you***	*xihuan*	*zhei*	*ge*	*ren*
I	**not-have**	like	this	CL	person

'I did not like this person.' (Mand.)

(26) Eventive verbs

a. 我**不**買書

wo	***bu***	*mai*	*shu*
I	**not**	buy	book

'I do not buy books.' (Mand.)

b. 我**沒有**買書

wo	***mei-you***	*mai*	*shu*
I	**not-have**	buy	book

'I did not buy books.' (Mand.)

If Lin's claims in (19) are correct, (25b) would be ill-formed because *méi* selects for eventive predicates but 'to like this person' is stative, and (26a) would also be ruled out because *bù* selects for stative predicates and 'to buy books' is an activity. The fact that all four sentences above are grammatical challenges Lin's assumptions. Therefore, though it is worth bearing in mind that negation in Mandarin has certain connections with stativity or situation type in general, a more systematic investigation is necessary to demystify the picture. Section 2.3.2 aims to explore the following based on data from the four Chinese varieties:

(i) whether the acceptability of the negators is affected by situation type;
(ii) if so, whether [±stative] is the feature that determines the choice of negator; and
(iii) whether different types of eventive predicates have different negation preferences.

2.3.2 Bare negatives in Chinese varieties

This section will present empirical evidence on the negation of simple verbal declarative sentences without overt aspect marking in the four Chinese varieties. These sentences contain predicates that denote the full array of situation types: [±psych] state, activity, accomplishment, achievement, and semelfactive; the same set of predicates will be used in Chapter 3. These bare sentences will be negated by 'not' and 'not have' in these varieties. Recall that in Chapter 1 the status of Gaozhou Cantonese *mau5 jau5* 'not have' remains ambiguous based on data from the *Chronicle* and field recordings. With the hypothesis that *mau5 jau5* consists of the negator *mau5* and a lexical verb *jau5* 'have', i.e. *mau5 jau5* is not a standard negator, the acceptability judgment data in this section serves the purpose of testing if *mau5 jau5* 'not have' in Gaozhou Cantonese does indeed fulfil the criteria for standard negator — (i) that it reverses the truth value of (a.k.a. negates) the proposition of a simple verbal declarative clause, and (ii) that it is the primary and obligatory strategy needed to do so. In what follows, the interaction between situation type and negation will be introduced one by one organised by the type of situation involved.

2.3.2.1 Negation and states

We begin with data from Beijing and Taiwan Mandarin, where the two standard negators, *bù* 'not' and *méi(yǒu)* 'not have' (see Chapter 1 for definition of 'standard negation'), are present in four sentences containing a stative predicate as in (27-30). The first two sentences contain a psych-predicate, and the latter two a non-psych predicate.

(27) 我(不｜[?]沒有) 害怕老鼠 (BM)
wo (bu |[?]mei-you) haipa laoshu
我(不｜[?]沒有) 害怕老鼠 (TM)
wo (bu |[?]mei-you) haipa laoshu
I not |not-have fear rats
Intended: 'I do not fear rats.'
'I did not fear rats.'

(28) 我 ([?]不｜[?]沒)喜歡小明 (BM)
wo ([?]bu |[?]mei) xihuan Xiaoming
我 (不｜沒)喜歡小明 (TM)
wo (bu |mei) xihuan Xiaoming
I not |not.have like Xiaoming
Intended: 'I do not like Xiaoming.'
'I did not like Xiaoming.'

(29) 我 (不｜[??]沒有) 知道這件事 (BM)
wo (bu |[??]mei-you) zhidao zhe jian shi
我 (不｜*沒有) 知道這件事 (TM)
*wo (bu |*mei-you) zhidao zhe jian shi*
I not |not-have know this CL event
Intended: 'I do not know about this event.'
'I did not know about this event.'

(30) 我 (不｜ʔ沒有) 認識陳先生 (BM)

wo (bu |ʔmei-you) renshi Chen xiansheng

我 (不｜ʔ沒有) 認識陳先生 (TM)

wo (bu |ʔmei-you) renshi Chen xiansheng

I not |not-have know Chan Mr

Intended: 'I do not know Mr Chan.'

'I did not know Mr Chan.'

The stative sentences above show that negation by *bù* is completely acceptable, which apparently concurs with the description in Li & Thompson (1981) and Lin (2003a). However, *bù* is not the only appropriate negator; *méi(yǒu)* is acceptable in most cases except for 'to know about something' in (29). Follow-up interviews with the Mandarin speakers[18] revealed that *méi(yǒu)* is particularly acceptable with psych-states and the meaning is identical to negative sentences with experiential *guo.* In other words, when the sentence contains a psych state, such as, 'to like Xiaoming' in (28), the reading produced by *méi(yǒu)* is that this situation has never existed.

In Hong Kong Cantonese, the standard negators, *m4* 'not' and *mou5* 'not.have', have been treated as counterparts of *bù* 'not' and *méi(yǒu)* 'not-have' in Mandarin. Therefore, presumably, the pattern found in the Mandarin varieties could neatly apply to Hong Kong Cantonese. Consider the following data:

[18] At the interview, speakers were asked to (i) specify if any of these 'not'/ 'not-have' pairs of bare sentences are both acceptable; (ii) where they are, to explain the meaning of each sentence (i.e. the sentence with 'not' and the sentence with 'not-have'); and (iii) to rate the acceptability of some bi-clausal sentences on a scale of 1-5. A total of 7 Beijing Mandarin speakers, 6 Taiwan Mandarin speakers, 5 Hong Kong Cantonese speakers, and 3 Gaozhou Cantonese speakers took part in this interview, all of whom participated in the online acceptability judgment task. The findings in the last task will be elaborated in section 2.3.3 when we discuss the cross-variety generalisations.

(31) 我 (唔｜[?]冇) 驚老鼠

ngo (m |[?]mou) geng lousyu

I not |not.have fear rats

Intended: 'I do not fear rats.'

'I did not fear rats.' (HKC)

(32) 我 (唔｜冇) 鍾意小明

ngo (m |mou) zungji Siuming

I not |not.have like Siuming

Intended: 'I do not like Siuming.'

'I did not like Siuming.' (HKC)

(33) 我 (唔｜[??]冇) 知道呢件事

ngo (m |[??]mou) zidou li gin si

I not |not.have know this CL event

Intended: 'I do not know about this event.'

'I did not know about this event.' (HKC)

(34) 我 (唔｜[??]冇) 識陳生

ngo (m |[??]mou) sik Can saang

I not |not.have know Chan Mr

Intended: 'I do not know Mr Chan.'

'I did not know Mr Chan.' (HKC)

Indeed, the results bear some similarity to Beijing and Taiwan Mandarin: *m4* is completely acceptable in all four sentences, and *mou5* is largely acceptable in psych states but very marginal with non-psych states. Therefore, it is evident that being stative does not strictly rule out negation by 'not have' — *méi(yǒu)* in Mandarin or *mou5* in Hong Kong Cantonese — and that the [±psych] feature of state predicates does affect their compatibility with the 'not.have' negator in the three Chinese varieties. This, however, is not the case in Gaozhou Cantonese, as illustrated in (35-38).

(35) 我 (冇｜[??]冇有) 狂老鼠

ngo (mau |[??]mau jau) kwong lousyu

I not |not have fear rats

Intended: 'I do not fear rats.'

'I did not fear rats.' (GZC)

(36) 我 (冇｜[?]冇有) 鍾意小明

ngo (mau |[?]mau jau) zungji Siuming

I not |not have like Siuming

Intended: 'I do not like Siuming.'

'I did not like Siuming.' (GZC)

(37) 我 (冇｜[?]冇有) 知道己件事

ngo (mau |[?]mau jau) deidou gei gin si

I not |not have know this CL event

Intended: 'I do not know about this event.'

'I did not know about this event.' (GZC)

(38) 我 (冇｜[?]冇有) 識得陳先生

ngo (mau |[?]mau jau) sikdak Can sinsaang

I not |not have know Chan Mr

Intended: 'I do not know Mr Chan.'

'I did not know Mr Chan.' (GZC)

The result shows *mau5* 'not' to be fully acceptable in all four sentences (4.6/5.0 on average), while *mau5 jau5* is slightly marginal (3.5/5.0 on average) in all four examples, with no variation sensitive to the [±psych] feature. Therefore, simply based on the findings in stative sentences, Gaozhou Cantonese seems to be the only variety that confirms the description in Lin's account.

2.3.2.2 Negation and activities

If being stative may not reliably predict the choice of negator, the question then turns to the other side of the coin: whether eventive predicates show any general inclination for 'not have' in Chinese varieties. In what follows, we will examine the negation of the four types of eventive predicates: activity, accomplishment, achievement, and semelfactive. The purpose is to find out (i) if the eventive predicates show any uniform preference for negation; (ii) whether the preference is for 'not have' across the four varieties. If the findings give a positive answer to both questions, then stativity may still be a determinant for the choice of negator, otherwise, the key to negator distribution in bare sentences should lie elsewhere. This subsection begins with the negation of activities, atelic durative events.

Examples (39-42) show four Mandarin sentences with activity-denoting predicates.

(39) 我 (ʔ不｜ʔ沒有) 散步 (BM)

wo (ʔbu |ʔmei-you) sanbu

我 (不｜ʔ沒有) 散步 (TM)

wo (bu |ʔmei-you) sanbu

I not |not-have stroll

lit. 'I do not stroll.'

'I did not stroll.'

(40) 我 (不｜ʔ沒) 唱歌 (BM)

wo (bu |ʔmei) chang ge

我 (不｜ʔ沒) 唱歌 (TM)

wo (bu |ʔmei) chang ge

I not |not.have sing songs

lit. 'I do not sing.'

'I did not sing.'

(41) 我 (不｜ʔ沒有) 看書 (BM)

wo (bu |ʔmei-you) kan shu

我 (不｜ʔ沒有) 看書 (TM)

wo (bu |ʔmei-you) kan shu

I not |not-have read book

lit. 'I do not read books.'

'I did not read books.'

(42) 我 (不｜ʔ沒) 跑步 (BM)

wo (bu |ʔmei) paobu

我 (不｜沒) 跑步 (TM)

wo (bu |mei) paobu

I not |not.have run

Literally: 'I do not run.'

'I did not run.'

Mandarin speakers once again find both *bù* and *méi(yǒu)* acceptable, and even with a slight preference for *bù,* contra Lin's suggestions. Activity sentences in (43-46) show both negators to be equally acceptable among Hong Kong Cantonese speakers as well. But unlike *méiyǒu,* which is sometimes rated as slightly marginal in the Mandarin varieties, *mou5* 'not.have' in Hong Kong Cantonese is completely acceptable.

(43) 我 (唔｜冇) 散步

ngo (m |mou) saanbou

I not |not.have stroll

lit. 'I do not stroll.'

'I did not stroll.' (HKC)

(44) 我 (ʔ唔｜冇) 唱歌

ngo (ʔm |mou) coeng go

I not |not.have sing songs

lit. 'I do not sing.'

'I did not sing.' (HKC)

(45) 我 (唔｜冇) 睇書

ngo (m |mou) tai syu

I not |not.have read book

lit. 'I do not read books.'

'I did not read books.' (HKC)

(46) 我 (唔｜冇) 跑步

ngo (m |mou) paaubou

I not |not.have run

lit. 'I do not run.'

'I did not run.' (HKC)

In Gaozhou Cantonese, *mau5 jau5* 'not have' is consistently considered marginal (the average score is 3.6/5.0 for the four examples), and the preference for *mau5* 'not' is clear (4.7/5.0 on average), as shown in (47-50).

(47) 我 (冇｜ʔʔ冇有) 散步

ngo (mau |ʔʔmau jau) saanbou

I not |not have stroll

lit. 'I do not stroll.'

Intended: 'I did not stroll.' (GZC)

(48) 我 (ʔ冇｜ʔ冇有) 唱歌

ngo (ʔmau |ʔmau jau) coeng go

I not |not have sing songs

lit. 'I do not sing.'

Intended: 'I did not sing.' (GZC)

(49) 我 (冇｜ʔ冇有) 睇書

ngo (mau |ʔmau jau) tai syu

I not |not have read book

lit. 'I do not read books.'

Intended: 'I did not read books.' (GZC)

(50) 我 (冇｜ʔ冇有) 跑步

ngo (mau |ʔmau jau) paaubou

I not |not have run

lit. 'I do not run.'

Intended: 'I did not run.' (GZC)

In short, negation by 'not' is consistently well-formed in all four varieties; it is the acceptability of 'not have' in negating activities that varies across the varieties. Up till now, the acceptability of *m4* and *mou5* in Hong Kong Cantonese is mostly parallel to that of *bù* and *méi(yǒu)* in the Mandarin varieties. Nevertheless, the following three situation types present a different picture, particularly where *mou5* is concerned.

2.3.2.3 Negation and accomplishments

Beijing and Taiwan Mandarin speakers are indifferent to the choice of negator in accomplishment sentences. However, 'indifference' stands for different acceptability levels in different varieties: Beijing Mandarin speakers consider both negators slightly marginal (both scored 4.1/5.0), while Taiwan Mandarin speakers regard both negators as completely acceptable (*bù* scored 4.6 and *méiyǒu* 4.8 on average).

(51) 我 (ʔ不｜ʔ沒有) 吃這塊蛋糕 (BM)

wo (ʔbu |ʔmei-you) chi zhe kuai dangao

我 (不｜沒有) 吃這塊蛋糕 (TM)

wo (bu |mei-you) chi zhe kuai dangao

I not |not-have eat this piece cake

lit. 'I do not eat this piece of cake.'

'I did not eat this piece of cake.'

(52) 我 (ʔ不｜ʔ沒) 寫這封信 (BM)

wo (ʔbu |ʔmei) xie zhe feng xin

我 (ʔ不｜沒) 寫這封信 (TM)

wo (ʔbu |mei) xie zhe feng xin

I not |not.have write this CL letter

lit. 'I do not write this letter.'

'I did not write this letter.'

In Hong Kong Cantonese, based on the average scores given by all speakers on the two accomplishment sentences (53-54), there is a subtle bias for *mou5*: *m4* is slightly marginal (4.2/5.0), *mou5* is completely acceptable (4.5/5.0).

(53) 我 (ʔ唔｜冇) 食呢舊蛋糕

ngo (ʔm |mou) sik li gau daangou

I not |not-have eat this piece cake

lit. 'I do not eat this piece of cake.'

'I did not eat this piece of cake.' (HKC)

(54) 我 (唔｜冇) 寫呢封信

ngo (m |mou) se li fung seon

I not |not.have write this CL letter

lit. 'I do not write this letter.'

'I did not write this letter.' (HKC)

Once again, the pattern in Gaozhou Cantonese differs from the other three varieties. Gaozhou Cantonese speakers are not indifferent to the choice of negator: *mau5* 'not' is the fully acceptable negator (rated 4.5/5.0 on average), and *mau5 jau5* is marginally acceptable (3.6/5.0).

(55) 我 (冇｜[?]冇有) 食己隻蛋糕

ngo	*(mau*	*|[?]mau*	*jau)*	*sik*	*gei*	*zik*	*daangou*
I	not	|not	have	eat	this	piece	cake

lit. 'I do not eat this piece of cake.'

Intended: 'I did not eat this piece of cake.' (GZC)

(56) 我 (冇｜[?]冇有) 寫己封信

ngo	*(mau*	*|[?]mau*	*jau)*	*se*	*gei*	*fung*	*seon*
I	not	|not	have	write	this	CL	letter

lit. 'I do not write this letter.'

Intended: 'I did not write this letter.' (GZC)

Therefore, the general picture is that, with telic durative events, i.e. accomplishments, the bias towards 'not have' is very minimal, if present at all.

2.3.2.4 Negation and achievements

Moving on to telic punctual events, the acceptability of 'not' and 'not have' becomes more contrastive. Mandarin speakers from Beijing and Taiwan both consider negation of achievement predicates by *bù* very marked and prefer *méi(yǒu),* though negative sentences with *méi(yǒu)* are not completely well-formed either.

(57) 我 (ʔʔ不｜ʔ沒有) 贏比賽 (BM)

wo (ʔʔbu |ʔmei-you) ying bisai

我 (ʔʔ不｜ʔ沒有) 贏比賽 (TM)

wo (ʔʔbu |ʔmei-you) ying bisai

I not |not-have win race

lit. 'I do not win the race.'

'I did not win the race.'

(58) 我 (ʔʔ不｜ʔ沒) 認出陳先生 (BM)

wo (ʔʔbu |ʔmei) renchu Chen xiansheng

我 (ʔʔ不｜沒) 認出陳先生 (TM)

wo (ʔʔbu |mei) renchu Chen xiansheng

I not |not.have recognise Chan Mr

lit. 'I do not recognise Mr Chan.'

'I did not recognise Mr Chan.'

Similarly, the preference for negation by *mou5* 'not have' in Hong Kong Cantonese is clear. The results show *m4,* like *bù,* to be very marginal*,* while *mou5* is completely acceptable.

(59) 我 (ʔʔ唔｜冇) 贏比賽

ngo (ʔʔm |mou) jeng beicoi

I not |not.have win race

lit. 'I do not win the race.'

'I did not win the race.' (HKC)

(60) 我 (ʔʔ唔｜冇) 打爛隻杯

ngo (ʔʔm |mou) daalaan zek bui

I not |not.have shatter CL mug

lit. 'I do not shatter the mug.'

'I did not shatter the mug.' (HKC)

In Gaozhou Cantonese, however, the pattern is completely different. Both negators are found to be marginally acceptable with little difference in rating between them — *mau5* 'not' is rated 3.9/5.0 on average, and *mau5 jau5* 'not have' 4.1/5.0. Though subtle, it is worth highlighting that achievement is the only type of situation where *mau5 jau5* receives higher scores than *mau5.*

(61) 我 (ʔ冇｜ʔ冇有) 贏比賽

ngo (ʔmau |ʔmau jau) jing beicoi

I not |not have win race

lit. 'I do not win the race.'

Intended: 'I did not win the race.' (GZC)

(62) 我 (ʔ冇｜ʔ冇有) 打爛隻杯

ngo (ʔmau |ʔmau jau) daalaan zik bui

I not |not have shatter CL mug

lit. 'I do not shatter the mug.'

Intended: 'I did not shatter the mug.' (GZC)

Therefore, what is special about negation of achievements is that it is the only type of situation where negation by the 'not' negator is clearly disfavoured cross-linguistically.

2.3.2.5 Negation and semelfactives

Finally, with semelfactives, the negation pattern resembles what has been observed with activities and accomplishments, that is, both negators are acceptable, with a slight preference for 'not have'. In both Mandarin varieties, the preferred negator is *méi(yǒu)* 'not-have': in Beijing Mandarin, both *bù* and *méi(yǒu)* are slightly marginal, while in Taiwan Mandarin, *méi(yǒu)* is completely acceptable, as shown in (63-64).

(63) 我 (ʔ不｜ʔ沒有) 敲門 (BM)

wo (ʔbu |ʔmei-you) qiao men

我 (ʔ不｜沒有) 敲門 (TM)

wo (ʔbu |mei-you) qiao men

I not |not-have knock door

lit. 'I do not knock on the door.'

'I did not knock on the door.'

(64) 我 (ʔ不｜ʔ沒) 打嗝 (BM)

wo (ʔbu |ʔmei) dage

我 (ʔ不｜沒) 打嗝 (TM)

wo (ʔbu |mei) dage

I not |not.have hiccup

lit. 'I do not hiccup.'

'I did not hiccup.'

The preference for 'not have' is found in Hong Kong Cantonese as well. Hong Kong Cantonese also resembles Taiwan Mandarin in regarding negation with 'not-have' (i.e. *mou5* in Hong Kong Cantonese) as completely acceptable and 'not' (i.e. *m4*) as slightly marginal — on average among speakers and examples, *m4* is rated 4.3 while *mou5* scored 5.0.

(65) 我 (唔｜冇) 敲門

ngo (m |mou) haau mun

I not |not.have knock door

lit. 'I do not knock on the door.'

'I did not knock on the door.' (HKC)

(66) 我 (ʔ唔｜冇) 打思嚏

ngo (ʔm |mou) daasiik

I not |not.have hiccup

lit. 'I do not hiccup.'

'I did not hiccup.' (HKC)

Gaozhou Cantonese is again an exception. Gaozhou Cantonese speakers consider *mau5* 'not' completely acceptable (4.6/5.0 on average), and *mau5 jau5* 'not have' marginal.

(67) 我 (冇｜ʔ冇有) 敲門

ngo (mau |ʔmau jau) haau mun

I not |not have knock door

lit. 'I do not knock on the door.'

Intended: 'I did not knock on the door.' (GZC)

(68) 我 (ʔ冇｜ʔ冇有) 打嗝

ngo (ʔmau |ʔmau jau) daagaak

I not |not have hiccup

lit. 'I do not hiccup.'

Intended: 'I did not hiccup.' (GZC)

2.3.3 Negation of bare sentences in Chinese varieties: cross-linguistic observations

The judgment results discussed in section 2.3.2 are summarized in Table 2.5.

Table 2.5. Negation-situation type compatibility in Chinese varieties.

	BM		TM		HKC		GZC	
	bù 'not'	*méi(yǒu)* 'not-have'	*bù* 'not'	*méi(yǒu)* 'not-have'	*m4* 'not'	*mou5* 'not.have'	*mau5* 'not'	*mau5 jau5* 'not have'
State [+psych]	✓$_{4.8}$	?$_{3.4}$	✓$_{4.9}$	?$_{4.4}$	✓$_{4.6}$	?$_{4.2}$	✓$_{4.6}$	?$_{3.5}$
State [–psych]	✓$_{5.0}$	??$_{2.5}$	✓$_{5.0}$	??$_{2.4}$	✓$_{4.6}$	??$_{2.6}$	✓$_{4.7}$	?$_{3.6}$
Activity	✓$_{4.8}$	?$_{4.4}$	✓$_{5.0}$	?$_{4.3}$	✓$_{4.6}$	✓$_{4.7}$	✓$_{4.6}$	?$_{3.7}$
Accomplishment	?$_{4.1}$	?$_{4.1}$	✓$_{4.6}$	✓$_{4.8}$	?$_{4.2}$	✓$_{4.5}$	✓$_{4.5}$	?$_{3.6}$
Achievement	??$_{1.6}$	?$_{4.4}$	??$_{1.6}$	?$_{4.4}$	??$_{2.4}$	✓$_{4.7}$	?$_{3.9}$	?$_{4.1}$
Semelfactive	?$_{3.9}$	?$_{4.5}$	?$_{4.0}$	✓$_{4.7}$	?$_{4.3}$	✓$_{5.0}$	✓$_{4.6}$	?$_{4.2}$

Table 2.5 highlights two important findings. First, a clear-cut negator selection requirement is only found in two types of predicates: non-psych states and achievements; the former is only compatible with 'not', and the latter only with 'not have'. The other situations can be negated by either negator with little, if any, grammaticality consequence in Beijing Mandarin, Taiwan Mandarin, and Hong Kong Cantonese. Where both negators are acceptable (completely acceptable or slightly marginal), the choice between the two may be subject to cross-linguistic variation. The second finding is the fact that this pattern is inapplicable to Gaozhou Cantonese. In Gaozhou Cantonese, negation of bare declaratives by 'not have' is never completely acceptable regardless of situation type, the scores given range between 3.5/5.0 (psych states) and 4.2/5.0 (semelfactives). In other words, 'not' is the only fully acceptable negator where negation can be grammatically applied to the sentence; negation of achievements is the exception where *mau5* 'not' is also slightly marginal (3.9/5.0). The findings lead to two questions: first, if both negators can be acceptable with most situation types, then what distinguishes one negator from the other in those cases? Second, if Gaozhou Cantonese speakers never fully accept *mau5 jau5* 'not have' with any situation type, then where can *mau5 jau5* 'not have' be well-formed?

For the first question, follow-up interviews with Beijing Mandarin, Taiwan Mandarin, and Hong Kong Cantonese speakers (see footnote 17 for details about the procedures of the interviews) show a consistent picture that the difference between 'not' and 'not have' is a semantic one when they appear in activity, accomplishment and semelfactive sentences. This meaning contrast has been mentioned in passing in Li & Thompson (1981). They suggest that, with a stative predicate, *bù* simply denies the existence of the state; however, with an activity "over which the subject has some control", negation with *bù* implies refusal and unwillingness of the subject to take part in the event, so *méi(yǒu)* must be used if the occurrence of the event is to be negated (1981: 423). Native speakers consulted have made a similar remark that negation with 'not have' always denies the realisation of the situation, i.e. the situation did not happen. The idea that activities involve volition goes back to Vendler (1957), who commented that, with states and achievements, the ability to perform the 'action' is largely equivalent to the performance of the 'action' itself; but the same cannot be claimed for activities. The argument follows that the performance of an activity is voluntary, i.e. involves volition. 'To run' and 'to recognise someone/something' are examples used by Vendler to illustrate such presence/absence of volition: while to start or stop running can be done deliberately, 'to recognise something/someone' cannot, as illustrated in (69) (adapted from Vendler 1957: 149).

(69) a. John deliberately | carefully **sang**. [activity]
b. #John deliberately | carefully **knew Mary**. [state]
c. #John deliberately | carefully **recognised the truth**. [achievement]

Li (1999/2007) also reported that negation with *bù* can produce a volitional reading, as in (70). In fact, the volitional reading is the only licit interpretation in the presence of a postverbal frequency adverbial (71).

(70) 我不唱歌
wo *bu* *chang* *ge*
I NEG sing song
a. 'I do not sing songs.'
b. 'I won't sing songs.' (Mand.; Li 2007: 276)

(71) 他不來三次

ta *bu* *lai* *san* *ci*

3.SG NEG come three times

a. * 'He did not come three times.'

b. 'He won't come three times.' (Mand.; ibid.)

The result of the follow-up interviews shows that the meaning of the 'not'-sentences is not limited to a volitional reading. When *bù* negates an activity, accomplishment, or semelfactive, the meaning systematically varies between a volitional reading (i.e. the speaker lacks the willingness to realise the situation) and a habitual reading (i.e. the speaker does not have the habit of participating in the situation denoted), according to the situation type. This pattern extends to Hong Kong Cantonese as well. Speakers of these three varieties reported a tendency to interpret the activity and semelfactive sentences with a habitual reading, and the accomplishment sentences with a volitional reading, which differs from the description in Li & Thompson (1981) and Li (1999/2007). A simple cancellation test resolves the puzzle. The examples below share the same structure: the first clause contains an eventive predicate negated by 'not', and the second clause is the conjunction; the meaning of the whole sentence is basically: 'I do not do X, but I actually want to', where X is the event. (72-73) are examples of what the disjunctive sentences look like in Beijing and Taiwan Mandarin, and Hong Kong Cantonese.

(72) ?我不唱歌，但其實我(很)想唱 (BM)

?*wo* *bu* *changge* *dan* *qishi* *wo* *(hen)* *xiang* *chang*

?我不唱歌，但其實我(很)想唱 (TM)

?*wo* *bu* *changge* *dan* *qishi* *wo* *(hen)* *xiang* *chang*

I not sing-song but actually I very want sing

'I do not sing, but I actually want to.'

(73) ʔ我唔唱歌，但係其實我(好)想唱

ʔ*ngo m coeng go*

I not sing song

daanhai keisat ngo (hou) soeng coeng

but actually I very want sing

'I do not sing, but I actually want to.' (HKC)

The mechanism here is to see if the volitional clause (i.e. the second clause) is acceptable, given the semantics of the first 'not'-clause. Crucially, the cancellability of the volitional reading is a sign that the reading is a pragmatic inference as opposed to semantic entailment. There are three possible scenarios:

(i) If the sentence is acceptable, it means that the 'not'-clause is compatible with a volitional reading, but it is cancellable by the disjunction. This means a volitional reading is present in the 'not'-clause by pragmatic inference.

(ii) If the sentence is unacceptable, it either indicates (a) that the 'not'-clause is incompatible with a volitional reading, that is, no volitional reading is present in the 'not'-clause, and the second clause is anomalous; or (b) that the sentence is unacceptable because the 'not'-clause encodes a volitional reading that is not cancellable, in which case the volitional reading is semantically entailed.

Table 2.6. Judgment results on volitional reading of 'not'-sentences.

	BM	TM	HKC
Activity	?	??	?
Accomplishment	??	??	??
Semelfactive	??	*	??

Based on the speakers' judgments summarised in Table 2.6 and their descriptive report on the meaning of the sentences, the interpretation of the three types of event can be accounted for by the three possible scenarios suggested above. Activity sentences demonstrate the first scenario. Speakers of all three varieties interpreted the 'not'-activity sentences with a habitual reading, i.e. the speaker has no such habit of performing that activity. The volitional reading

suggested in the literature is in fact an inference, as it is cancellable by the disjunctive clause; this is most clearly shown in Beijing Mandarin and Hong Kong Cantonese judgments. When accomplishments are negated by 'not', the sentence semantically encodes denial of volition/willingness, which is not cancellable, since native speakers consistently interpreted the 'not'-accomplishment sentences to mean the speaker does not want to take part in the event and found those disjunctive sentences very marginal. Finally, 'not'-semelfactive sentences belong to the third scenario where the volitional reading is absent in the negative clause altogether. Indeed, speakers, cross-linguistically, ruled out the possibility that a 'not'-semelfactive sentence, such as the negation of 'to hiccup', can be followed by a clause expressing volition as in (74).

(74) ??我不打嗝，但其實我(很)想打 (BM)

??*wo bu dage dan qishi wo (hen) xiang da*

??我不打嗝，但其實我(很)想打 (TM)

??*wo bu dage dan qishi wo (hen) xiang da*

I not hiccup but actually I very want hiccup

'I do not hiccup, but I actually want to.'

That the volitional reading is absent in some semelfactive sentences (e.g. to hiccup in 74) may not be surprising as such events are hardly controllable in the real world, thus a volitional reading is only licensed by very marked contexts. In sum, the two negators in Beijing Mandarin, Taiwan Mandarin, and Hong Kong Cantonese are not necessarily in complementary distribution; except with non-psych states and achievements, both negators can appear in bare negative clauses. In the majority of cases where both negators are acceptable, their distribution produces semantic consequences: negation with 'not' (Mandarin *bù* and Hong Kong Cantonese *m4*) generates a modality reading, either habitual or volitional; negation with 'not have' (Mandarin *méiyǒu* and Hong Kong Cantonese *mou5*) systematically denies the realisation of the situation.

The second question concerns the status of *mau5 jau5* 'not have' as a standard negator in Gaozhou Cantonese, and the answer to this question has important implications for the

workings of negation in bare declaratives in the variety. Recall the examples discussed in Chapter 1, repeated here as (75-76). Here, *mau5 jau5* is acceptable, and it stands for 'not exist' (75) and 'not possess' (76).

(75) 佢**冇有**招牌打出嚟架呢

keoi	***mau***	***jau***	*ziupaai*	*daa*	*ceot*	*lei*	*gaa*	*ne*
3.SG	**NEG**	**have**	signboard	place	out	come	SFP	SFP

'It [the restaurant] doesn't have a signboard out there.' (GZC† [U])

(76) 張師傅肯定**冇有**存摺

Zoeng sifu	*hangding*	***mau***	[***jau***	*cyunzip*]
Zoeng master	sure	**NEG**	**have**	passbook

'Master Cheung certainly doesn't have a passbook.' (GZC; Zhang 2006: 1741)

Prima facie, the judgment results presented so far do not indicate clear-cut support for or rejection of the standard negator status of *mau5 jau5* 'not have'. The fact that all sentences negated by *mau5 jau5* are slightly marginal regardless of situation type is open to two interpretations. First, *mau5 jau5* 'not have' is a standard negator because, though it may not be the preferred negation strategy, it is still an available option. Alternatively, the quantitative results may be unreliable due to speakers' 'acquiescence bias' — the tendency to agree with what is given. Findings from follow-up interviews corroborate the latter possibility. Indeed, speakers who rated the *mau5 jau5* 'not have' sentences as high as 4.0/5.0 in the online questionnaire firmly rejected them in the interview. The reason given was that the sentences are comprehensible though grammatically ill-formed. This could be explained by the linguistic status of these varieties. As discussed in the methodology section in Chapter 1, Gaozhou Cantonese is the only variety that is not an official language among the four varieties investigated, it is also the least institutionalised variety. These factors may contribute to speakers being less confident and clear-cut with their acceptability judgments, which would explain the relatively low threshold for fully acceptable and completely unacceptable sentences (i.e. a higher score for the upper boundary of unacceptable sentences, and a lower score for fully acceptable ones), and consequently narrows the score range for each

subdivision within marginally acceptable structures, as seen in the grammaticality annotation scales established in Chapter 1 (77).

(77) Beijing Mandarin: (✓) 4.7-5.0, (?) 3.0-4.6, (??) 1.4-2.9, (*) 1.0-1.3
Taiwan Mandarin: (✓) 4.5-5.0, (?) 3.0-4.4, (??) 1.6-2.9, (*) 1.0-1.5
Hong Kong Cantonese: (✓) 4.4-5.0, (?) 3.0-4.3, (??) 1.6-2.9, (*) 1.0-1.5
Gaozhou Cantonese: (✓) 4.4-5.0, (?) 3.2-4.3, (??) 2.0-3.1, (*) 1.0-1.9

One final piece of evidence comes from the discovery that sentences negated by *mau5* 'not' in Gaozhou Cantonese are open to three interpretations: denial of realisation of the situation, of volition or of the habit in realising the situation. In the follow-up interview, sentences (78-83) were all found to be fully acceptable to the speakers, which indicates that the reading of *mau5* is not affected by situation type so long as the situation is eventive. With stative predicates, *mau5* expectedly negates the realisation of the state.

(78) 我冇唱歌，但係其實我(好)想唱

ngo	*mau*	*coeng*	*go*				
I	not	sing	song				
daanhai		*keisat*		*ngo*	*(hou)*	*soeng*	*coeng*
but		actually		I	very	want	sing

'I don't sing, but I actually want to.' (GZC)

(79) 我冇睇書，但係其實我(好)想睇

ngo	*mau*	*tai*	*syu*				
I	not	read	book				
daanhai		*keisat*		*ngo*	*(hou)*	*soeng*	*tai*
but		actually		I	very	want	read

'I don't read books, but I actually want to.' (GZC)

(80) 我冇食己隻蛋糕，但係其實我(好)想食

ngo *mau* *sik* *gei* *zik* *dangou*
I not eat this piece cake
daanhai *keisat* *ngo* *(hou)* *soeng* *sik*
but actually I very want eat
'I won't eat this piece of cake, but I actually want to.' (GZC)

(81) 我冇寫己封信，但係其實我(好)想寫

ngo *mau* *se* *gei* *fung* *seon*
I not write this CL letter
daanhai *keisat* *ngo* *(hou)* *soeng* *se*
but actually I very want write
'I won't write this letter, but I actually want to.' (GZC)

(82) 我冇敲門，但係其實我(好)想敲

ngo *mau* *haau* *mun*
I not knock door
daanhai *keisat* *ngo* *(hou)* *soeng* *haau*
but actually I very want knock
'I won't knock on the door, though actually I really want to.' (GZC)

(83) 我冇打嗝，但係其實我(好)想打

ngo *mau* *daa* *gaak*
I not make hiccup
daanhai *keisat* *ngo* *(hou)* *soeng* *daa*
but actually I very want make
'I won't hiccup, though actually I really want to.' (GZC)

According to the speakers, when the predicate denotes an event, bare negative sentences with *mau5* are ambiguous between a volitional reading, habitual reading, and realisational reading; (84) illustrates the three potential readings.

(84) 我冇食己隻蛋糕

ngo *mau* *sik* *gei* *zik* *daangou* (GZC)

I not eat this piece cake

a. 'I will not eat this piece of cake' — volition

b. 'I do not (usually) eat this piece of cake' — habitual

c. 'I did not eat this piece of cake.' — realisation

The fact that *mau5*, unlike *bù* or *m4,* does not show any semantic preference and little grammaticality restriction with regard to situation type not only highlights an important point of cross-linguistic contrast, but also establishes a final piece of evidence that *mau5* is the general negator in Gaozhou Cantonese, in the sense that it is applicable to basically all types of predicate and is invariably the unmarked negation strategy. Therefore, putting the different pieces of evidence together, the overall picture consistently points to the conclusion that *mau5 jau5* 'not have' is not a standard negator in Gaozhou Cantonese, the only standard negator is *mau5* 'not'. *Mau5 jau5* is only acceptable and productive if *jau5* 'have' is a lexical verb meaning 'to exist' or 'to possess' and *mau5* 'not' negates it, i.e. [not V_{HAVE}].

To conclude, there are two standard negators in Beijing and Taiwan Mandarin — *bù* and *méi(yǒu)* — and two standard negators in Hong Kong Cantonese — *m4* and *mou5* — but only one standard negator in Gaozhou Cantonese, *mau5.* These negators are all acceptable in bare negatives to a large extent but generate systematically different readings, which can be briefly summarized in the table below:

Table 2.7. Standard negators and bare negatives

	non-existence	non-volitional/habitual
BM	*méi(yǒu)*	*bù*
	*non-psych states	*achievement
TM	*méi(yǒu)*	*bù*
	*non-psych states	*achievement
HKC	*mou5*	*m4*
	*non-psych states	*achievement
GZC	*mau5*	
	compatible with all situation types, and interpretations restricted contextually	

2.4 Positioning negation

The purpose of this section is to pinpoint the structural position of these standard negators based on the data for bare negatives; a formal account for the semantic distinction between negators as observed in Mandarin and Hong Kong Cantonese will be provided in Chapter 4. Research on negation has concluded that the structural position for sentential negation is subject to cross-linguistic, parametric variation (Ouhalla 1990, Zanuttini 1997). Moreover, the distribution of sentential negation varies within limits. Broadly speaking, there are two main positions where negation can be base-generated: to the left of I, and to the left of V. The former means that sentential negation can possibly take scope over the subject especially if it c-commands the entire IP as in West Flemish (Haegeman 1995);[19] whereas, in the lower position, negation scopes over the predicate only (i.e. excluding the subject which is typically in spec-IP). For instance, Pollock (1989) has suggested that negation in French ('ne…pas') and English

[19] Instead of TP as in the traditional Minimalist framework (cf. Chomsky 1995), the analysis here will use the label IP, drawing insights from Ritter & Wiltschko (2009), who showed that in Halkomelem (Salish) and Blackfoot (Algonquian), it is location and person that anchor thematic information to the discourse (as partially encoded in the CP). Therefore, Tense Phrase (TP) may not be the most cross-linguistically appropriate label for this domain, while the less specific IP may be.

('not') are hosted in NegP between TP and AgrP (i.e. TP > (NegP) > AgrP > VP). Ouhalla (1990) further suggests that Turkish *me* and Swedish *inte* are negators located in the same position as English *not.* On the other hand, Haegeman (1995) has argued that West Flemish *en…nie* is located higher in the clause, in a position which dominates TP. Negation in Chinese belongs to the second type, where the negator appears preverbally following the subject, as in (85) and the examples presented in section 2.4. The low position of standard negation could be connected to the fact that Chinese verb movement is confined within the VP shell (cf. the standard view based on Huang 1991, 1992, 1994; Paul 2000), which means the predicate remains low in structure, and so should negation which scopes over the predicate.

(85) Chinese standard negation

a. 我不|沒有唱歌

wo	*bu*	|*mei-(you)*	*changge*
I	not	|not-(have)	sing.song

'I do/did not sing.' (Mand.)

b. 我唔|冇唱歌

ngo	*m*	|*mou*	*coenggo*
I	not	|not.have	sing.song

'I do/did not sing.' (HKC)

c. 我冇唱歌

ngo	*mau*	*coenggo*
I	not	sing.song

'I do/did not sing.' (GZC)

Note that, although the preverbal position is the only permissible position for standard negation, it is not the only position where the negators can appear. Negators can appear in sentence-final position as question particles in Mandarin and Gaozhou Cantonese, as in (86), but not in Hong Kong Cantonese (with the exception for *mei6* 'not yet').

(86) Negators as question particles

a. 你吃飯了**沒有**?

ni *chifan-le* ***mei-you***

you eat.rice-PFV **not-have**

'Have you eaten?' (Mand.)

b. 我做的菜好吃**不**?

wo *zuo-de* *cai* *haochi* ***bu***

I make-GEN food tasty **not**

'Is my cooking good?' (Mand.)

c. 你三年搞得到**冇**?

nei *saam* *nin* *gaau* *dak* *dou* ***mau***

you three year do able CPL **not**

'Can you settle it in three years?' (GZC[†])

In terms of constituent negation, *méi* and *mou5* can be used as negative quantifiers and take argument positions as in (87), while *bù* and *m4* can immediately precede adverbs and adjectives, similar to the English negative prefixes (e.g. *un-, dis-,* etc.) to reverse the lexical meaning of those adverbials (88).

(87) Negators and negative quantifiers

a. **沒人**認識陳先生

mei ***ren*** *renshi* *Chen-xiansheng*

not.have people know Mr Chan

'**Nobody** knows Mr Chan.' (Mand.)

b. 今日**冇人**打過電話俾陳生

gamjat ***mou*** ***jan*** *daa-gwo* *dinwaabei* *Can-saang*

today **not.have** **people** call-EXP phone to Mr Chan

'Nobody telephoned Mr Chan today.'(HKC)

c. **冇人**知道陳先生係乜誰

mau	***jan***	*daidou*	*Can-sinsaang*	*hai*	*matseoi*
not	**people**	know	Mr Chan	be	who

'**Nobody** knows who Mr Chan is.' (GZC)

(88) Negators and adverbials

a. 他很**不**高興地離開了

ta	*hen*	***bu****-gaoxing-de*	*likai*	*le*
3.SG	very	**un**happy	leave	LE

'He very unhappily left.' (Mand.)

b. 佢好**唔**開心咁走咗喇

keoi	*hou*	***m****-hoisam-gam*	*zau-zo*	*laa*
3.SG	very	**un**happy	go-PFV	SFP

'He very unhappily left.' (HKC)

c. 有高速係**冇**好嗲個

jau	*goucuk*	*hai*	***mau***	*hou*	*de*	*go*
have	highway	be	**not**	good	SFP	SFP

'It is not good to have a highway.' (GZC[+])

Focusing on standard negation, Ernst (1995) has identified two positions in which Mandarin negation can appear: spec-AuxP and spec-VP; the latter is argued to be the position of *bù* 'not' when there is an overt aspect marker. Holmberg (2016) reinterprets the position of spec-VP in Ernst (1995) as spec-*v*P since Ernst's account predates the *v*P/VP distinction, but confirms the availability of two negation positions in Mandarin: spec-IP, which Holmberg classifies as middle negation (89a), and spec-*v*P which is regarded as low negation (89b).

(89) a. 小明**不**可以去

Xiaoming	***bu***	*keyi*	*qu*
Xiaoming	**not**	can	go

'Xiaoming is **not** allowed to go.' (Mand.; Wu 2015)

b. 小明可以**不**去

Xiaoming *keyi* ***bu*** *qu*

Xiaoming can **not** go

'Xiaoming is allowed **not** to go.' (Mand.; ibid.)

Holmberg (2016) shows, based on data on Mandarin yes-no questions and answers, that *bù* occupies different positions in (89a) and (89b). Examples (90-91) illustrate how a negative yes-no question can be answered in Mandarin.

(90) Mandarin particle question with low negation (Mand.; Holmberg 2016: 192)

Q: 老程可以**不**去嗎？

Lao *Cheng* *keyi* ***bu*** *qu* *ma?*

Lao Cheng can **not** go QPrt

'Is Lao Cheng allowed not to go?'

A1: 是, (他可以不去)

shi, *(ta* *keyi* *bu* *qu)*

yes he can not go

'Yes (he is allowed not to go).'

A2: 不, (他不可以不去)

bu, *(ta* *bu* *keyi* *bu* *qu)*

no he not can not go

'No (he is not allowed not to go).' (= He must go.)

(91) Mandarin particle question with middle negation (Mand.; Holmberg 2016: 193)

Q: 老程**不**可以去嗎？

Lao *Cheng* ***bu*** *keyi* *qu* *ma?*

Lao Cheng **not** can go QPrt

'Is Lao Cheng not allowed to go?'

A1: 是, (他不可以去)

shi, *(ta* *bu* *keyi* *qu)*

yes he not can go

'Yes (he is not allowed to go).'

A2: 不, (他可以去)

bu, *(ta* *keyi* *qu)*

no he can go

'No (he can go).'

A3: 不, (他不可以去)

bu, *(ta* *bu* *keyi* *qu)*

no he not can go

'No (he cannot go).'

In (90), the proposition of the question is 'Lao Cheng is allowed not to go'. Answers to this question, whether affirmative or negative, respond according to the truth value of the proposition stated in the question. In other words, *shì* 'yes' affirms that the proposition of 'Lao Cheng is allowed not to go' is true, while *bù* 'no' states that the proposition is not true (i.e. 'Lao Cheng is not allowed not to go'). Holmberg classifies this type of yes-no question system as a truth-based system, which contrasts with polarity-based systems where the affirmative and negative answers to yes-no questions are signalled in accordance with the polarity of the question as in English and most of the Indo-European languages.[20]

In (91), negation scopes over the modal *kéyǐ* 'can' in the question, and thus expresses the proposition of 'Lao Cheng is not allowed to go'. The affirmative answer in (91) A1 again affirms the truth value of the proposition, but it becomes more complicated when the answer is

[20] The example below illustrates how a polarity-based system works.

(i) Q: Is John not coming?

A1: No, (he isn't coming.)

A2: Yes, (he is coming.)

Simply put, the negative answer in A1 agrees in polarity value with that of the question, so the proposition is confirmed, whereas the answer in A2 carries positive polarity, which reverses the proposition (i.e. ¬p).

negative: a short answer *bù* can be interpreted as 'Lao Cheng can go' (A2) or 'Lao Cheng cannot go' (A3). The possibility of having the reading in A2 follows naturally from the definition of a truth-based system, but the reading in A3 is unexpected. Holmberg (2016) explains that A3 is a result of negative neutralization. In his theory of yes-no questions, there is argued to be an abstract polarity variable that is projected at the left periphery of IP and takes sentential scope This polarity variable is unvalued by default, but can be specified by (i) any overt negative elements (e.g. negation or negative polarity items) within its c-commanding domain, and (ii) an externally merged polarity feature in the C-domain, but if none of these is present, the variable will be interpreted as [+Pol] (i.e. affirmative) by default. The interesting contrast between A2 in (90) and A3 in (91) is that, in (90) negation is in the scope of the modal, and a double negation reading is produced when the answer is *bù* 'no'; whereas, the answer *bù* 'not' in (91) A3 is neutralized by the negation in the question (and thus inherited by the answer by identity in ellipsis). In a phase-based theory, the principled explanation for this would be that, in (90), the negation in 'Lao Cheng is allowed *not* to go' is low within the *v*P, and since it is within the lower phase, it is inaccessible to the polarity variable at the left periphery of IP for valuation. Hence, two [–Pol] co-exist in the same structure — the one inherited from the question is in *v*P and the one expressed by the short answer *bù* is in CP — thus, a double negation reading is produced ('Lao Cheng is not allowed not to go'). In contrast, the negation in 'Lao Cheng is not allowed to go' in (91) is higher in the structure, and proximal enough to the polarity variable to value it as [–Pol]. Since this [–Pol] co-exists with the [–Pol] in CP, the two polarity features neutralize themselves to produce a concord effect in (91) A3, i.e. 'no, (he is not allowed to go').

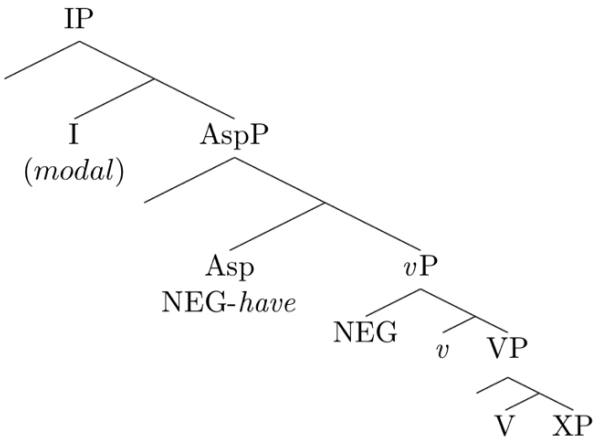
Holmberg's account provides clear evidence for the existence of two possible positions for *bù* in Mandarin: spec-IP and spec-*v*P. However, the distinction is only prominent and relevant when a modal is present, as in (90) and (91). In standard negation as shown in the examples in section 2.3, it is possible to assume that *bù* is in the lower position of spec-*v*P. Assuming the analysis of *bù* to be applicable to Hong Kong Cantonese *m4,* the question remains as to where *méi(yǒu)* in Mandarin, *mou5* in Hong Kong Cantonese and *mau5* in Gaozhou Cantonese should be. In the literature (*i.a.* Wang 1965, Huang 1988, Ernst 1995, Li 1997), *méi* and *bù* are generally taken to occupy different positions: *méi* is higher than *bù*. The argument for such height difference between the Mandarin negators boils down to where *yǒu* 'have' in *méi(yǒu)* lies in

the structure. It is generally understood that *yǒu* 'have' is an auxiliary (except when it is a lexical verb meaning 'to exist' or 'to possess'), and has been postulated as the exponent of Aux^0 (or I^0) or of Asp^0 for its connection with perfectivity. Since *méi(yǒu)* can be analysed as the combination of NEG and the auxiliary *yǒu* 'have' presumably via head adjunction, the structural position of *méi(yǒu)* follows where the position of *yǒu* is suggested to be. If this analysis of *méi(yǒu)* is on the right track, and assuming that Hong Kong Cantonese *mou5* occupies the same position as *méi(yǒu)* in Mandarin, the negation structure will be as follows:

(92) [… [$_{IP}$ I [$_{AspP}$ [Asp NEG-*have*] [$_{vP}$ [NEG] *v* [VP…]]]]]
→ [… [$_{IP}$ I [$_{AspP}$ [Asp *mei-you*] [$_{vP}$ [*bu*] *v* [VP…]]]]] (BM & TM)
→ [… [$_{IP}$ I [$_{AspP}$ [Asp *mou5*] [$_{vP}$ [*m4*] *v* [VP…]]]]] (HKC)
→ [… [$_{IP}$ I [$_{AspP}$ Asp [$_{vP}$ [*mau5*] *v* [VP…]]]]] (GZC)

So, tentatively, the Chinese clausal structure can be as represented in (93).

(93) Chinese clause structure (II)



To anticipate, the nature of *yǒu* in *méiyǒu* will be re-examined in Chapter 4, where, based on historical and comparative data, I will show that *yǒu* is not an aspectual auxiliary, and hence *méi(yǒu)* is not in Asp^0 but lower in the structure. We will return to this issue in Chapter 4 with more in-depth discussion.

2.5 Conclusion

This chapter has contextualised the negation-aspect interaction in Chinese varieties against the theoretical background on aspect. By adopting Smith's (1997) two-component theory of aspect, this dissertation considers both the interaction between negation and situation type, and that between negation and viewpoint aspect. This chapter has focused on the former component of aspect — situation type; the next chapter will focus on viewpoint aspect. The empirical evidence from four Chinese varieties has provided a much more fine-grained picture of how situation type may affect the appropriateness of certain negators. Stative predicates, in particular, may not uniformly select for 'not' (i.e. *bù* in Mandarin varieties, *mou5* in Hong Kong Cantonese, and *mau5* in Gaozhou Cantonese). The choice depends primarily on whether the predicate is a psych state such as 'to like', or a non-psych state such as 'to know something'. Achievement is the only type of situation that show a clear-cut requirement for 'not have' cross-linguistically; all others accept both negators. In most cases, what distinguishes the two negators is their interpretation: 'not have' constantly denies the realisation of the situation, while 'not' varies between a habitual reading and a volitional reading. In short, this chapter has provided a systematic description of how negation works in simple verbal declarative sentences without aspect marking, and has clarified some of the generalisations made in the literature concerning (i) the effect of stativity on negation, and (ii) the volitional reading in *bù*-sentences. The crucial question left unresolved is why should the negation pattern be the way it is? This general question can be elaborated as three issues:

(i) what determines that non-psych states should only be negated by 'not', and achievements only by 'not have' in varieties with these two standard negators?

(ii) what causes the systematic difference in meaning between 'not have'-sentences and 'not'-sentences in Beijing and Taiwan Mandarin, and Hong Kong Cantonese when the sentences denote activities, accomplishments, and semelfactives?

(iii) what is the difference between *méi(yǒu)* in Mandarin varieties and *mau5 jau5* in Gaozhou Cantonese that makes the former a standard negator and the latter not, despite the apparent identity in structure?

These questions will be addressed in Chapters 4 from both diachronic and synchronic perspectives. But to gain a comprehensive understanding of how negation interacts with aspect, Chapter 3 moves on to explore the negation of sentences with overt aspect marking.

Chapter 3

Negation with overt Aspect

3.1 Introduction

In Chapter 1, I introduced the Chinese negation puzzle which is the centre of attention of this thesis, as repeated in (1-3).

(1) Affirmative:

a. 我買書

wo *mai* *shu*

I buy book

'I buy books.' (Mand.; Wang 1965)

Negative:

b. 我不買書

wo ***bu*** *mai* *shu*

I **not** buy book

'I do not buy books.' (Mand.; ibid.)

(2) Affirmative:

a. 我買了書

wo *mai-le* *shu*

I buy-PFV book

'I bought books.' (Mand.; ibid.)

Negative:

b. *我不買了書

wo* ***bu* *mai-**le*** *shu*

I **not** buy-**PFV** book

Intended: 'I did not buy books.' (Mand.; ibid.)

c. *我沒有買了書

wo* ***mei-you* *mai-**le*** *shu*

I **not-have** buy-**PFV** book

Intended: 'I did not buy books.' (Mand.; ibid.)

d. 我沒有買書

wo ***mei-you*** *mai* *shu*

I **not-have** buy book

'I did not buy books.' (Mand.; ibid.)

(3) Affirmative:

a. 我買過書

wo *mai-guo* *shu*

I buy-EXP book

'I have bought books (before).' (Mand.; ibid.)

Negative:

b. *我不買過書

wo* ***bu* *mai-**guo*** *shu*

I **not** buy-**EXP** book

Intended: 'I have not bought books (before).' (Mand.; ibid.)

c. 我沒有買過書

wo ***mei-you*** *mai-**guo*** *shu*

I **not-have** buy-**PFV** book

'I have not bought books (before).' (Mand.; ibid.)

The puzzle contains two parts: the negation of bare sentences (1) and the negation of aspect-marked sentences (2-3). Chapter 2 has dealt with the first half and examined the negation

compatibility in five types of situations. In a nutshell, the conclusion is that, where a variety has 'not' and 'not have' as standard negators, 'not' is the only legitimate negator for non-psych states and 'not have' for achievements, in the other situation types the choice between 'not' and 'not have' only creates an interpretational difference. This chapter focuses on the second half of the puzzle. In order to obtain a comprehensive picture of how negation and viewpoint aspect interact in Chinese varieties, four common viewpoints will be explored, namely, perfective, experiential, preverbal imperfective 'be.loc', and postverbal imperfective.

This chapter is structured as follows. Section 3.2 will first explore the compatibility between situation types and the four aspectual viewpoints in affirmative sentences. With these findings, it is possible to identify the impact of negation-viewpoint compatibility on the overall grammaticality of aspect-marked negative sentences, by factoring out any variation caused by situation type-viewpoint aspect compatibility independently of negation. Then, sections 3.3 through 3.6 will present original findings on negation-viewpoint aspect compatibility from the four Chinese varieties; the findings are organised according to the viewpoint perspectives: perfective aspect (section 3.3), experiential aspect (section 3.4), preverbal imperfective 'be.loc' (section 3.5), and finally postverbal imperfective aspect (section 3.6). All sentences under investigation are simple verbal declarative sentences that contain predicates denoting one of the five situation types (as listed in Table 2.2 in section 2.2), and marked by the viewpoint aspect markers of the respective Chinese variety. Taking into account the conclusions regarding situation type-viewpoint compatibility and negation-situation type compatibility, section 3.7 will highlight the cross-linguistic similarities and variations in the relationship between negation and viewpoint aspect. In section 3.8, I will review three approaches to Chinese aspect, and propose that aspects in Chinese are generated in V^0 and receive their interpretation via Agree with Asp^0. Finally, section 3.9 rounds up the discussion on negation and viewpoint aspect, and points to important issues to be addressed in the analysis chapters — Chapters 4 and 5.

3.2 Situation type-viewpoint aspect interaction in Chinese

In this section, what has been described about the interaction between situation type and viewpoint aspect in the literature will be tested with empirical evidence drawn from the four Chinese varieties: Beijing Mandarin, Taiwan Mandarin, Hong Kong Cantonese, and Gaozhou Cantonese. The purpose of presenting this set of judgment results is to set the scene for discussions on negation-aspect interaction in sections 3.3 to 3.7. Without a systematic examination of the interaction between the two components of aspect in each of the Chinese varieties explored, it is not feasible to decipher whether and how negation is sensitive to situation or to viewpoint aspect, should there be any such sensitivity. The data is classified by situation type, and each example shows the acceptability of the affirmative sentence when it is marked by each of the four viewpoint aspect markers in the variety concerned. All data presented in this section is taken from the online acceptability judgment questionnaires completed in 2016-2017 (see section 1.4.3 for details about methodology and grammaticality annotations).

3.2.1. States and viewpoint aspect

There are two contradictory predictions made on state-viewpoint compatibility in Mandarin: on the one hand, Smith (1997) claims that statives are not compatible with any viewpoints; on the other hand, she suggests that *zhe* can occur with stage-level stative predicates, and when *le* appears with states the interpretation becomes inchoative, signalling the coming about of a state. Examples (4-7) show that it is too strong to claim that states cannot be specified for any viewpoint in Mandarin: *le* with non-psych statives (6-7) is completely acceptable; with psych statives, *guo* is acceptable in (4-5), but *zhe* is generally ill-formed in (4-7) in both varieties.

(4) 我 (??在) 害怕 (*了) (?過) (??着) 老鼠 (BM)

wo (??zai) haipa (-le) (?-guo) (??-zhe) laoshu*

我 (??在) 害怕 (??了) (?過) (??着) 老鼠 (TM)

wo (??zai) haipa (??-le) (?-guo) (??-zhe) laoshu

I be.at fear PFV EXP CONT rats

Bare affirmative: 'I fear rats.'

(5) 我 (?在) 喜歡 (??了) (過) (?着) 小明 (BM)

wo (?zai) xihuan (??-le) (-guo) (?-zhe) Xiaoming

我 (??在) 喜歡 (??了) (過) (着) 小明 (TM)

wo (??zai) xihuan (??-le) (-guo) (-zhe) Xiaoming

I be.at like PFV EXP CONT Xiaoming

Bare affirmative: 'I like Xiaoming.'

(6) 我 (*在) 知道 (了) (??過) (*着) 這件事 (BM)

*wo (*zai) zhidao (-le) (??-guo)(*-zhe) zhei jian shi*

我 (*在) 知道 (了) (??過) (??着) 這件事 (TM)

*wo (*zai) zhidao (-le) (??-guo)(??-zhe) zhei jian shi*

I be.at know PFV EXP CONT this CL event

Bare affirmative: 'I know about this event.'

(7) 我 (*在) 認識 (了) (??過) (*着)陳先生 (BM)

*wo (*zai) renshi (-le) (??-guo) (*-zhe) Chen Xiansheng*

我 (??在) 認識 (?了) (??過) (??着)陳先生 (TM)

wo (??zai) renshi (?-le) (??-guo)(??-zhe) Chen Xiansheng

I be.at know PFV EXP CONT Chan Mr

Bare affirmative: 'I know Mr Chan.'

The nature of Mandarin *le* has been a long-standing puzzle. There are two major lines of analysis pursued in the literature: (i) verb-final *le* (a.k.a. verbal *le*) as perfective aspect and

sentence-final *le* (a.k.a. sentential *le*) as inchoative/change-of-state aspect (cf. Chao 1968, Li & Thompson 1981, Ross 1995, Smith 1997, Sybesma 1999, Xiao & McEnery 2004, Soh 2009); (ii) verbal *le* and aspectual sentential *le* are the same (cf. Huang and Davis 1989, Shi 1990, Lin 2003b). The crucial observation that these analyses share is that, when a stative predicate is marked by *le*, the aspectual viewpoint becomes inchoative, be that a verbal *le* or a sentential *le.* Soh (2009) has dismissed the possibility that this inchoative *le* can be verbal *le* since the inchoative reading only arises when *le* is sentence-final or both verb-final and sentence-final, but never otherwise. Examples (6-7) show precisely the contrary: the inchoative reading is produced, meaning 'I know about this event now, but didn't before' in (6) and 'I know Mr Chan now, but didn't before' in (7). This may prompt some rethinking of the idea that the interpretation of *le* is neatly predictable from its structural position — perfective when verb-final, inchoative when sentence-final — since the inchoative reading in (6-7) occurs when *le* is unambiguously verb-final. To thoroughly account for this pattern would go beyond the scope of this chapter; however, the relation between stativity of the predicate and the interpretation of *le* in Mandarin deserves further research.

If the Mandarin viewpoint system corresponds neatly with that of Hong Kong Cantonese, we should expect perfective *zo2* to be completely acceptable in non-psych statives (10-11), and experiential *gwo3* to be marginally acceptable in psych statives (8-9); all imperfective viewpoints should be ruled out. Note that Hong Kong Cantonese *zyu6*, which could be the marked imperfective marker, is partially similar to *zhe* in Mandarin varieties, but it is not included in the discussion for reasons explicated in section 2.2.3.

(8) 我 ([??]喺度) 驚 ([?]咗) ([?]過) ([??]緊) 老鼠

ngo	*([??]haidou)*	*geng*	*([?]-zo)*	*([?]-gwo)([??]-gan)*		*lousyu*
I	be.loc	fear	PFV	EXP	PROG	rats

Bare affirmative: 'I fear rats.' (HKC)

(9) 我 ([??]喺度) 鍾意 (咗) (過) ([?]緊) 小明

ngo	*([??]haidou)*	*zungji*	*(-zo)*	*(-gwo)*	*([?]-gan)*	*Siuming*
I	be.loc	like	PFV	EXP	PROG	Siuming

Bare affirmative: 'I like Siuming.' (HKC)

(10) 我 ([?]喺度) 知道 (咗) ([?]過) ([??]緊) 呢件事

ngo	*([?]haidou)*	*zidou*	*(-zo)*	*([?]-gwo)([??]-gan)*	*li*	*gin*	*si*
I	be.loc	know	PFV	EXP	PROG	this	CL	event

Bare affirmative: 'I know about this event.' (HKC)

(11) 我 ([?]喺度) 識 (咗) ([??]過) ([??]緊) 陳生

ngo	*([?]haidou)*	*sik*	*(-zo)*	*([??]-gwo)([??]-gan)*	*Can*	*saang*
I	be.loc	know	PFV	EXP	PROG	Chan	Mr

Bare affirmative: 'I know Mr Chan.' (HKC)

Examples (8) through (11) show perfective *zo2* to be completely acceptable with states — psych or non-psych. Experiential *gwo3* is found to be marginal in sentences with non-psych predicates (10-11), but more well-formed with psych states (8-9), like its counterpart *guo* in Beijing and Taiwan Mandarin. Neither of the imperfective markers are fully acceptable in stative sentences, but there is a distinction between [+psych] and [–psych] statives regarding their compatibilities with the two progressive markers, *gan2* and *hai2dou6*. *Gan2* is slightly marginal (3.0/5.0) with [+psych] states but very marginal (2.1/5.0) with [–psych] states, the reverse is true for *hai2dou6* — very marginal with [+psych] states (1.8/5.0), and only slightly marginal with [–psych] states (3.8/5.0). Such a distinction is not found in Beijing or Taiwan Mandarin imperfective markers *zhe* and *zai*; in Beijing Mandarin, for instance, both *zhe* and *zai* are completely unacceptable with [–psych] states, but both are slightly marginal with [+psych] states. Furthermore, when imperfective viewpoints are disfavoured with states, the judgments among Hong Kong Cantonese speakers are not as extreme as those found in Beijing and Taiwan Mandarin. The four examples here highlight that correspondences between Mandarin and Hong Kong Cantonese viewpoint markers — possibly those in other Sinitic varieties in general — are not completely straightforward, which makes a systematic investigation of Hong Kong

Cantonese viewpoints essential to the study of negation and aspect relations across various Chinese varieties.

The affirmative stative sentences specified for different viewpoints in Gaozhou Cantonese (12-15) show a similar pattern to that in Hong Kong Cantonese, though the contrasts are much obscured.

(12) 我 ([??]在己) 狂 ([??]喺) ([?]過) ([??]緊) 老鼠

ngo ([??]coigei)	*kwong ([??]-de)*	*([?]-gwo)([??]-gan)*	*lousyu*
I be.here	fear	PFV EXP PROG	rats

Bare affirmative: 'I fear rats.' (GZC)

(13) 我 ([??]在己) 鍾意 ([?]喺) ([?]過) ([?]緊) 小明

ngo ([??]coigei)	*zungji*	*([?]-de)*	*([?]-gwo)([?]-gan)*	*Siuming*
I be.here	like	PFV	EXP PROG	Siuming

Bare affirmative: 'I like Siuming.' (GZC)

(14) 我 ([?]在己) 知道 ([?]喺) ([?]過) ([??]緊) 己件事

ngo ([?]coigei)	*deidou ([?]-de)*	*([?]-gwo)([??]-gan)*	*gei*	*gin*	*si*
I be.here	know	PFV EXP PROG	this	CL	event

Bare affirmative: 'I know about this event.' (GZC)

(15) 我 ([?]在己) 識得 ([??]喺) ([??]過) ([??]緊) 陳先生

ngo ([?]coigei)	*sikdak ([??]-de)*	*([??]-gwo)([??]-gan)*	*Can*	*sinsaang*
I be.here	know	PFV EXP PROG	Chan	Mr

Bare affirmative: 'I know Mr Chan.' (GZC)

Overall, stative sentences are marginal when aspectually marked in Gaozhou Cantonese: between the two perfective viewpoints, *de6* is marginal when occurring with stative predicates, worse when it is a psych state as in (12); experiential *gwo3* is also marginal with stative predicates in general but shows an opposite preference for psych states instead of non-psych

states, which resembles the pattern in the other three varieties. The two progressive markers are also marginal when present in stative sentences. The preverbal marker *coi5gei2* 'be.here' is very marginal in (12-13) where the predicate denotes a psych-state, but slightly more acceptable with non-psych states; the postverbal progressive *gan2* has the opposite pattern — slightly better with psych states and very marginal with non-psych states.

3.2.2. Activities and viewpoint aspect

The theoretical frameworks discussed in section 2.2 generally consider activity and accomplishment to be most accommodating in terms of viewpoint compatibility, i.e. both situation types can be presented in any of the four viewpoints as seen in Table 2.3 in Chapter 2. The Mandarin examples of activity (16-19) largely confirm such generalisations, except for *zhe,* which is consistently rated as slightly marginal by speakers of both varieties. Viewing this from a purely Indo-European point of view, this exception is very unexpected, as compatibility with progressive or imperfective aspect is one of the defining characteristics of dynamic situations; in fact, the progressive test is the diagnostic employed in Vendler (1957) to differentiate state from non-state predicates. Nevertheless, this can be taken as an idiosyncratic feature of Mandarin aspect. Smith (1997) has analysed *zhe* as a stative imperfective viewpoint marker, which, quite naturally, stands in opposition with a [+dynamic] situation type as activity.

(16) 我 (在) 散(?了) (過) (?着)步 (BM)

wo (zai) san (?-le) (-guo) (?-zhe) bu

我 (在) 散(了) (過) (?着)步 (TM)

wo (zai) san (-le) (-guo) (?-zhe) bu

I be.at stroll PFV EXP CONT steps

Bare affirmative: 'I stroll.'

(17) 我 (在) 唱(了) (過) (着)歌 (BM)

wo (zai) chang (-le) (-guo) (-zhe) ge

我 (在) 唱(了) (過) (着)歌 (TM)

wo (zai) chang (-le) (-guo) (-zhe) ge

I be.at sing PFV EXP CONT songs

Bare affirmative: 'I sing.'

(18) 我 (在) 看(了) (過) (?着)書 (BM)

wo (zai) kan (-le) (-guo) (?-zhe) shu

我 (在) 看(了) (過) (着)書 (TM)

wo (zai) kan (-le) (-guo) (-zhe) shu

I be.at read PFV EXP CONT books

Bare affirmative: 'I read books.'

(19) 我 (在) 跑(?了) (過) (?着)步 (BM)

wo (zai) pao (?-le) (-guo) (?-zhe) bu

我 (在) 跑(了) (?過) (?着)步 (TM)

wo (zai) pao (-le) (?-guo) (?-zhe) bu

I be.at run PFV EXP CONT steps

Bare affirmative: 'I run.'

Moving on to Hong Kong Cantonese, we should expect all four viewpoints to be completely well-formed since the marked imperfective *zyu6* is excluded from the discussion; (20-23) below confirm this prediction. There are scattered cases of marginality from perfective viewpoints, *zo2* in (21) and *gwo3 in* (22) scored respectively as 4.0/5.0 and 4.3/5.0, but nothing points to any systematic incompatibility between perfectivity and activities.

(20) 我 (喺度) 散 (咗) (過) (緊) 步

ngo (haidou) saan (-zo) (-gwo) (-gan) bou

I be.loc stroll PFV EXP PROG steps

Bare affirmative: 'I stroll.' (HKC)

(21) 我 (喺度) 唱 (ʔ咗) (過) (緊) 歌

ngo (haidou) coeng (ʔ-zo) (-gwo) (-gan) go

I be.loc sing PFV EXP PROG songs

Bare affirmative: 'I sing.' (HKC)

(22) 我 (喺度) 睇 (咗) (ʔ過) (緊) 書

ngo (haidou) tai (-zo) (ʔ-gwo) (-gan) syu

I be.loc read PFV EXP PROG books

Bare affirmative: 'I read books.' (HKC)

(23) 我 (喺度) 跑 (咗) (過) (緊) 步

ngo (haidou) paau (-zo) (-gwo) (-gan) bou

I be.loc run PFV EXP PROG steps

Bare affirmative: 'I run.' (HKC)

Nevertheless, the pattern found in Gaozhou Cantonese is not as clear as what we have seen in the other varieties. The four Gaozhou Cantonese examples show that only the postverbal progressive marker *gan2* is completely acceptable with activity-denoting predicates, the others are all slightly marginal.

(24) 我 (ʔ在己) 散 (ʔ喺) (ʔ過) (ʔ緊) 步

ngo (ʔcoigei) saan (ʔ-de) (ʔ-gwo) (ʔ-gan) bou

I be.here stroll PFV EXP PROG steps

Bare affirmative: 'I stroll.' (GZC)

(25) 我 (ʔ在己) 唱 (喺) (ʔ過) (緊) 歌

ngo (ʔcoigei) coeng (-de) (ʔ-gwo) (-gan) go

I be.here sing PFV EXP PROG songs

Bare affirmative: 'I sing.' (GZC)

(26) 我 (ʔ在己) 睇 (ʔ喺) (ʔ過) (ʔ緊) 書

ngo (ʔcoigei) tai (ʔ-de) (ʔ-gwo) (ʔ-gan) syu

I be.here read PFV EXP PROG books

Bare affirmative: 'I read books.' (GZC)

(27) 我 (ʔ在己) 跑 (ʔ喺) (ʔ過) (緊) 步

ngo (ʔcoigei) paau (ʔ-de) (ʔ-gwo) (-gan) bou

I be.here run PFV EXP PROG steps

Bare affirmative: 'I run.' (GZC)

That progressive *gan2* is acceptable in sentences (24-27) is not surprising for theoretical reasons explained in section 2.2.2, but the observation that Gaozhou Cantonese speakers find all other viewpoints slightly marginal shows that activities in Gaozhou Cantonese are more constrained in terms of viewpoint specification than the other three Chinese varieties we have examined; more will be said about this observation, when we examine the data on accomplishment predicates in the following subsection.

3.2.3. Accomplishments and viewpoint aspect

The viewpoint compatibility with accomplishments should not differ much from that of activity since they are both dynamic durative situations, and telicity only affects the completion interpretation of the sentences (Smith 1997, Xiao & McEnery 2004). However, the picture for accomplishments empirically observed is not as neat as described in the literature. Perfective *le* is the only viewpoint considered completely acceptable in the Mandarin examples. Experiential *guo* is rated slightly marginal, possibly due to the definiteness of the direct object which makes *s*pecifying the event as one occurrence of a class less plausible; note that

experiential aspect has been interpreted as 'indefinite aspect' in Iljic (1987). Regarding imperfective viewpoints, Beijing Mandarin speakers generally accept progressive *zai* with accomplishments, but Taiwan Mandarin speakers show some inconsistency in their judgment of *zai* and *zhe* in the two examples. Both *zai* and *zhe* are fully acceptable in (28) but significantly worse in (29) — *zai* becomes very marginal (2.6/5.0) and *zhe* is completely unacceptable (1.3/5.0) — the cause of such variation is, however, unclear.

(28) 我(在) 吃(了) (?過) (?着)這塊蛋糕 (BM)

wo (zai) chi (-le) (?-guo) (?-zhe) zhe kuai dangao

我(在) 吃(了) (過) (着)這塊蛋糕 (TM)

wo (zai) chi (-le) (-guo) (-zhe) zhe kuai dangao

I be.at eat PFV EXP CONT this piece cake

Bare affirmative: 'I eat this piece of cake.'

(29) 我(?在) 寫(了) (?過) (?着)這封信 (BM)

wo (?zai) xie (-le) (?-guo) (?-zhe) zhe feng xin

我(??在) 寫(了) (?過) (*着)這封信 (TM)

wo (??zai) xie (-le) (?-guo) (-zhe) zhe feng xin*

I be.at write PFV EXP CONT this CL letter

Bare affirmative: 'I write this letter.'

Unlike the Mandarin varieties, Hong Kong Cantonese data does not involve two types of imperfective but two instantiations of progressive viewpoint, hence the complications observed in (28-29) should be irrelevant. This prediction is borne out in the Hong Kong Cantonese examples below: all four viewpoint markers are considered slightly marginal — the average scores range from 3.9 to 4.3/5.0.

(30) 我 (?喺度) 食 (?咗) (?過) (?緊) 呢舊蛋糕

ngo (?haidou) sik (?-zo) (?-gwo) (?-gan) li gau daangou

I be.loc eat PFV EXP PROG this piece cake

Bare affirmative: 'I eat this piece of cake.' (HKC)

(31) 我 (ʔ喺度) 寫 (ʔ咗) (ʔ過) (ʔ緊) 呢封信

ngo	*(ʔhaidou)*	*se*	*(ʔ-zo)*	*(ʔ-gwo)*	*(ʔ-gan)*	*li*	*fung*	*seon*
I	be.loc	write	PFV	EXP	PROG	this	CL	letter

Bare affirmative: 'I write this letter.' (HKC)

So far, if we compare activity predicates with accomplishments, the picture would be that activity predicates are largely unconstrained in terms of viewpoint marking, whilst accomplishments disfavour viewpoint marking to various degrees subject to cross-variety variation and the viewpoint specified. Gaozhou Cantonese presents a contrary case: accomplishment is one of the most accommodating situation types regarding viewpoint marking — the other verb class is semelfactives — while viewpoint marking is generally marginal with activity predicates.

(32) 我 (ʔ在己) 食 (喺) (過) (ʔ緊) 己舊蛋糕

ngo	*(ʔcoigei)*	*sik*	*(-de)*	*(-gwo)*	*(ʔ-gan)*	*gei*	*gau*	*daangou*
I	be.here	eat	PFV	EXP	PROG	this	piece	cake

Bare affirmative: 'I eat this piece of cake.' (GZC)

(33) 我 (ʔ在己) 寫 (ʔ喺) (過) (緊) 己封信

ngo	*(ʔcoigei)*	*se*	*(ʔ-de)*	*(-gwo)*	*(-gan)*	*gei*	*fung*	*seon*
I	be.here	write	PFV	EXP	PROG	this	CL	letter

Bare affirmative: 'I write this letter.' (GZC)

Comparing the patterns described here and the findings with activity sentences (24-27), it is quite evident that Gaozhou Cantonese viewpoint-situation type compatibility behaves differently from what has been observed in other varieties. Crucially, Gaozhou Cantonese does not show a telicity-sensitive preference for activity predicates with aspect marking — while durative atelic situations are most flexible with viewpoint specifications in Beijing Mandarin, Taiwan Mandarin and Hong Kong Cantonese, a careful examination of the scores given reveals that durative events in Gaozhou Cantonese are equally well-formed with viewpoint specifications regardless of telicity. This systematic difference found in Gaozhou Cantonese

cannot be attributed solely to the more reserved judgment attitude of the speakers, but highlights a fundamental cross-linguistic difference regarding the sensitivity of aspect marking to the telicity of the situation.

3.2.4. Achievements and viewpoint aspect

The traditional understanding is that punctual events — achievements and semelfactives — cannot take imperfect aspect as imperfective requires the event to have internal constituents for its focus (cf. Comrie 1976; Smith 1997). The generalisation is confirmed in the Mandarin varieties and in Hong Kong Cantonese, but apparently lost in Gaozhou Cantonese. Examples (34-35) show achievements to be mostly compatible with perfective viewpoints, but not with imperfective ones — both *zai* and *zhe* are rated as either very marginal or completely unacceptable by Beijing and Taiwan Mandarin speakers.

(34) 我(??在) 贏(了) (過) (??着)比賽 (BM)
wo (??zai) ying (-le) (-guo) (??-zhe) bisai
我(*在) 贏(了) (過) (*着)比賽 (TM)
*wo (*zai) ying (-le) (-guo) (*-zhe) bisai*
I be.at win PFV EXP CONT race
Bare affirmative: 'I win the race.'

(35) 我(*在) 認出(?了) (?過) (*着)陳先生 (BM)
*wo (*zai) renchu (?-le) (?-guo) (*-zhe) Chen xiansheng*
我(*在) 認出(了) (?過) (*着)陳先生 (TM)
*wo (*zai) renchu (-le) (?-guo) (*-zhe) Chen xiansheng*
I be.at recognise PFV EXP CONT Chan Mr
Bare affirmative: 'I recognise Mr Chan.'

Similarly, in Hong Kong Cantonese, achievements can be marked as perfective but not as imperfect, but the acceptability contrast is not as sharp as in Mandarin. Both perfective *zo2*

and experiential *gwo3* are completely well-formed in achievement sentences, whilst the two progressive markers are slightly marginal.

(36) 我 (ʔ喺度) 贏 (咗) (過) (ʔ緊) 比賽

ngo (ʔhaidou) jeng (-zo) (-gwo) (ʔ-gan) beicoi

I be.loc win PFV EXP PROG race

Bare affirmative: 'I win the race.' (HKC)

(37) 我 (ʔ喺度) 打爛 (咗) (過) (ʔ緊) 隻杯

ngo (ʔhaidou) daalaan (-zo) (-gwo) (ʔ-gan) zek bui

I be.loc shatter PFV EXP PROG CL mug

Bare affirmative: 'I shatter the mug.' (HKC)

In Gaozhou Cantonese, achievement predicates are found to be marginally acceptable when aspect-marked in general (38-39).

(38) 我 (ʔ在己) 贏 (嗲) (過) (ʔ緊) 比賽

ngo (ʔcoigei) jing (-de) (-gwo) (ʔ-gan) beicoi

I be.here win PFV EXP PROG race

Bare affirmative: 'I win the race.' (GZC)

(39) 我 (ʔ在己) 打爛 (ʔ嗲) (ʔ過) (ʔʔ緊) 隻杯

ngo (ʔcoigei) daalaan (ʔ-de) (ʔ-gwo) (ʔʔ-gan) zik bui

I be.here shatter PFV EXP PROG CL mug

Bare affirmative: 'I shatter the mug.' (GZC)

The acceptability scores of the Gaozhou Cantonese examples capture a subtle preference for perfective aspect which is congruent to what has been argued for in the literature and found in the other varieties: perfective *de6* and experiential *gwo3* have an average score above 4.0/5.0 (4.3 and 4.2 respectively), while the progressive markers (preverbal and postverbal)

are rated as 3.4/5.0 and 3.6/5.0. Nevertheless, the perfective-imperfective contrast in achievement sentences, though still holds, is significantly obscured in Gaozhou Cantonese.

3.2.5. Semelfactives and viewpoint aspect

In the literature, punctual situations are considered incompatible with imperfective aspect as they have no internal constituency to be viewed or focused. Adopting Comrie's (1976) classification, achievement is not the only kind of punctual situation; semelfactive is another. The generalisation is that the structure will be ill-formed when a semelfactive predicate is marked as imperfective. The Mandarin data clearly contradicts that generalisation but the Cantonese varieties do not form a uniform pattern in that respect. Examples (40-41) show semelfactive to be compatible with all four viewpoints in Mandarin.

(40) 我(在) 敲(了) (過) (着) 門 (BM)

wo (zai) qiao (-le) (-guo) (-zhe) men

我(在) 敲(了) (過) (ʔ着) 門 (TM)

wo (zai) qiao (-le) (-guo) (ʔ-zhe) men

I be.at knock PFV EXP CONT door

Bare affirmative: 'I knock on the door.'

(41) 我(在) 打(了) (過) (着) 嗝 (BM)

wo (zai) da (-le) (-guo) (-zhe) ge

我(在) 打(了) (ʔ過) (着) 嗝 (TM)

wo (zai) da (-le) (ʔ-guo) (-zhe) ge

I be.at make PFV EXP CONT hiccup

Bare affirmative: 'I hiccup.'

Hong Kong Cantonese shows a similar pattern: perfective *zo2* is slightly marginal in both (42) and (43), and (43) shows that progressive is completely acceptable, despite the general understanding that imperfective aspect and semelfactives are incompatible.

(42) 我 (ʔ喺度) 敲 (ʔ咗) (過) (ʔ緊) 門

ngo (ʔhaidou) haau (ʔ-zo) (-gwo) (ʔ-gan) mun

I be.loc knock PFV EXP PROG door

Bare affirmative: 'I knock on the door.' (HKC)

(43) 我 (喺度) 打 (ʔ咗) (ʔ過) (緊) 思嗆

ngo (haidou) daa (ʔ-zo) (ʔ-gwo) (-gan) siik

I be.loc make PFV EXP PROG hiccup

Bare affirmative: 'I hiccup.' (HKC)

Gaozhou Cantonese semelfactives also resemble the Mandarin pattern: apart from perfective *de* which is slightly marginal, all viewpoints are completely acceptable.

(44) 我 (在己) 敲 (ʔ嗲) (過) (緊) 門

ngo (coigei) haau (ʔ-de) (-gwo) (-gan) mun

I be.here knock PFV EXP PROG door

Bare affirmative: 'I knock on the door.' (GZC)

(45) 我 (在己) 打 (ʔ嗲) (ʔ過) (緊) 嗝

ngo (coigei) daa (ʔ-de) (ʔ-gwo) (-gan) gaak

I be.here make PFV EXP PROG hiccup

Bare affirmative: 'I hiccup.' (GZC)

This seemingly unexpected pattern with semelfactives and the imperfective can be easily explained by the distinction between semelfactive — momentary event that has no internal constituency temporally — and iterative which is the repeated occurrences of an event. Comrie (1976: 42-43) suggests that whenever a semelfactive is marked as imperfective, i.e. a momentary event in progress, it can be licensed by only two possible interpretations. The unmarked interpretation is that it is not referring to the same event, but a series of events happening repetitively (e.g. multiple instances of hiccups are taking place); hence the term iterative. The second interpretation, which is rather marked, would be that a sentence such as

'He is hiccupping' is produced in the context of a movie playback in slow motion such that a single hiccup event can be presented as a prolonged shot with several internal phases. Looking back to the Chinese examples above, in the absence of any specific contexts to license the second possible interpretation, the two imperfective markers should be licensed by an inferred iterative reading.

3.2.6. Summary

Tables 3.1. and 3.2 provide the summary of the average scores given to the aspect-marked affirmative sentences which denote each of the six situation types, including the [±psych] distinction within the class of stative predicates in the Mandarin and Cantonese varieties respectively.

Table 3.1. Situation-viewpoint compatibility in BM & TM (average of all examples).

	PFV *le*		EXP *guo*		'be.at' *zai*		CONT *zhe*	
	BM	TM	BM	TM	BM	TM	BM	TM
State [+psych]	??$_{1.7}$	??$_{2.1}$	?$_{4.5}$	?$_{4.4}$	?$_{3.0}$	??$_{2.5}$	?$_{3.0}$	?$_{3.2}$
State [–psych]	✓$_{4.9}$ [INCHO]	✓$_{4.5}$ [INCHO]	??$_{1.8}$	??$_{1.9}$	*$_{1.3}$	??$_{1.6}$	*$_{1.3}$	??$_{1.6}$
Activity	✓$_{4.7}$	✓$_{4.7}$	✓$_{5.0}$	✓$_{4.7}$	✓$_{5.0}$	✓$_{4.9}$	?$_{4.3}$	?$_{4.4}$
Accomplishment	✓$_{4.8}$	✓$_{5.0}$	?$_{4.3}$	?$_{4.4}$	✓$_{4.7}$	?$_{3.7}$	?$_{3.5}$	??$_{2.9}$
Achievement	✓$_{4.7}$	✓$_{5.0}$	?$_{4.3}$	?$_{4.0}$	??$_{1.5}$	*$_{1.4}$	*$_{1.3}$	*$_{1.3}$
Semelfactive	✓$_{4.9}$	✓$_{4.9}$	✓$_{4.8}$	✓$_{4.6}$	✓$_{5.0}$	✓$_{4.8}$	✓$_{4.7}$	?$_{4.4}$

Table 3.2. Situation-viewpoint compatibility in HKC & GZC (average of all examples).

	PFV		EXP		'be.loc'		PROG	
	HKC *zo2*	GZC *de6*	HKC *gwo3*	GZC *gwo3*	HKC *hai2dou6*	GZC *coi5gei2*	HKC *gan2*	GZC *gan2*
State [+psych]	?$_{4.3}$	??$_{2.9}$	?$_{4.1}$	?$_{4.1}$	??$_{1.8}$	??$_{2.9}$	?$_{3.0}$	?$_{3.4}$
State [–psych]	✓$_{4.5}$	?$_{3.3}$	?$_{3.0}$	??$_{3.1}$	?$_{3.8}$	?$_{3.6}$	??$_{2.1}$	??$_{2.4}$
Activity	✓$_{4.4}$	?$_{4.3}$	✓$_{4.5}$	?$_{4.0}$	✓$_{4.7}$	?$_{4.2}$	✓$_{5.0}$	✓$_{4.4}$
Accomplishment	?$_{4.2}$	✓$_{4.5}$	?$_{4.1}$	✓$_{4.4}$	?$_{4.2}$	?$_{4.3}$	?$_{4.2}$	✓$_{4.4}$
Achievement	✓$_{4.8}$	?$_{4.3}$	✓$_{4.7}$	?$_{4.2}$	?$_{3.5}$	?$_{3.6}$	?$_{3.7}$	?$_{3.4}$
Semelfactive	?$_{4.3}$	?$_{4.0}$	?$_{4.2}$	✓$_{4.4}$	?$_{4.2}$	✓$_{4.6}$	?$_{4.3}$	✓$_{4.4}$

Two findings regarding situation type-viewpoint aspect compatibility in Chinese varieties are of particular relevance to our discussion of Chinese negation. The first concerns aspect compatibility of Mandarin states. It was mentioned in section 3.2.1 that Smith (1997) has made two contradictory claims about the compatibility of stative predicates with aspect marking. On the one hand, she claims that Mandarin stative predicates cannot be aspect-marked at all (Smith 1997: 69); on the other hand, she suggests that the resultative/stative imperfective marker *zhe* is compatible with stage-level stative predicates and states marked by perfective *le* would produce an inchoative reading (Smith 1997: section 11.2). The empirical findings in this section resolves this seeming contradiction by classifying stative predicates into [+psych] and [–psych] states. What Smith describes as an across-the-board incompatibility with aspect is only partially true with non-psych stative predicates, and even so, we would still have to ignore the inchoative reading produced when states are marked as perfective. This derived inchoative reading (a.k.a. change-of-state reading) has been discussed in Comrie (1976: 58) and classified as the Perfect of result — one of the four types of Perfect proposed — since in this case the perfective *le,* which marks the termination of a situation, now indicates that the state denoted is the result state of some previous situation. The same is found in Hong Kong Cantonese as well, as shown by the acceptability of perfective-marked stative sentences: [+psych] states marked by *zo2* are considered slightly marginal (4.3/5.0) while [–psych] states are completely acceptable (4.5/5.0). On the other hand, for [+psych] stative predicates, *zhe* is indeed found to be marginally acceptable, but so is experiential *guo.* In sum, the data in this

section shows that stative predicates in Chinese are not incompatible with aspect marking, hence, when aspect-marked stative sentences are negated, the well-formedness of these sentences could not be straightforwardly predicted by the relationship between states and viewpoint aspect as suggested by Smith (1997), but subject to the interaction of three factors: negation-state compatibility (cf. section 2.3.2.1), negation-viewpoint aspect compatibility (as will be discussed in the remainder of this chapter), and state-viewpoint aspect compatibility (as discussed in this section).

Secondly, the imperfective markers in the four Chinese varieties display more fine-grained differences than expected. The general understanding in the literature is that achievements are incompatible with imperfective aspect. This is indeed testified in the Mandarin varieties, since neither *zai* or *zhe* can appear in achievement sentences (scores ranged 1.3- 1.5/5.0). However, the Cantonese varieties do not display any absolute incompatibility: in both Hong Kong and Gaozhou Cantonese, the two imperfective markers are considered only slightly marginal in achievement sentences (scores ranging between 3.4 and 3.7). One possible explanation might be to attribute the differences between Mandarin and Cantonese varieties to the fact that the postverbal imperfective marker *zhe* in Mandarin is a stative durative marker while the postverbal imperfective marker *gan2* in the Cantonese varieties is an unmarked progressive marker. This, however, cannot account for the grammaticality contrast found between Mandarin *zai* 'be.at' and its counterparts in Cantonese (i.e. *hai2dou6* in Hong Kong Cantonese and Gaozhou Cantonese *coi5gei2*) – Mandarin *zai* is completely unacceptable in achievement sentences in both Beijing and Taiwan varieties, while the 'be.loc' imperfective marker in the Cantonese varieties is only slightly marginal in the same achievement sentences. Therefore, it requires further investigation into the Cantonese aspect system to account for the deviation displayed by Cantonese imperfective markers from what is typically expected of imperfectives in terms of situation type compatibility and its deviation from the Mandarin pattern. Nevertheless, it suffices to conclude that the aspect systems across Chinese varieties are not as uniform as they appear, so any assumptions about their cross-linguistic correspondence should be made with caution.

Before probing into the negation data, it is necessary to establish a mechanism with which to deduce which of the three factors has the greatest impact on the grammaticality of negative

aspect-marked sentences (henceforth 'mixed sentences'). The three factors are: (i) situation type-viewpoint compatibility, (ii) negation-situation type compatibility (discussed in section 2.3), and (iii) negation-viewpoint aspect compatibility, which is the focus of sections 3.3 to 3.7. The null hypothesis is that all three factors interact evenly in determining the acceptability of 'mixed sentences'. Nevertheless, the data in the coming sections will reveal that this is rarely the case. Precisely, the fact that 'mixed sentences' show acceptability variation according to situation type-viewpoint compatibility or negation-situation type compatibility does not rule out the possibility that negation-viewpoint aspect compatibility has impacts on the acceptability of 'mixed sentences'; what matters is which factor plays the primary role. This is the objective of sections 3.3 to 3.7, and the findings from section 2.3 will be repeated in the summary tables to facilitate the argumentation. [21]

3.3 Negation and perfective aspect

3.3.1 Beijing and Taiwan Mandarin: negation and perfective *le*

One of the generally acknowledged empirical facts in the Chinese negation puzzle is that perfective *le* cannot appear in a negative sentence, whether with *bù* or *méi(yǒu)* (cf. Lee & Pan 2001 for a contrary view, which will be detailed in section 5.2.2). The judgment results generally confirm this observation. Negative *le*-sentences are rated as either very marginal (??) or completely unacceptable (*) in both Mandarin varieties (46-47), except in example (48) — 'I NEG win-PFV race' — where they find *méi(yǒu)* only slightly marginal (both 3.4/5.0).

[21] The complete set of examples is included in Appendix B, but some examples will be discussed in the main text where necessary.

(46) 我 (*不｜*沒有) 知道**了**這件事 (BM)

*wo (*bu |*mei-you) zhidao-**le** zhe jian shi*

我 (*不｜*沒有) 知道**了**這件事 (TM)

*wo (*bu |*mei-you) zhidao-**le** zhe jian shi*

I not |not-have know-**PFV** this CL event

Affirmative: 'I knew about this event.'

(47) 我 (??不｜??沒有) 看**了**書 (BM)

*wo (??bu |??mei-you) kan-**le** shu*

我 (*不｜??沒有) 看**了**書 (TM)

*wo (*bu |??mei-you) kan-**le** shu*

I not |not-have read-**PFV** book

Affirmative: 'I read books.'

(48) 我 (*不｜?沒有) 贏**了**比賽 (BM)

*wo (*bu |?mei-you) ying-**le** bisai*

我 (*不｜?沒有) 贏**了**比賽 (TM)

*wo (*bu |?mei-you) ying-**le** bisai*

I not |not-have win-**PFV** race

Affirmative: 'I won the race.'

Tables 3.5 and 3.6 present the acceptability ratings of three sets of data from Beijing Mandarin and Taiwan Mandarin: (i) affirmative perfective sentences marked by *le* which illustrate situation-*le* compatibility (see section 3.2), (ii) bare negative sentences which show negation-situation type compatibility (see section 2.3), and (iii) negative perfective sentences marked by *le* (under 'mixed').

Table 3.5. *Bù* and *le.*

	le		*bù*		Mixed	
	BM	TM	BM	TM	BM	TM
State [+psych]	??$_{1.7}$	??$_{2.1}$	✓$_{4.8}$	✓$_{4.9}$	*$_{1.2}$	??$_{1.8}$
State [–psych]	✓$_{4.9}$	✓$_{4.5}$	✓$_{5.0}$	✓$_{5.0}$	*$_{1.2}$	*$_{1.4}$
Activity	✓$_{4.7}$	✓$_{4.7}$	✓$_{4.8}$	✓$_{5.0}$	??$_{1.4}$	*$_{1.0}$
Accomplishment	✓$_{4.8}$	✓$_{5.0}$	?$_{4.1}$	✓$_{4.6}$	??$_{1.7}$	*$_{1.4}$
Achievement	✓$_{4.7}$	✓$_{5.0}$	??$_{1.6}$	??$_{1.6}$	*$_{1.2}$	*$_{1.2}$
Semelfactive	✓$_{4.9}$	✓$_{4.9}$	?$_{3.9}$	?$_{4.0}$	??$_{1.4}$	*$_{1.4}$

Table 3.6. *Méi(yǒu)* and *le.*

	le		*méi(yǒu)*		Mixed	
	BM	TM	BM	TM	BM	TM
State [+psych]	??$_{1.7}$	??$_{2.1}$	?$_{3.4}$	?$_{4.4}$	*$_{1.2}$	??$_{1.8}$
State [–psych]	✓$_{4.9}$	✓$_{4.5}$	??$_{2.5}$	??$_{2.4}$	*$_{1.3}$	??$_{1.6}$
Activity	✓$_{4.7}$	✓$_{4.7}$	?$_{4.4}$	?$_{4.3}$	??$_{1.7}$	??$_{1.8}$
Accomplishment	✓$_{4.8}$	✓$_{5.0}$	?$_{4.1}$	✓$_{4.8}$	??$_{2.1}$	??$_{2.0}$
Achievement	✓$_{4.7}$	✓$_{5.0}$	?$_{4.4}$	?$_{4.4}$	??$_{2.7}$	??$_{2.9}$
Semelfactive	✓$_{4.9}$	✓$_{4.9}$	?$_{4.5}$	✓$_{4.7}$	??$_{1.6}$	??$_{1.8}$

The tables show that negative *le*-sentences, regardless of the situation type denoted, are either very marginal or completely unacceptable, invariably among Mandarin speakers of both varieties. Evidently, the possibility that the unacceptability is caused by situation-viewpoint incompatibility can be ruled out since *le* can appear with almost all situation types, except [+psych] states; but that has not created any impact on the scores for negative *le*-sentences. Similarly, the variation in negation-situation compatibility is not reflected in the acceptability of negative *le*-sentences: statives do not perform any better than eventives in *bù-le* sentences, and [–psych] states are not worse-off than others in *méi(yǒu)-le* sentences. The combination of these two factors cannot account for the findings in mixed sentences either. Therefore, the only explanation for such unvarying unacceptability of negative *le*-sentences must be due to

negation-viewpoint incompatibility: neither *bù* or *méi(yǒu)* can co-occur with *le*, the perfective marker.

3.3.2 Hong Kong Cantonese: negation and perfective *zo2*

Assuming that Hong Kong Cantonese *m4* 'not' and *mou5* 'not.have' are corresponding forms to *bù* 'not' or *méi(yǒu)* 'not-have' in Mandarin, the same ungrammaticality as described in the literature and confirmed by the Beijing and Taiwan Mandarin data in the section 3.3.1 is expected when the Hong Kong Cantonese negators appear with perfective *zo2.* The empirical evidence confirms this expectation: all fourteen sentences marked with perfective *zo2* are considered either completely unacceptable or very marginal under negation. Precisely, *mou5* 'not-have' is consistently rated slightly better than *m4* 'not' — the overall scores for *mou5* ranged from 1.3-2.5, and 1.2-1.7 for *m4*; the same preference has been observed in Beijing and Taiwan Mandarin. Nonetheless, the slight preference cannot be interpreted as a sign of complementary distribution between the two negators; that is, it is not necessarily the case that *m4* is rated worse where *mou5* has a higher score. On the contrary, both negators receive a relatively higher score with psych states (49), and both have the lowest scores with activities (50).

(49) 我 ($^{??}$唔｜$^{??}$冇) 鍾意咗小明

ngo	*($^{??}$m*	*|$^{??}$mou)*	*zungji-**zo***	*Siuming*
I	not	|not.have	like-**PFV**	Siuming

Affirmative: 'I liked Siuming.' (HKC)

(50) 我 (*唔｜*冇) 唱咗歌

ngo	*(*m*	*|*mou)*	*coeng-**zo**-go*
I	not	|not.have	sing-**PFV**-song

Affirmative: 'I sang.' (HKC)

Table 3.7. *M4* and perfective *zo2.*

	zo2	*m4*	Mixed
State [+psych]	?$_{4.3}$	✓$_{4.6}$	??$_{1.7}$
State [–psych]	✓$_{4.5}$	✓$_{4.6}$	*$_{1.3}$
Activity	✓$_{4.4}$	✓$_{4.6}$	*$_{1.2}$
Accomplishment	?$_{4.2}$	?$_{4.2}$	*$_{1.2}$
Achievement	✓$_{4.8}$	??$_{2.4}$	*$_{1.2}$
Semelfactive	?$_{4.3}$	?$_{4.3}$	*$_{1.4}$

Table 3.8. *Mou5* and perfective *zo2.*

	zo2	*mou5*	Mixed
State [+psych]	?$_{4.3}$	?$_{4.2}$	??$_{2.3}$
State [–psych]	✓$_{4.5}$	??$_{2.6}$	*$_{1.5}$
Activity	✓$_{4.4}$	✓$_{4.7}$	*$_{1.3}$
Accomplishment	?$_{4.2}$	✓$_{4.5}$	??$_{2.5}$
Achievement	✓$_{4.8}$	✓$_{4.7}$	??$_{2.6}$
Semelfactive	?$_{4.3}$	✓$_{5.0}$	??$_{1.7}$

Comparing the acceptability of affirmative perfective sentences, which reflect any relation between situation types and the viewpoint, and their negative counterparts (i.e. the 'mixed' sentences) rules out the possibility that the ungrammaticality of negative perfective sentences is caused by situation-viewpoint compatibility. All affirmative sentences marked with *zo2* are generally well-formed, but their negative counterparts are either very marginal or completely unacceptable. Take psych states as an example. They are slightly marginal when the affirmative sentence is marked as perfective, but when negated by *m4,* they are slightly better than other situation types. Negation-situation type compatibility is also not a crucial factor in producing the overall ungrammaticality of 'mixed' sentences. For instance, in bare negation, non-psych states are completely well-formed when negated by *m4,* but very marginal when negated by *mou5.* However, when the negative [–psych] stative sentences are marked as perfective, it becomes completely unacceptable regardless of the choice of negator. This shows that the

variations prominent in negation-situation type compatibility are not reflected in the acceptability of the 'mixed' sentences; in other words, negation-situation type compatibility has little (if any) impact on the overall acceptability of negative perfective sentences. The combination of these two factors — situation type-viewpoint compatibility and negation-situation type compatibility — cannot account for the findings in mixed sentences either. Consider, especially, the findings for non-psych states and activities in Table 3.7, and activities and achievements in Table 3.8. Therefore, as in Beijing and Taiwan Mandarin, the consistent unacceptability of negative perfective sentences must be due to the incompatibility between negation (by *m4* and *mou5*) and perfective viewpoint.

3.3.3 Gaozhou Cantonese: negation and perfective *de6*

Chapter 2 has concluded, based on the judgment findings on bare negatives and the production data in section 1.4.2, that *mau5 jau5* 'not have' is not a standard negator in Gaozhou Cantonese. The discovery is crucial. It sets Gaozhou Cantonese apart as a Chinese variety with only one standard negator, unlike the other three Chinese varieties (and the standard view of Chinese) which have a 'not'-'not-have' division in their negation system. Furthermore, *mau5* 'not' in Gaozhou Cantonese is found to behave differently from other negators in the other three varieties in two ways: firstly, *mau5* is the appropriate negator for almost all situation types, and secondly, Gaozhou Cantonese *mau5*-sentences are ambiguous between volition, habitual and realisation readings context-free, regardless of situation type. Consequently, one would expect that Gaozhou Cantonese negation may not be sensitive to aspectual viewpoint, or at least not sensitive to aspect in the same way as the other varieties. Nevertheless, results from negative perfective sentences in Gaozhou Cantonese shows clearly that *mau5* is sensitive to aspect, and in largely the same way as Mandarin and Hong Kong Cantonese negation.

Table 3.9. *Mau5* and perfective *de6.*

	de6	*mau5*	Mixed
State [+psych]	??$_{2.9}$	✓$_{4.6}$	??$_{2.6}$
State [–psych]	?$_{3.3}$	✓$_{4.7}$	??$_{2.7}$
Activity	?$_{4.3}$	✓$_{4.6}$	??$_{2.4}$
Accomplishment	✓$_{4.5}$	✓$_{4.5}$	?$_{3.2}$
Achievement	?$_{4.3}$	?$_{3.9}$	??$_{2.7}$
Semelfactive	?$_{4.0}$	✓$_{4.6}$	??$_{2.7}$

As summarised in Table 3.9, almost all the perfective sentences with *de6* become very marginal under negation by *mau5* 'not'. Undoubtedly, perfective aspect is subject to *Atkionsart* constraints even in affirmative contexts. For instance, stative predicates in general are not compatible with perfective *de6,* thus the marginality of *mau5-de6* stative sentences (51-52) may be expected.

(51) 我 (??冇) 狂嗲老鼠

ngo (??mau) kwong-de lousyu

I not fear-PFV rats

Affirmative: 'I feared rats.' (GZC)

(52) 我(??冇)知道嗲己件事

ngo (??mau) deidou-de gei gin si

I not know-PFV this CL event

Affirmative: 'I knew about this event.' (GZC)

However, *de6* is completely acceptable with accomplishments in the affirmative, but the presence of negation has rendered those sentences marginal as in (53-54). If the 'acquiescence bias' mentioned in Chapter 2 holds across the board with Gaozhou Cantonese acceptability judgments, then such marginality might even have been understated. Therefore, the results here indicate that *mau5* and perfective *de6* are not compatible with each other.

(53) 我 ([?]冇) 食**喺**己舊蛋糕

ngo	*([?]mau)*	*sik-de*	*gei*	*gau*	*daangou*
I	not	eat-**PFV**	this	piece	cake

Affirmative: 'I ate this piece of cake.' (GZC)

(54) 我 ([??]冇) 寫**喺**己封信

ngo	*([??]mau)*	*se-**de***	*gei*	*fung*	*seon*
I	not	write-**PFV**	this	CL	letter

Affirmative: 'I wrote this letter.' (GZC)

3.4 Negation and experiential aspect

3.4.1 Beijing and Taiwan Mandarin: negation and experiential *guo*

Most studies have suggested that Mandarin *bù* is incompatible with perfective viewpoints, and since experiential aspect is generally regarded as a type of perfective/perfect aspect (cf. Comrie 1976, Smith 1997; see also the discussion in section 2.2.3), the incompatibility of *bù* with perfectivity extends to experiential viewpoint; part of the Chinese negation puzzle is, precisely, that *méi(yǒu)* can co-occur with experiential *guo* while *bù* cannot (see examples 1-3, and the discussion in section 1.2). The questionnaire results for negative *guo*-sentences have confirmed this observation. All experientially marked sentences negated by *bù* are systematically rejected by Beijing and Taiwan Mandarin speakers as illustrated in (55-57). Conversely, *méi(yǒu)-guo* sentences are generally acceptable — either slightly marginal or fully acceptable; Taiwan Mandarin speakers apparently accept these sentences more than Beijing Mandarin speakers.

(55) 我 (*不｜[?]沒) 害怕**過**老鼠 (BM)

*wo (*bu |[?]mei-you) haipa-**guo** laoshu*

我 (*不｜沒) 害怕**過**老鼠 (TM)

*wo (*bu |mei-you) haipa-**guo** laoshu*

I not |not-have fear-**EXP** rats

Affirmative: 'I have feared rats before.'

(56) 我 (*不｜[?]沒) 跑**過**步 (BM)

*wo (*bu |[?]mei) pao-**guo**-bu*

我 (*不｜沒) 跑**過**步 (TM)

*wo (*bu |mei) pao-**guo**-bu*

I not |not.have run-**EXP**-steps

Affirmative: 'I have run before.'

(57) 我 (*不｜[?]沒) 打**過**嗝 (BM)

*wo (*bu |[?]mei) da-**guo**-ge*

我 (*不｜沒) 打**過**嗝 (TM)

*wo (*bu |mei) da-**guo**-ge*

I not |not.have make-**EXP**-hiccup

Affirmative: 'I have hiccupped before.'

The results for negative-*guo* sentences are summarised in the 'mixed' columns of Tables 3.10 and 3.11.

Table 3.10. *Bù* and *guo.*

	guo		*bù*		Mixed	
	BM	TM	BM	TM	BM	TM
State [+psych]	?$_{4.5}$	?$_{4.4}$	✓$_{4.8}$	✓$_{4.9}$	??$_{1.5}$	*$_{1.4}$
State [–psych]	??$_{1.8}$	??$_{1.9}$	✓$_{5.0}$	✓$_{5.0}$	??$_{1.6}$	??$_{1.6}$
Activity	✓$_{5.0}$	✓$_{4.7}$	✓$_{4.8}$	✓$_{5.0}$	*$_{1.2}$	*$_{1.2}$
Accomplishment	?$_{4.3}$	?$_{4.4}$	?$_{4.1}$	✓$_{4.6}$	*$_{1.2}$	*$_{1.2}$
Achievement	?$_{4.3}$	?$_{4.0}$	??$_{1.6}$	??$_{1.6}$	*$_{1.3}$	*$_{1.3}$
Semelfactive	✓$_{4.8}$	✓$_{4.6}$	?$_{3.9}$	?$_{4.0}$	*$_{1.3}$	*$_{1.1}$

Table 3.11. *Méi(yǒu)* and *guo.*

	guo		*méi(yǒu)*		Mixed	
	BM	TM	BM	TM	BM	TM
State [+psych]	?$_{4.5}$	?$_{4.4}$	?$_{3.4}$	?$_{4.4}$	?$_{4.6}$	✓$_{4.8}$
State [–psych]	??$_{1.8}$	??$_{1.9}$	??$_{2.5}$	??$_{2.4}$	??$_{2.9}$	?$_{3.1}$
Activity	✓$_{5.0}$	✓$_{4.7}$	?$_{4.4}$	?$_{4.3}$	?$_{4.1}$	?$_{4.3}$
Accomplishment	?$_{4.3}$	?$_{4.4}$	?$_{4.1}$	✓$_{4.8}$	?$_{4.5}$	✓$_{4.8}$
Achievement	?$_{4.3}$	?$_{4.0}$	?$_{4.4}$	?$_{4.4}$	?$_{3.7}$	✓$_{4.5}$
Semelfactive	✓$_{4.8}$	✓$_{4.6}$	?$_{4.5}$	✓$_{4.7}$	?$_{4.1}$	✓$_{5.0}$

First, compatibility between various types of situation and experiential aspect has little impact on *bù-guo* sentences, since experiential *guo* can appear with almost all situation types without negation — non-psych state is the only exception. The ungrammaticality produced by the occurrence of *guo* in [–psych] statives may present some ambiguity, but, comparing the average scores received by [–psych] statives with other situation types in *bù-guo* sentences, [–psych] statives are, in fact, slightly better — (??) versus (*) elsewhere. The compatibility between *bù* and various situation types also does not capture the uniform ungrammaticality of *bù-guo* sentences; nor does the combination of both factors, i.e. *guo*-situation and *bù*-situation type compatibilities. In other words, situation types do not play a role in determining the acceptability of *bù-guo* sentences, the *bù-guo* compatibility does, which results in consistent ill-formedness.

The picture with *méi(yǒu)* is completely different. Overall, the findings confirm the suggestion in the literature that experiential sentences can be negated by *méi(yǒu)* in Mandarin. The only exception is found in the negation of non-psych states: Beijing Mandarin speakers find those sentences very marginal (2.9/5.0) and Taiwan Mandarin speakers on average rate them as slightly marginal (3.1/5.0). The exception can be explained by the incompatibility between experiential viewpoint and non-psych states on the one hand, and that between *méiyǒu* and non-psych states on the other, as illustrated in (58a-c).

(58) *Méi* and *guo* with non-psych states

a. *Guo* and non-psych states

我 (*在) 知道 (了) **(**[??]**過)** (*着) 這件事 (BM)

*wo (*zai) zhidao (-le) **(**[??]**-guo)**(*-zhe) zhei jian shi*

我 (*在) 知道 (了) **(**[??]**過)** ([??]着) 這件事 (TM)

*wo (*zai) zhidao (-le) **(**[??]**-guo)**([??]-zhe) zhei jian shi*

I be.at know PFV **EXP** CONT this CL event

Bare affirmative: 'I know about this event.'

b. *Méi* and non-psych states

我 (不｜[??]**沒有**) 知道這件事 (BM)

*wo (bu |[??]**mei-you**) zhidao zhe jian shi*

我 (不｜***沒有**) 知道這件事 (TM)

*wo (bu |**mei-you) zhidao zhe jian shi*

I not |**not-have** know this CL event

Intended: 'I do not know about this event.'

'I did not know about this event.'

c. *Méi-guo* and non-psych states

我 ([??]不｜[??]**沒有**) 知道**過**這件事 (BM)

*wo ([??]bu |[??]**mei-you**) zhidao-**guo** zhe jian shi*

我 ([??]不｜[??]**沒有**) 知道**過**這件事 (TM)

*wo ([??]bu |[??]**mei-you**) zhidao-**guo** zhe jian shi*

I not |**not-have** know-**EXP** this CL event

Affirmative: 'I have known about this event before.'

The exception observed with non-psych states shows that the grammaticality of *méiyǒu-guo* sentences is sensitive to situation type, this, however, does not affect the conclusion that *méi(yǒu)* is compatible with experiential viewpoint in general. To sum up, *guo* is compatible with *méi(yǒu)* but not with *bù*, and the negation-viewpoint incompatibility is particularly crucial in accounting for the invariant ill-formedness of *bù-guo* structures in Mandarin varieties.

3.4.2 Hong Kong Cantonese: negation and experiential *gwo3*

Hong Kong Cantonese shows the same pattern as the Mandarin varieties: experiential sentences are completely unacceptable when negated by *m4* 'not', with two exceptions (59-60), which are 'very marginal' instead — the same exception was noted in the Mandarin varieties.

(59) 我 (??唔｜冇) 鍾意**過**小明

ngo	*(??m*	*|mou)*	*zungji-**gwo***	*Siuming*
I	not	|not.have	like-**EXP**	Siuming

Affirmative: 'I have liked Siuming before.' (HKC)

(60) 我 (??唔｜?冇) 知道**過**呢件事

ngo	*(??m*	*|?mou)*	*zidou-**gwo***	*li*	*gin*	*si*
I	not	|not.have	know-**EXP**	this	CL	event

Affirmative: 'I have known about this event before.' (HKC)

However, experiential sentences negated by *mou5* are generally well-formed. Table 3.12 and 3.13 below provide summaries of findings essential for the understanding of negation-experiential aspect relation in Hong Kong Cantonese.

Table 3.12. *M4* and experiential *gwo3.*

	gwo3	*m4*	Mixed
State [+psych]	?$_{4.1}$	✓$_{4.6}$	*$_{1.5}$
State [–psych]	?$_{3.0}$	✓$_{4.6}$	??$_{1.8}$
Activity	✓$_{4.5}$	✓$_{4.6}$	*$_{1.5}$
Accomplishment	?$_{4.1}$	?$_{4.2}$	*$_{1.3}$
Achievement	✓$_{4.7}$	??$_{2.4}$	*$_{1.3}$
Semelfactive	?$_{4.2}$	?$_{4.3}$	*$_{1.5}$

Table 3.13. *Mou5* and experiential *gwo3.*

	gwo3	*mou5*	Mixed
State [+psych]	?$_{4.1}$	?$_{4.2}$	✓$_{4.6}$
State [–psych]	?$_{3.0}$	??$_{2.6}$	?$_{3.7}$
Activity	✓$_{4.5}$	✓$_{4.7}$	✓$_{4.6}$
Accomplishment	?$_{4.1}$	✓$_{4.5}$	✓$_{4.8}$
Achievement	✓$_{4.7}$	✓$_{4.7}$	✓$_{4.8}$
Semelfactive	?$_{4.2}$	✓$_{5.0}$	✓$_{4.5}$

The findings in this section clearly show that *m4* 'not' and experiential viewpoint *gwo3* are not compatible with each other; the consistent unacceptability of *m4-gwo3* sentences across all situation types is a strong piece of evidence. Negation by *mou5* 'not.have', in contrast, produces well-formed experiential sentences. The only seeming exception is again with non-psych stative sentences, which speakers consider slightly marginal (3.7/5.0 on average). The explanation here is the same as that in Mandarin: the slight marginality comes from the incompatibility between non-psych states and experiential viewpoint as well as the incompatibility of non-psych states with *mou5*, as illustrated in (61a-c).

(61) *Mou5* and *gwo3* with non-psych states

a. *Gwo3* and non-psych states

我 (?喺度) 知道 (咗) **(?過)** (??緊) 呢件事

ngo	*(?haidou)*	*zidou*	*(-zo)*	***(?-gwo)***	*(??-gan)*	*li*	*gin*	*si*
I	be.loc	know	PFV	**EXP**	PROG	this	CL	event

Bare affirmative: 'I know about this event.' (HKC)

b. *Mou5* and non-psych states

我 (唔｜??**冇**) 知道呢件事

ngo	*(m*	*|??**mou**)*	*zidou*	*li*	*gin*	*si*
I	not	|**not.have**	know	this	CL	event

Intended: 'I do not know about this event.'

'I did not know about this event.' (HKC)

c. *Mou5-gwo3* and non-psych states

我 (??唔｜?**冇**) 知道**過**呢件事

ngo	*(??m*	*|?**mou**)*	*zidou-**gwo***	*li*	*gin*	*si*
I	not	|**not.have**	know-**EXP**	this	CL	event

Affirmative: 'I have known about this event before.' (HKC)

Therefore, similar to the Mandarin varieties, experiential aspect in Hong Kong Cantonese is incompatible with *m4* 'not', but fully compatible with *mou5* 'not.have'.

3.4.3 Gaozhou Cantonese: negation and experiential *gwo3*

'Not' negators in other varieties (i.e. Mandarin *bù* and Hong Kong Cantonse *m4*) show incompatibility with both perfective and experiential aspects, but Gaozhou Cantonese *mau5* 'not' does not show such a constraint. As shown in section 3.3.3, the sentences are very marginal when *mau5* 'not' and perfective *de6* co-occur, but this unacceptability is not found when *mau5* appears with experiential *gwo3*.

Table 3.14. *Mau5* and experiential *gwo3*.

	gwo3	*mau5*	Mixed
State [+psych]	?$_{4.1}$	✓$_{4.6}$	✓$_{4.7}$
State [–psych]	??$_{3.1}$	✓$_{4.7}$	?$_{4.1}$
Activity	?$_{4.0}$	✓$_{4.6}$	✓$_{4.6}$
Accomplishment	✓$_{4.4}$	✓$_{4.5}$	✓$_{4.7}$
Achievement	?$_{4.2}$	?$_{3.9}$	?$_{4.2}$
Semelfactive	✓$_{4.4}$	✓$_{4.6}$	✓$_{4.8}$

In general, experiential sentences can be negated by *mau5* 'not'. There are two potential outliers as shown in Table 3.14: non-psych states and achievements. The reason for the slight marginality in negating experiential sentences containing a non-psych stative predicate should be familiar by now, but this time the incompatibility between experiential viewpoint and non-psych states matters, because *mau5* can negate non-psych states, as discussed in section 2.3.2.1. Also, the difference in acceptability between non-psych states and other situation types is much smaller than found in the other varieties: Beijing Mandarin (2.9/5.0), Taiwan Mandarin (3.1/5.0), Hong Kong Cantonese (3.7/5.0), and Gaozhou Cantonese (4.1/5.0). Recall that the Gaozhou Cantonese speakers are more reserved with their acceptability judgments and tend to have an 'acquiescence bias', which could affect the judgment scores considerably. The negation of achievements is another potential exception, as shown in (62-63).

(62) 我 (?有) 贏**過**比賽

*ngo (?mau) jing-**gwo** beicoi*

I not win-**EXP** race

Affirmative: 'I have won in a race before.' (GZC)

(63) 我 (?有) 打爛**過**隻杯

*ngo (?mau) daalaan-**gwo** zik bui*

I not shatter-**EXP** CL mug

Affirmative: 'I have shattered the mug.' (GZC)

This time, the variation can be accounted for by the marginality in negating achievement predicates on the one hand, and the markedness of marking achievement sentences with experiential viewpoint on the other. Nonetheless, the overall picture does not change: sentences marked as experiential can be negated by *mau5* in Gaozhou Cantonese, which, surprisingly, seems to pattern with Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5,* more than with *bù* and *m4;* Chapter 4 will account for this observation.

A comparison between Gaozhou Cantonese negation in perfective and experiential sentences reveals an important observation: on the one hand, *mau5* seems to behave just as *bù* or *m4* in being incompatible with perfective aspect; on the other hand, when negating experiential sentences, *mau5* resembles what we have seen in experiential sentences negated by 'not have' in the other varieties. Two conclusions can be derived from these observations: first, experiential aspect, despite being a type of perfective, is distinctive enough to produce highly contrastive treatment in negation; and second, there must be some constraint that rules out the co-occurrence of negation and (unmarked) perfective aspect in Chinese, and that constraint can apply across-the-board so that even though *mau5* 'not' in Gaozhou Cantonese might not be completely comparable to the standard negators of the other varieties, the same incompatibility surfaces in the Gaozhou Cantonese data all the same. We will return to this issue in section 3.7 when we discuss the generalisations made concerning negation-aspect compatibility across the four Chinese varieties.

3.5 Negation and preverbal imperfective 'be.loc'

The strong bias of attention towards negation and perfectivity in the literature — probably driven by the Chinese negation puzzle — has left the issue of negation of imperfective sentences under-studied. To fill this crucial gap, this section and the next are dedicated to the examination of negative sentences marked by the preverbal imperfective 'be.loc' marker and the postverbal imperfective marker in the four Chinese varieties respectively. The preverbal 'be.loc' marker is common to all four varieties, namely Mandarin *zai* 'be.at', Hong Kong

Cantonese *hai2dou6* 'be.loc', and Gaozhou Cantonese *coi5gei2* 'be.here', this section will examine their compatibility with negation in turn.

3.5.1 Beijing and Taiwan Mandarin: negation and *zai* 'be.at'

Ernst (1995) has suggested that both *bù* and *méi(yǒu)* can negate progressive *zai*-sentences in Mandarin, with a preference for *méi(yǒu)* among northern Mandarin speakers, and *bù* for southern and Taiwan Mandarin speakers. This regional preference is contradicted by Lin (2003a), whose Taiwan Mandarin data show that *bù* is not allowed in progressive *zai*-sentences, and *méi(yǒu)* is the only legitimate negator with imperfectives. The judgment results in the present study reveal more complication than reported by either Ernst (1995) or Lin (2003a).

Regional variation exists but not as straightforwardly as suggested in the literature. The contrast in negator preference is much stronger in Taiwan Mandarin particularly with activities and semelfactives. *Bù* is consistently rejected by Taiwan Mandarin speakers, but Beijing Mandarin speakers marginally accept it when it occurs with an activity (64) or a semelfactive (65).

(64) 我 (?不｜?沒有) **在**看書 (BM)
*wo (?bu |?mei-you) **zai** kan-shu*
我 (*不｜沒有) **在**看書 (TM)
*wo (*bu |mei-you) **zai** kan-shu*
I not |not-have **be.at** read-book
Affirmative: 'I am reading.'

(65) 我 (?不｜?沒有) **在**敲門 (BM)
*wo (?bu |?mei-you) **zai** qiao-men*
我 (??不｜沒有) **在**敲門 (TM)
*wo (??bu |mei-you) **zai** qiao-men*
I not |not-have **be.at** knock-door
Affirmative: 'I am knocking on the door.'

In general, both varieties preferred *méi(yǒu)* to *bù* — all *méi(yǒu)-zai* sentences are at least marginally acceptable, except for non-psych states (66a) and achievements (67a) which are found ill-formed in both varieties of Mandarin.

(66) *Méi(yǒu)* and *zai* with non-psych states

a. 我 (*不｜***沒有**) **在**知道這件事 (BM)

*wo (*bu |*mei-you) **zai** zhidao zhe jian shi*

我 (*不｜***沒有**) **在**知道這件事 (TM)

*wo (*bu |*mei-you) **zai** zhidao zhe jian shi*

I not |not-have **be.at** know this CL event

Affirmative: *'I am knowing about this event.'

b. 我 (***在**) 知道 (了) (??過) (*着) 這件事 (BM)

*wo **(*zai)** zhidao (-le) (??-guo)(*-zhe) zhei jian shi*

我 (***在**) 知道 (了) (??過) (??着) 這件事 (TM)

*wo **(*zai)** zhidao (-le) (??-guo)(??-zhe) zhei jian shi*

I **be.at** know PFV EXP CONT this CL event

Bare affirmative: 'I know about this event.'

c. 我 (不｜??**沒有**) 知道這件事 (BM)

wo (bu |??mei-you) zhidao zhe jian shi

我 (不｜***沒有**) 知道這件事 (TM)

*wo (bu |*mei-you) zhidao zhe jian shi*

I not |not-have know this CL event

Intended: 'I do not know about this event.'

'I did not know about this event.'

(67) *Méi(yǒu)* and *zai* with achievement

a. 我 (*不｜[??]**沒有**) **在**贏比賽 (BM)

*wo (*bu |[??]**mei-you**) **zai** ying bisai*

我 (*不｜[??]**沒有**) **在**贏比賽 (TM)

*wo (*bu |[??]**mei-you**) **zai** ying bisai*

I not |**not-have** **be.at** win race

Affirmative: 'I am winning races.'

b. 我([??]**在**) 贏(了) (過) ([??]着)比賽 (BM)

*wo ([??]**zai**) ying (-le) (-guo) ([??]-zhe) bisai*

我(*在) 贏(了) (過) (*着)比賽 (TM)

*wo (***zai**) ying (-le) (-guo) (*-zhe) bisai*

I **be.at** win PFV EXP CONT race

Bare affirmative: 'I win the race.'

c. 我 ([??]不｜[?]**沒有**) 贏比賽 (BM)

*wo ([??]bu |[?]**mei-you**) ying bisai*

我 ([??]不｜[?]**沒有**) 贏比賽 (TM)

*wo ([??]bu |[?]**mei-you**) ying bisai*

I not |**not-have** win race

Literally: 'I do not win the race.'

'I did not win the race.'

Note, however, that, even in bare sentences, non-psych states are incompatible with *méiyǒu* (66c) and achievements are marginal when negated (67c). *Zai* is also incompatible with these two situation types even in the affirmative as in (66b, 67b). Hence, the unacceptability of *méiyǒu-zai* sentences denoting non-psych states and achievements is the result of a combination of factors. Overall, *méi(yǒu)* is the preferred negator in both Mandarin varieties, but its acceptability still varies with the type of situation denoted.

To examine the relative significance of the three variables, Tables 3.15 and 3.16 gather the results of *zai*-situation compatibility, negation-situation compatibility, and negative-*zai* sentences for comparison.

Table 3.15. *Bù* and *zai.*

	zai		*bù*		Mixed	
	BM	TM	BM	TM	BM	TM
State [+psych]	?$_{3.0}$	??$_{2.5}$	✓$_{4.8}$	✓$_{4.9}$	??$_{2.0}$	*$_{1.2}$
State [–psych]	*$_{1.3}$	??$_{1.6}$	✓$_{5.0}$	✓$_{5.0}$	*$_{1.3}$	*$_{1.1}$
Activity	✓$_{5.0}$	✓$_{4.9}$	✓$_{4.8}$	✓$_{5.0}$	?$_{4.0}$	??$_{1.9}$
Accomplishment	✓$_{4.7}$	?$_{3.7}$	?$_{4.1}$	✓$_{4.6}$	??$_{2.7}$	*$_{1.1}$
Achievement	??$_{1.5}$	*$_{1.4}$	??$_{1.6}$	??$_{1.6}$	*$_{1.2}$	*$_{1.1}$
Semelfactive	✓$_{5.0}$	✓$_{4.8}$	?$_{3.9}$	?$_{4.0}$	?$_{3.0}$	*$_{1.5}$

Table 3.16. *Méi(yǒu)* and *zai.*

	zai		*méi(yǒu)*		Mixed	
	BM	TM	BM	TM	BM	TM
State [+psych]	?$_{3.0}$	??$_{2.5}$	?$_{3.4}$	?$_{4.4}$	?$_{3.4}$	?$_{3.7}$
State [–psych]	*$_{1.3}$	??$_{1.6}$	??$_{2.5}$	??$_{2.4}$	??$_{1.4}$	??$_{1.6}$
Activity	✓$_{5.0}$	✓$_{4.9}$	?$_{4.4}$	?$_{4.3}$	?$_{4.3}$	✓$_{4.9}$
Accomplishment	✓$_{4.7}$	?$_{3.7}$	?$_{4.1}$	✓$_{4.8}$	?$_{3.4}$	?$_{3.8}$
Achievement	??$_{1.5}$	*$_{1.4}$	?$_{4.4}$	?$_{4.4}$	??$_{1.6}$	??$_{1.6}$
Semelfactive	✓$_{5.0}$	✓$_{4.8}$	?$_{4.5}$	✓$_{4.7}$	?$_{4.1}$	✓$_{4.8}$

Table 3.15 shows more clearly that, while Beijing Mandarin speakers find it rather marked to negate *zai*-sentences with *bù* 'not', the unacceptability does not apply across the board; it is much less severe when the sentences denote an activity (4.0/5.0) or a semelfactive (3.0/5.0), or even an accomplishment (2.7/5.0). However, such variation in acceptability can hardly be found in Taiwan Mandarin; all *bù-zai* sentences are ill-formed in Taiwan Mandarin regardless of situation type, even sentences denoting activities are considered very marginal (1.9/5.0). This finding is important in two respects: firstly, it shows that the unacceptability of *bù-zai* sentences in the Mandarin varieties is mainly caused by the incompatibility between *bù* and *zai.* Apparently, the fact that the *bù-zai* sentences are rated better when the sentences denote an activity, semelfactive or accomplishment may lead to the assumption that the compatibility between *zai* and the various situation types has a strong impact on the general acceptability

of *bù-zai* sentences. However, the consistent pattern in Taiwan Mandarin and the fact that *bù-zai* is marginal even with activities and semelfactives — the two types of predicate which are fully compatible with *bù* and *zai* when they occur separately in a sentence — indicate that the relationship between *bù* and *zai* plays a primary role in determining the grammaticality of the sentences where they co-occur. Secondly, it clarifies the regional variation pattern in the acceptability of *bù-zai* in northern and southern Mandarin. Indeed, the only example discussed in Ernst (1995) for the acceptability of *bù-zai* versus *méi(yǒu)-zai* is a sentence containing an activity predicate:

(68) *Hongmei bu zai shuo hua*
Hongmei not IMPF say speech
'Hongmei isn't talking.' (Mand.; Ernst 1995: 693)

The data presented in this section resolves this controversy on potential regional variation, concluding that *bù* is generally incompatible with *zai* in both Mandarin varieties. In fact, the notable point of regional variation between Beijing Mandarin and Taiwan Mandarin lies in whether situation type has impact on the grammaticality of *bù-zai* sentences; it does in Beijing Mandarin but not in Taiwan Mandarin: the acceptability judgments made by Beijing Mandarin speakers show a considerable effect from the compatibility between *zai* and different situation types, whereas, Taiwan Mandarin speakers strictly rule out all *bù-zai* sentences regardless of situation type. The clearest case in point is the negation of activity sentences, where the Beijing Mandarin speakers marginally allow the co-occurrence of *bù* and *zai*, but Taiwan Mandarin speakers do not.

Moving on to the negation of *zai*-sentences with *méi(yǒu),* the crucial finding is that *méi(yǒu)-zai* sentences can be acceptable in both varieties of Mandarin, but subject to the type of situation conveyed. Indeed, the parallel between the acceptability of affirmative sentences with *zai* and the negative counterparts with *méi(yǒu)* is striking. For instance, in affirmative contexts, [+psych] state and [–psych] state with *zai* are respectively rated as slightly marginal and very marginal, and the same ratings apply for their compatibility with *méi(yǒu)* in bare negative sentences; the results in mixed sentences show the combination of the two factors, which can not only account for the pattern found in stative predicates, but also applies to

activities, accomplishments, and semelfactives. To sum up, *zai* is incompatible with *bù* in both varieties, but the results from Beijing Mandarin show a notable influence from *zai*-situation type compatibility which is not found in Taiwan Mandarin. Second, the compatibility between *zai* and *méi(yǒu)* is not a significant factor that affects the overall acceptability of 'mixed' sentences; the factor that really matters is the compatibility between *zai* and situation type.

3.5.2 Hong Kong Cantonese: negation and *hai2dou6* 'be.loc'

Hong Kong Cantonese has two progressive markers, *hai2dou6* 'be.loc' in preverbal position, and *gan2* which immediately follows the verb. To recapitulate, the situation type-viewpoint compatibility results in section 3.2 showed that imperfective markers in Cantonese varieties do not behave in strictly identical manner to their Mandarin counterparts; even the preverbal 'be.loc' marker which exists in all four varieties shows considerable cross-linguistic difference. Specifically, *hai2dou6* in Hong Kong Cantonese show a preference for non-psych states, unlike Mandarin *zai*, which is more compatible with psych states; and affirmative achievement sentences with 'be.loc' in Hong Kong Cantonese are not as ill-formed as in Mandarin. Keeping these cross-linguistic variations in mind, this section presents how *hai2dou6* 'be.loc' in Hong Kong Cantonese behaves under negation.

The first observation is that the neat patterns of grammaticality seen with negative perfective and experiential sentences are not to be found with negative sentences marked as imperfective by *hai2dou6* 'be.loc', as summarised in the tables below.

Table 3.17. *M4* and *hai2dou6* 'be.loc'.

	hai2dou6	*m4*	Mixed
State [+psych]	??$_{1.8}$	✓$_{4.6}$	*$_{1.5}$
State [–psych]	?$_{3.8}$	✓$_{4.6}$	??$_{2.9}$
Activity	✓$_{4.7}$	✓$_{4.6}$	?$_{3.9}$
Accomplishment	?$_{4.2}$	?$_{4.2}$	?$_{3.2}$
Achievement	?$_{3.5}$	??$_{2.4}$	??$_{2.9}$
Semelfactive	?$_{4.2}$	?$_{4.3}$	??$_{2.5}$

Table 3.18. *Mou5* and *hai2dou6* 'be.loc'.

	hai2dou6	*mou5*	Mixed
State [+psych]	??$_{1.8}$	?$_{4.2}$	??$_{1.9}$
State [–psych]	?$_{3.8}$	??$_{2.6}$	??$_{2.2}$
Activity	✓$_{4.7}$	✓$_{4.7}$	?$_{4.2}$
Accomplishment	?$_{4.2}$	✓$_{4.5}$	?$_{3.3}$
Achievement	?$_{3.5}$	✓$_{4.7}$	??$_{2.9}$
Semelfactive	?$_{4.2}$	✓$_{5.0}$	?$_{3.9}$

What is special about the negation of imperfective 'be.loc' sentences in Hong Kong Cantonese is that the choice of negator does not make any significant difference; neither *m4* or *mou5* is compatible with *hai2dou6* 'be.loc'. Consider the two sets of examples in (69) and (70).

(69) Activity

a. 我 (**喺度**) 散 (咗) (過) (緊) 步

ngo	*(**haidou**)*	*saan*	*(-zo)*	*(-gwo)*	*(-gan)*	*bou*
I	be.loc	stroll	PFV	EXP	PROG	steps

Bare affirmative: 'I stroll.' (HKC)

b. 我 (唔｜冇) 散步

ngo	*(m*	*|mou)*	*saanbou*
I	not	|not.have	stroll

Literally: 'I do not stroll.'

'I did not stroll.' (HKC)

c. 我 (*?*唔｜*?*冇) **喺度**散步

ngo	*(?m*	*|?mou)*	***haidou*** *saanbou*
I	not	|not.have	be.loc stroll

Affirmative: 'I am strolling.' (HKC)

(70) Semelfactive

a. 我 **(喺度)** 打 (ʔ咗) (ʔ過) (緊) 思嚏

ngo ***(haidou)*** *daa* *(ʔ-zo)* *(ʔ-gwo)* *(-gan)* *siik*

I **be.loc** make PFV EXP PROG hiccup

Bare affirmative: 'I hiccup.' (HKC)

b. 我 (ʔ唔｜冇) 打思嚏

ngo *(ʔm* *|mou)* *daasiik*

I not |not.have hiccup

Literally: 'I do not hiccup.'

'I did not hiccup.' (HKC)

c. 我 (ʔʔ唔｜ʔ冇) **喺度**打思嚏

ngo *(ʔʔm* *|ʔmou)* ***haidou*** *daasiik*

I not |not.have **be.loc** hiccup

Affirmative: ʔ'I am hiccupping.' (HKC)

Example (69) shows an activity sentence *ngo5 saan3bou6* 'I stroll' in three conditions: (69a) is the affirmative sentence with different aspect markings, (69b) is a bare negative sentence, and (69c) is when it is both negated and aspect-marked by *hai2dou6.* (69a) shows that the activity sentence is well-formed when marked by *hai2dou6,* and (69b) shows both negators acceptable in negating the sentence. But when negation and progressive *hai2dou6* co-occur in the sentence in (69c), the negative sentence is marginal whether negated by *m4* or *mou5,* which means that the co-occurrence of negation and *hai2dou6* would worsen the acceptability of the sentence. Similarly, (70) shows a semelfactive sentence *ngo5 daa2si1ik1* 'I hiccup' in those three conditions. Despite the fact that *m4* has been rated as slightly marginal in the bare negative (70b), the judgment result in (70c) cannot be straightforwardly read off from the compatibility between semelfactive and progressive aspect in (70a) or that between negation and semelfactive in (70b). Therefore, both sets of examples point to the same conclusion that progressive *hai2dou6* is not compatible with negation in Hong Kong Cantonese. But the fact that negation and imperfective 'be.loc' are incompatible with each other does not exclude the effect of other factors on the overall acceptability of the negative 'be.loc' sentences, the

compatibility between imperfective aspect and situation type is also significant as illustrated in (71).

(71) State

a. 我 ([??]**喺度**) 驚 ([?]咗) ([?]過) ([??]緊) 老鼠

ngo	*([??]**haidou**)*	*geng*	*([?]-zo)*	*([?]-gwo)*	*([??]-gan)*	*lousyu*
I	**be.loc**	fear	PFV	EXP	PROG	rats

Bare affirmative: 'I fear rats.' (HKC)

b. 我 (唔｜[?]冇) 驚老鼠

ngo	*(m*	*|[?]mou)*	*geng*	*lousyu*
I	not	|not.have	fear	rats

Intended: 'I do not fear rats.'

'I did not fear rats.' (HKC)

c. 我 (*唔｜[??]冇) **喺度**驚老鼠

ngo	*(*m*	*|[??]mou)*	***haidou***	*geng*	*lousyu*
I	not	|not.have	**be.loc**	fear	rats

Affirmative: *'I am fearing rats.' (HKC)

The unacceptability of negating of progressive marked stative sentences can be attributed to the the incompatibility of stative predicates with progressive aspect, which is one of their key defining features, since states do not involve change between phases of the situation (if phase-based structure is applicable to states at all) as, for instance, activities do.[22] Nevertheless, the results in Tables 3.17 and 3.18 and the observations made in (69-70) demonstrate that an

[22] Vendler (1957) and Smith (1997) interpret states as situations that involve 'indefinite' or 'unobservable' phases. Vendler describes states as involving "time instants in an indefinite and nonunique sense" and do not indicate an ongoing process but a situation that is true for a given time (1957: 146-149). Similarly, Smith defines states as stable situations that hold for a moment or an interval but consists of "an undifferentiated period without internal structure" (1997: 32). Comrie, on the other hand, assumes the presence of phases in states, only that all the phases within a stative situation are identical, i.e. no change involved and non-dynamic (1976: 48-49); this identity is likely to be the reason for the phases within states to be 'undifferentiated' or 'indefinite'. See Section 2.2 for discussion of their proposals.

explanation built solely on situation type-viewpoint (here, state-progressive) compatibility is inadequate in capturing the empirical pattern. In general, sentences with imperfective *hai2dou6* 'be.loc' co-occuring with negation are significantly worse than when either the aspect marker or negation appears alone, which shows that *hai2dou6* is incompatible with negation — the choice of negator makes little difference (*contra* the pattern in Mandarin). How much worse the structure is, would then depend on the compatibility between imperfective 'be.loc' and the situation types.

3.5.3 Gaozhou Cantonese: negation and *coi5gei2* 'be.here'

The pattern in Gaozhou Cantonese largely resembles that in the other three varieties. Table 3.19 shows that these 'mixed' sentences are generally less acceptable than sentences with only negation (*mau5*) or imperfective *coi5gei2* 'be.here' is present — except with activity sentences. Example (72) illustrates the point with an achievement predicate, *jing4 bei2coi3* 'to win the race'.

Table 3.19. *Mau5* and *coi5gei2* 'be.here'.

	coi5gei2	*mau5*	Mixed
State [+psych]	??$_{2.9}$	✓$_{4.6}$	??$_{2.7}$
State [–psych]	?$_{3.6}$	✓$_{4.7}$	?$_{3.3}$
Activity	?$_{4.2}$	✓$_{4.6}$	✓$_{4.7}$
Accomplishment	?$_{4.3}$	✓$_{4.5}$	?$_{3.6}$
Achievement	?$_{3.6}$	?$_{3.9}$	??$_{2.9}$
Semelfactive	✓$_{4.6}$	✓$_{4.6}$	?$_{3.8}$

(72) Achievement

a. 我 (ʔ**在己**) 贏 (喺) (過) (ʔ緊) 比賽

ngo	*(ʔcoigei)*	*jing*	*(-de)*	*(-gwo)*	*(ʔ-gan)*	*beicoi*
I	be.here	win	PFV	EXP	PROG	race

Bare affirmative: 'I win the race.' (GZC)

b. 我 (ʔ有) 贏比賽

ngo *(ʔmau) jing* *beicoi*

I not win race

lit. 'I do not win the race.'

Intended: 'I did not win the race.' (GZC)

c. 我 (ʔ有) **在己**贏比賽

ngo *(ʔʔmau)* ***coigei*** *jing* *beicoi*

I not **be.here** win race

Affirmative: 'I am winning races.' (GZC)

In (72a), the affirmative sentence is considered slightly marginal with the presence of *coi5gei2,* so is the bare negative sentence in (72b). But the sentence in (72c) becomes very marginal (2.9/5.0) when *mau5* and imperfective *coi5gei2* are both present; accomplishments and semelfactives display a similar behaviour. Therefore, it is evident that *mau5* is not compatible with *coi5gei2* 'be.here', and hence the co-occurrence of the two would degrade the sentences. Nevertheless, as in Hong Kong Cantonese, the incompatibility between negation and *coi5gei2* is not the sole determinant for the overall acceptability of negative *coi5gei2* sentences in Gaozhou Cantonese. The compatibility between *coi5gei2* 'be.here' and situation type is also a major factor, especially with stative predicates. Therefore, like the other varieties, Gaozhou Cantonese negation is not compatible with the imperfective aspect expressed by *coi5gei2* 'be.here', but the compatibility between situation type and this viewpoint aspect is also an important factor that contributes to the overall acceptability of negative 'be.here'-sentences.

3.6 Negation and postverbal imperfective aspect

3.6.1 Beijing and Taiwan Mandarin: negation and continuous *zhe*

In the literature, discussion of negative imperfectives has focused mostly on *zai.* Lin (2003a), the only formal discussion of negation and *zhe* I am aware of, has treated *zhe*-sentences as a type of derived stative construction, and he concludes that only *méi(yǒu),* not *bù,* can negate

sentences where *zhe* is present, including durative sentences, locative-inversion sentences, and positional sentences (see section 2.3.1). Smith (1997) also characterises *zhe* as a stative or resultative imperfective marker, which focuses on the state that follows the final endpoint of a telic event. Although the present study has not covered as wide a range of sentences as Lin (2003a), the questionnaire found a concurring pattern that *bù* is unacceptable in *zhe*-sentences, but, importantly, *méi(yǒu)* does not appear to be a better option either. In fact, the judgment results show that *bù* is almost always regarded as completely unacceptable (*). While *méi(yǒu)* may be just slightly marginal when the sentence denotes an activity (73-74), it is generally very marginal (??) elsewhere, as illustrated in (75-77). Therefore, Lin's suggestion is only partly correct where standard negation is concerned.

(73) 我 (??不｜?沒) 唱**着**歌 (BM)

*wo (??bu |?mei) chang-**zhe**-ge*

我 (??不｜?沒) 唱**着**歌 (TM)

*wo (??bu |?mei) chang-**zhe**-ge*

I not |not.have sing-CONT-song

Affirmative: 'I am singing.'

(74) 我 (??不｜?沒有) 看**着**書 (BM)

*wo (??bu |?mei-you) kan-**zhe** shu*

我 (*不｜?沒有) 看**着**書 (TM)

*wo (*bu |?mei-you) kan-**zhe** shu*

I not |not-have read-CONT book

Affirmative: 'I am reading books.'

(75) 我 (*不｜??沒有) 認識**着**陳先生 (BM)

*wo (*bu |??mei-you) renshi-**zhe** Chen xiansheng*

我 (*不｜*沒有) 認識**着**陳先生 (TM)

*wo (*bu |*mei-you) renshi-**zhe** Chen xiansheng*

I not |not-have know-CONT Chan Mr

Affirmative: *'I am knowing Mr Chan.'

(76) 我 (??不｜??沒) 寫**着**這封信 (BM)

*wo (??bu |??mei) xie-**zhe** zhe feng xin*

我 (*不｜??沒) 寫**着**這封信 (TM)

*wo (*bu |??mei) xie-**zhe** zhe feng xin*

I not |not.have write-CONT this CL letter

Affirmative: 'I am writing this letter.'

(77) 我 (*不｜??沒) 認出**着**陳先生 (BM)

*wo (*bu |??mei) renchu-**zhe** Chen xiansheng*

我 (*不｜??沒) 認出**着**陳先生 (TM)

*wo (*bu |??mei) renchu-**zhe** Chen xiansheng*

I not |not.have recognise-CONT Chan Mr

Affirmative: *'I am recognising Mr Chan.'

The findings from the negative-*zhe* sentences are summarised in the third column of Tables 3.20 and 3.21.

Table 3.20. *Bù* and *zhe.*

	zhe		*bù*		Mixed	
	BM	TM	BM	TM	BM	TM
State [+psych]	?$_{3.0}$	?$_{3.2}$	✓$_{4.8}$	✓$_{4.9}$	??$_{1.6}$	*$_{1.3}$
State [–psych]	*$_{1.3}$	??$_{1.6}$	✓$_{5.0}$	✓$_{5.0}$	*$_{1.1}$	*$_{1.4}$
Activity	?$_{4.3}$	?$_{4.4}$	✓$_{4.8}$	✓$_{5.0}$	??$_{1.6}$	*$_{1.3}$
Accomplishment	?$_{3.5}$	??$_{2.9}$	?$_{4.1}$	✓$_{4.6}$	*$_{1.2}$	*$_{1.3}$
Achievement	*$_{1.3}$	*$_{1.3}$	??$_{1.6}$	??$_{1.6}$	*$_{1.1}$	*$_{1.2}$
Semelfactive	✓$_{4.7}$	?$_{4.4}$	?$_{3.9}$	?$_{4.0}$	*$_{1.3}$	*$_{1.1}$

Table 3.21. *Méi(yǒu)* and *zhe.*

	zhe		*méi(yǒu)*		Mixed	
	BM	TM	BM	TM	BM	TM
State [+psych]	?$_{3.0}$	?$_{3.2}$	?$_{3.4}$	?$_{4.4}$	??$_{2.3}$	??$_{2.5}$
State [–psych]	*$_{1.3}$	??$_{1.6}$	??$_{2.5}$	??$_{2.4}$	*$_{1.3}$	*$_{1.4}$
Activity	?$_{4.3}$	?$_{4.4}$	?$_{4.4}$	?$_{4.3}$	?$_{3.1}$	?$_{3.4}$
Accomplishment	?$_{3.5}$	??$_{2.9}$	?$_{4.1}$	✓$_{4.8}$	??$_{2.1}$	??$_{2.3}$
Achievement	*$_{1.3}$	*$_{1.3}$	?$_{4.4}$	?$_{4.4}$	??$_{1.8}$	??$_{1.9}$
Semelfactive	✓$_{4.7}$	?$_{4.4}$	?$_{4.5}$	✓$_{4.7}$	??$_{2.5}$	?$_{3.4}$

The relationship between negation and postverbal imperfective marker *zhe* is clear, compared to what we have seen in discussion of negation and *zai* in section 3.5.1. In both Beijing and Taiwan Mandarin, *bù* 'not' is not compatible with *zhe* regardless of situation type. In contrast to *zai*, the incompatibility between *bù* and *zhe* is the key determinant of the acceptability of 'mixed' sentences; there is little impact from other factors. *Méi(yǒu)* is also incompatible with *zhe* but the result is subject to variation in the type of situation concerned. Clear evidence comes from accomplishments and achievements: negation by *méi(yǒu)* is only slightly marginal when aspect marking is absent, but when *zhe* is present, the sentences are either very marginal or completely unacceptable, thus, expectedly, when *méi(yǒu)* and *zhe* co-occur these two types of sentences are also very marginal. Xiao & McEnery's (2008) corpus study has found similar patterns in that imperfective sentences marked by *zai* or *zhe* very rarely appear in the negative. Miestamo's (2005) typological study also identified an incompatibility between *bù* and imperfective viewpoints, and made a brief remark on a resembling pattern in Cantonese; the Hong Kong Cantonese patterns will be discussed in detail in the next section. To sum up, *bù* is strictly incompatible with *zhe,* regardless of situation type. *Méi(yǒu)* is also incompatible with *zhe* but the overall acceptability of *méi(yǒu)-zhe* sentences shows variation according to *zhe*-situation type compatibility.

3.6.2 Hong Kong Cantonese: negation and progressive *gan2*

The Hong Kong Cantonese postverbal progressive marker *gan2* does not bear any direct correspondence to *zhe* in Beijing or Taiwan Mandarin, but is a viewpoint aspect marker that is highly productive in Cantonese varieties, including Gaozhou Cantonese. It is, therefore, crucial to differentiate between Hong Kong Cantonese *gan2* and *zhe* in the Mandarin varieties. Though both *gan2* and *zhe* are postverbal imperfective markers, *gan2* expresses progressive viewpoint which can be regarded as the unmarked imperfective following Smith (1997), while *zhe* has been analysed as a marked imperfective (or specifically stative/resultative imperfective), which indicates a sense of stativity that *gan2* or any typical progressive viewpoint lacks. The data in Tables 3.22 and 3.23 present a rather straightforward pattern for negative sentences with *gan2*, especially when comparing it to negative sentences with *hai2dou6* 'be.place' (see section 3.5.2): almost all negative *gan2*-sentences are either very marginal or completely unacceptable in Hong Kong Cantonese.

Table 3.22. *M4* and progressive *gan2.*

	gan2	*m4*	Mixed
State [+psych]	?$_{3.0}$	✓$_{4.6}$	??$_{1.7}$
State [–psych]	??$_{2.1}$	✓$_{4.6}$	*$_{1.4}$
Activity	✓$_{5.0}$	✓$_{4.6}$	*$_{1.4}$
Accomplishment	?$_{4.2}$	?$_{4.2}$	*$_{1.3}$
Achievement	?$_{3.7}$	??$_{2.4}$	*$_{1.2}$
Semelfactive	?$_{4.3}$	?$_{4.3}$	*$_{1.3}$

Table 3.23. *Mou5* and progressive *gan2.*

	gan2	*mou5*	Mixed
State [+psych]	?$_{3.0}$	?$_{4.2}$	??$_{1.8}$
State [–psych]	??$_{2.1}$	??$_{2.6}$	*$_{1.3}$
Activity	✓$_{5.0}$	✓$_{4.7}$	?$_{3.1}$
Accomplishment	?$_{4.2}$	✓$_{4.5}$	??$_{2.5}$
Achievement	?$_{3.7}$	✓$_{4.7}$	*$_{1.5}$
Semelfactive	?$_{4.3}$	✓$_{5.0}$	?$_{3.3}$

Consider the empirical findings on *m4-gan2* sentences in Table 3.22. The invariable unacceptability of all negative progressive sentences negated by *m4* indicates that sensitivity to situation type is absent, and the incompatibility of *m4* with progressive *gan2* trumps all other factors and renders all sentences ill-formed when the two co-occur. Activity-denoting sentences provide a clear case for this generalisation, as (78) illustrates.

(78) Activity

a. 我 (喺度) 跑 (咗) (過) **(緊)** 步

ngo	*(haidou)*	*paau*	*(-zo)*	*(-gwo)*	***(-gan)***	*bou*
I	be.loc	run	PFV	EXP	**PROG**	steps

Bare affirmative: 'I run.' (HKC)

b. 我 (**唔**｜冇) 跑步

ngo	*(**m***	*|mou)*	*paaubou*
I	**not**	|not.have	run

lit. 'I do not run.'

'I did not run.' (HKC)

c. 我 (***唔**｜?冇) 跑**緊**步

ngo	***(*m***	*|?mou)*	*paau-**gan**-bou*
I	**not**	|not.have	run-**PROG**-steps

Affirmative: 'I am running.' (HKC)

Although affirmative sentences marked by *gan2* (78a) and bare sentences negated by *m4* (78b) are both completely well-formed, co-occurrence of *m4* with progressive *gan2* produces completely ungrammatical structures as in (78c).

On the other hand, *mou5* 'not.have' is also incompatible with progressive *gan2* but the result is slightly obscured by the compatibility between *gan2* and situation type. Compared to the Mandarin varieties, the connection between *gan2*-situation type compatibility and the overall acceptability of the 'mixed' sentences is not as clear-cut. For instance, while *gan2* is fully acceptable with activity in the affirmative context (5.0/5.0), when *mou5* appears the sentence is slightly marginal (3.1/5.0). However, taking into account the fact that the scores for the 'mixed' sentences range only between 1.3 and 3.3, and that of the affirmative sentences are between 2.1 and 5.0, the variation in score given to the 'mixed' sentences does resemble the variation in their affirmative counterparts. For example, activity and semelfactive sentences have the two highest scores among the six types of situation examined when *gan2* appears in the affirmative context, and when *mou5* is present in the negative sentences, activities and semelfactives still receive the two highest scores. Therefore, to conclude, neither negator is compatible with progressive viewpoint *gan2*, but the acceptability of *mou5-gan2* sentences shows some subtle influence from situation type-viewpoint compatibility.

3.6.3 Gaozhou Cantonese: negation and progressive *gan2*

In Hong Kong Cantonese, co-occurrence of postverbal progressive *gan2* and *m4* 'not' is strictly ungrammatical regardless of situation type, and even negation by *mou5* 'not.have' is very marked in such structures — activity and semelfactive *gan2*-sentences are slightly marginal when negated by *mou5* but other sentences are clearly ill-formed. Gaozhou Cantonese *mau5* seems to resemble the patterns of *méi(yǒu)* in Mandarin and *mou5* in Hong Kong Cantonese as summarised in Table 3.24.

Table 3.24. *Mau5* and progressive *gan2.*

	gan2	*mau5*	Mixed
State [+psych]	?$_{3.4}$	✓$_{4.6}$	??$_{3.1}$
State [–psych]	??$_{2.4}$	✓$_{4.7}$	??$_{2.7}$
Activity	✓$_{4.4}$	✓$_{4.6}$	?$_{4.0}$
Accomplishment	✓$_{4.4}$	✓$_{4.5}$	??$_{3.1}$
Achievement	?$_{3.4}$	?$_{3.9}$	??$_{3.0}$
Semelfactive	✓$_{4.4}$	✓$_{4.6}$	?$_{3.2}$

Mau5 is not compatible with *gan2,* but the difference in acceptability can be subtle. For example, in affirmative activity-sentences marked by *gan2* as in (79a), the sentence is completely acceptable (4.4/5.0), but under negation those sentences become slightly marginal (4.0/5.0) as in (79c); achievement (80) and psych-stative sentences (81) present similar cases.

(79) Activity

a. 我 (?在己) 散 (?嗲) (?過) **(?緊)** 步

ngo	*(?coigei)*	*saan*	*(?de)*	*(?gwo)*	***(?gan)***	*bou*
I	be.here	stroll	PFV	EXP	**PROG**	steps

Bare affirmative: 'I stroll.' (GZC)

b. 我 (冇) 散步

ngo	*(mau)*	*saan*	*bou*
I	not	stroll	steps

Literally: 'I don't stroll.'

'I haven't strolled.' (GZC)

c. 我 **(?冇)** 散**緊**步

ngo	***(?mau)***	*saan-**gan**-bou*
I	**not**	stroll-**PROG**-steps

'I am not strolling.' (GZC)

(80) Achievement

a. 我 (?在己) 打爛 (?嗲) (?過) **(??緊)** 隻杯

ngo	*(?coigei)*	*daalaan*	*(?de)*	*(?gwo)*	***(??gan)***	*zik*	*bui*
I	be.here	shatter	PFV	EXP	**PROG**	CL	mug

Bare affirmative: 'I shatter the mug.' (GZC)

b. 我 (?冇) 打爛隻杯

ngo	*(?mau)*	*daalaan*	*zik*	*bui*
I	not	shatter	CL	mug

Literally: 'I don't shatter the mug.'

'I haven't shattered the mug.' (GZC)

c. 我 **(??冇)** 打爛**緊**隻杯

ngo	***(??mau)***	*daalaan-**gan***	*zik*	*bui*
I	**not**	shatter-**PROG**	CL	mug

Intended: 'I am not shattering the mug.' (GZC)

(81) Psych state

a. 我 (??在己) 狂 (??嗲) (?過) **(??緊)** 老鼠

ngo	*(??coigei)*	*kwong*	*(??de)*	*(?gwo)*	***(??gan)***	*lousyu*
I	be.here	fear	PFV	EXP	**PROG**	rats

Bare affirmative: 'I fear rats.' (GZC)

b. 我 (冇) 狂老鼠

ngo	*(mau)*	*kwong*	*lousyu*
I	not	fear	rats

Intended: 'I don't fear rats.'

'I didn't fear rats.' (GZC)

c. 我 **(??冇)** 狂**緊**老鼠

ngo	***(??mau)***	*kwong-**gan***	*lousyu*
I	**not**	fear-**PROG**	rats

Lit. 'I am not fearing rats.' (GZC)

Impact from negation-situation type compatibility can be ruled out in this case, as *mau5* is compatible with all situation types in bare negatives, as seen in the (b) sentences in (79-81). Therefore, the marginality or unacceptability of *mau5-gan2* sentences is due to the incompatibility of negation with the postverbal imperfective *gan2,* and any variation in acceptability can be attributed to the variation in *gan2*-situation type compatibility,

3.7 Cross-linguistic generalisations about negation-viewpoint relations

The last four sections have presented the acceptability judgments of aspect-marked sentences under negation in the four Chinese varieties, and made suggestions regarding the relationship between negation and different viewpoint aspects. The purpose of this section is to put forward some cross-linguistic generalisations on negation-viewpoint relationship. Some of these generalisations are not novel, but without thorough examination of the relationship between situation type and viewpoint aspect, and between negation and situation type per se, one cannot be certain if negation-viewpoint aspect compatibility is indeed relevant or crucial to the (un)acceptability of negative aspect-marked sentences. Therefore, the findings in this chapter provide unambiguous evidence about the relationship between negation and different viewpoints. These findings both ascertain some of the well-known generalisations and introduce new discoveries to the discussion.

Based on the empirical evidence discussed in sections 3.3 to 3.6, Table 3.25 summarises the relationship between the negator(s) and the four aspectual viewpoints in each variety.

Table 3.25. Cross-linguistic negation-viewpoint compatibility.[23]

	BM		TM		HKC		GZC
	bù 'not'	*méi(yǒu)* 'not have'	*bù* 'not'	*méi(yǒu)* 'not have'	*m4* 'not'	*mou5* 'not.have'	*mau5* 'not'
PFV	*	*	*	*	*	*	*
EXP	*	✓	*	✓	*	✓	✓
IMPFV (be.loc)	* [S-V]	O [S-V]	*	O [S-V]	* [S-V]	* [S-V]	* [S-V]
IMPFV	*	* [S-V]	*	* [S-V]	*	* (S-V)	* (S-V)

The results in Table 3.25 lay out several noteworthy patterns. First, in varieties with two standard negators, namely, Beijing Mandarin, Taiwan Mandarin, and Hong Kong Cantonese, the negator 'not' is not compatible with any aspectual viewpoint. The variation in acceptability of aspect-marked sentences negated by 'not' (i.e. Mandarin *bù* and Hong Kong Cantonese *m4*) is attributed to the difference in weighting between situation type-viewpoint aspect compatibility and negation-viewpoint aspect compatibility in determining the grammaticality of the sentence: where the relationship between situation type and viewpoint aspect is a primary determinant, the aspect-marked sentences would be systematically worsened under negation than in the affirmative, the acceptability of the negative aspect-marked sentences can range from slightly marginal to completely unacceptable according to the compatibility between the situation type and aspectual viewpoint concerned. In contrast, where the compatibility between 'not' (i.e. *bù* and *m4*) and viewpoint aspect plays a stronger role in determining the overall well-formedness of the sentence, the negative aspect-marked sentences are systematically considered ill-formed regardless of the type of predicate involved. Second, the only viewpoint fully compatible with negation across the four Chinese varieties is the experiential viewpoint (i.e. Mandarin *guo* and Cantonese *gwo3*); in systems with two standard negators, experiential viewpoint is only compatible with 'not have' (i.e. Mandarin

[23] Annotations: * = incompatible; ✓ = compatible; O = no relation; specification in the square brackets = significant factor in the determining the acceptability of 'mixed' sentences; specification in parentheses = a potential factor that affects the acceptability of 'mixed' sentences; S-V = situation type-viewpoint aspect compatibility in affirmative context (see discussion in section 3.2).

méi(yǒu) and Hong Kong Cantonese *mou5*). That sentences marked as experiential must be negated by 'not have' is a well-known fact in the Mandarin literature, and that *bù* cannot appear with any of the four aspectual viewpoints has been discussed in different studies (see Li 2007 for a comprehensive study of the relation between negation and viewpoint aspect in Mandarin; see also Wang 1965, Huang 1988, Ernst 1995, Zhuang & Liu 2011, Zhuang 2015 for discussion of the incompatibility between *bù* and perfective *le* or experiential *guo*, and see Lin 2003 for some discussion on the incompatibility between *bù* and imperfective aspect; section 5.2 will review some of these existing analyses of negation-aspect compatibility in detail.)

In fact, the presence of paradigmatic asymmetry between affirmatives and negatives has been well-documented in Miestamo (2005), in the sense that, it is not typologically uncommon to find fewer grammatical distinctions made in negatives than in their affirmative counterparts. Miestamo (2005) offers a general functional explanation suggesting that, as negatives mostly appear in context where the corresponding affirmative is somehow present or supposed, the grammatical information expressed in the affirmative may not be necessary in the negative. This functional preference gradually conventionalised into formal restrictions over what grammatical categories can appear in the negative. The data in this chapter shows that the four varieties of Chinese display the paradigmatic asymmetry Miestamo described, by having fewer aspectual distinctions under negation. However, the functional account does not capture the difference in aspect compatibility demonstrated by 'not' and 'not have' negators, particularly where experiential aspect is concerned; Chapter 5 will propose a formal account which takes into account the difference in aspectual compatibility between negators, and the nature of the four aspectual viewpoints in this study.

The third observation concerns the perfective-imperfective distinction in negation; the negation-viewpoint compatibility has an overwhelming impact on the overall acceptability of negative aspect-marked sentences when the viewpoint concerned expresses perfectivity, which includes perfective and experiential viewpoints, but the impact of negation-viewpoint compatibility is significantly obscured by the variation caused by situation type-viewpoint compatibility when the sentence is marked as imperfective, especially with the preverbal 'be.loc' marker. The asymmetry in encoding aspectual information in affirmation and negation has been briefly mentioned above, and in fact, it has been claimed in the literature that where

negation puts restrictions on aspect-marking, perfectives are more likely to be suppressed than imperfectives: Schmid (1980: 39) suggests that if there is any restriction on aspectual forms in negation, completive forms will be the ones to be restricted, while Matthews (1990: 84) describes a cross-linguistic incompatibility between negation and perfective aspect. Mandarin appears as one of the key exemplars of such a generalisation in their language samples, and the empirical data examined in sections 3.3 to 3.6 seems to re-affirm their conclusion. Indeed, not only do the two Mandarin varieties show clear incompatibility between negation (by *bù* and *méiyǒu*) and perfective *le,* but the same restriction is attested in the Cantonese varieties — both *m4* and *mou5* are incompatible with perfective *zo2* in Hong Kong Cantonese, and Gaozhou Cantonese *mau5* is also incompatible with perfective *de6.* However, having considered a larger sample of languages, Miestamo & van der Auwera (2011) have rejected such generalisation. They have found that out of the 179 languages investigated, 49 languages display paradigmatic asymmetry between negation and affirmation, and among those languages, only 14 show a loss of either a perfective-type or imperfective-type aspectual distinction[24] under negation, but the distribution is even: 7 languages impose restriction on perfective-type aspect and the other 7 languages have a restriction on imperfective type aspect (Miestamo & van der Auwera 2011: 68). Hence, there is no tendency for negation to suppress perfective aspect more than imperfective aspect; in other words, the generalisation that negation would be incompatible with perfective aspect should a language place any restriction on aspectual distinction in negation is disproved. In that sense, the negation-aspect compatibility pattern observed in the Chinese varieties is a much more typologically marked phenomenon than we might have expected from Schmid's (1980) and Matthews' (1990) descriptions. Moreover, the picture revealed in the empirical data of the four Chinese varieties in this chapter shows that even the typological account in Miestamo & van der Auwera (2011) is too coarse-grained, since both perfective aspect and experiential aspect would belong to the group of 'perfective-type aspects' by their classification, but these two aspects behave in clearly distinct ways as far as compatibility between negation is concerned: perfective aspect is ill-formed under negation in general, while experiential aspect is the only aspectual marker

[24] Miestamo & van der Auwera (2011) have divided the aspectual categories in the individual languages into two groups: the imperfective-type categories (incompletive, continuous, durative, imperfective, progressive) and the perfective-type ones (completive, perfective, perfect, punctual, resultative).

that is well-formed when negated by the 'not have' negators. Therefore, the relationship between negation and aspect is an issue that worths further exploration cross-linguistically, and Chapter 5 will be devoted to accounting for the compatibility pattern in the four Chinese varieties which can serve as a focused case study of this group of typologically marked languages (the 14 languages with aspectual restriction under negation out of the sample of 179).

3.8 Position of aspect and preliminary structure

In preparation for the analysis of the structural relations between negation and aspect in Chapter 5, it is necessary to identify the structural position of the various aspect markers in Chinese varieties. This section will introduce three approaches to the analysis of Chinese aspect marking before proposing an Agree approach to explain how postverbal aspect markers in Chinese are base-generated in V^0 and obtain their interpretations via Agree with Asp^0.

To begin with, aspect markers across the Chinese varieties are mostly immediately postverbal as in (82).

(82) Chinese aspect marking

a. 小明穿**了|過|着**一件紅色的外套

Xiaoming	*chuan-**le**|*	***guo**|*	***zhe***	*yi*	*jian*	*hongse-de*	*waitao*
Xiaoming	wear-PFV	EXP	CONT	one	CL	red-GEN	coat

Bare affirmative: 'Xiaoming wears a red coat.' (Mand.)

b. 小明著**咗|過|緊**一件紅色嘅外套

Siuming	*zoek-**zo**|*	***gwo**|*	***gan***	*jat*	*gin*	*hungsik-ge*	*ngoitou*
Siuming	wear-PFV	EXP	PROG	one	CL	red-GEN	coat

Bare affirmative: 'Siuming wears a red coat.' (HKC)

c. 小明著**嗲|過|緊**一件紅色個外套

Siuming	*zoek-**de**|*	***gwo**|*	***gan***	*jat*	*gin*	*hungsik-go*	*ngoitou*
Siuming	wear-**PFV**	**EXP**	**PROG**	one	CL	red-GEN	coat

Bare affirmative: 'Siuming wears a red coat.' (GZC)

The only exception is the 'be.loc' marker, which is both a locative marker and an imperfective marker — Mandarin *zai* 'be.loc' is generally regarded as a progressive marker — and which always precedes the verb. When negation is present, the 'be.loc' marker appears between the negator and the verb, i.e. Neg > *zai* > V.

There are three main approaches in the literature regarding the treatment of postverbal aspect markers in Chinese, namely, (i) verb-raising, (ii) aspect-lowering (a.k.a. affix-hopping), and (iii) LF movement. The first two approaches are two sides of the same coin. Both postulate that aspect markers are base-generated in Asp^0; in the former approach, the verb moves up to adjoin to Asp^0, while in the latter the aspect markers lower to the verb which stays in-situ. However, the verb-raising approach is challenged by empirical facts concerning the distribution of manner adverbs; manner adverbs in Chinese must precede the aspect-marked predicate as in (83). Manner adverbs are adjoined to the VP, but, following the verb-raising approach, when V^0 moves up to adjoin to Asp^0, the adverb would not be pied-piped with the raised verb. Consequently, an ill-formed structure is produced with the manner adverb appearing postverbally after the aspect marker, i.e. [[V-Asp] Adv], as shown in (83c).

(83) Adverb distribution and the verb-raising approach

a. 小明**(偷偷地)**去了公園

Xiaoming	***(toutoude)***	*qu-le*	*gongyuan*
Xiaoming	**secretly**	go-PFV	park

'Xiaoming secretly went to the park.' (Mand.)

b. 小明去**(*偷偷地)**了公園

Xiaoming	*qu*	***(*toutoude)***	*le*	*gongyuan*
Xiaoming	go	**secretly**	PFV	park

Intended: 'Xiaoming went to the park.' (Mand.)

c. 小明去了**(*偷偷地)**公園

Xiaoming	*qu-le*	***(*toutoude)***	*gongyuan*
Xiaoming	go-PFV	secretly	park

Intended: 'Xiaoming secretly went to the park. (Mand.)

The aspect-lowering approach appears to be able to avoid this issue, since the adverbs can still be adjoined to the VP while the aspect marker in Asp^0 lowers to adjoin to V. The problem with this approach in a GB framework is the ECP violation; that is, the trace of the aspect marker would be ungoverned. This would not be a problem in the Minimalist Program as traces and government are no longer postulated. However, downward movement is still ruled out by cyclicity following Chomsky's (1995) Extension Condition, which restricts all Merge and Move operations to take place at the root only. Indeed, analyses in the Distributed Morphology framework (*i.a.* Bobaljik 1995, 2002, 2008) allow downward movements as a PF rule, but since the analysis in this dissertation follows the Minimalist Program, downward movements and the aspect-lowering approach are disfavoured.

Ernst (1995) proposed an alternative analysis which does not involve any overt movement of either the verb or the aspect markers. He suggests that the aspect markers, as verbal suffixes, are base-generated in V^o with the verb, and the aspect markers receive their appropriate semantic interpretation by moving to Asp^0 at LF. The LF movement approach has been adopted in subsequent studies (*i.a.* Li 1999/2007, Huang, Li and Li 2009), and is understood as the necessary operation for all postverbal aspect markers in Chinese, i.e. LF movement would not be necessary for the preverbal 'be.loc' imperfective marker as it is base-generated in Asp^0. Though these analyses are all originally proposed for Mandarin, they are assumed to be applicable to the Cantonese varieties in this study. Proponents of this approach have also included *yǒu* 'have' in *méi(yǒu)* as a preverbal perfective aspect marker. Thus, Ernst (1995), Li (1999/2007) and Huang, Li & Li (2009) all suggest that *méi(yǒu)* is in Asp^0 as *yǒu* 'have' is base-generated in Asp^0 and Neg is adjoined to it; the form is spelt-out as *méi(yǒu)* in Mandarin and presumably as *mou5* in Hong Kong Cantonese.

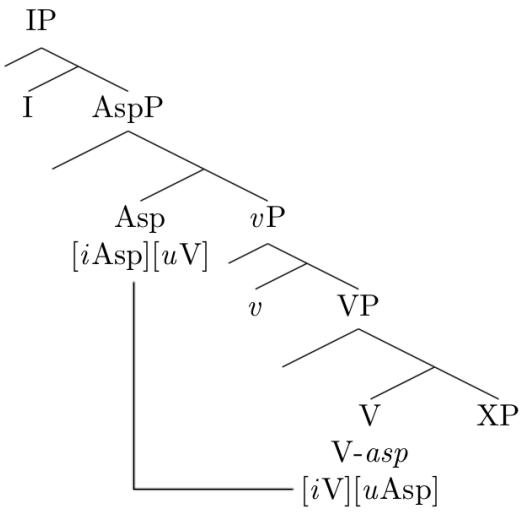
The LF movement approach provides a plausible account of where the aspect markers in Mandarin (or Chinese in general) are positioned in the structure and how they get interpreted at the interface. I follow this approach to a great extent, particularly in that the postverbal aspect markers are base-generated in V^0 and obtain their interpretation via 'connection' with the Asp^0 projection. Technically, however, I argue for an Agree approach which not only captures the facts mentioned above, but also helps account for the negation-aspect compatibility which is the core of the Chinese negation puzzle; this section focuses mainly on the position of aspect, and Chapter 5 will develop this idea fully to show how the position of aspect impacts on negation in varieties of Chinese. I suggest that postverbal aspect markers, as verbal suffixes, are base-generated in V^0 and bear an uninterpretable aspect feature of their own specification. For instance, *le* in Mandarin would carry an uninterpretable perfective feature, [$_u$PFV], while *gwo3* in the Cantonese varieties would have an uninterpretable experiential feature, [$_u$EXP]. The aspect marker and the aspect head in AspP forms an Agree relation in which Asp^0 probes for the uninterpretable counterpart to its [$_i$Asp] feature.[25] The two apparent exceptions are the preverbal imperfective 'be.loc' marker and the perfective auxiliary *yǒu/jau5* 'have'[26] which do not require such an Agree relation for their interpretation as they are base-generated in Asp^0. The structures for postverbal and preverbal aspect markers are provided and illustrated with examples in (84) and (85).

[25] The analysis proposed here is generally consistent with Minimalist and Cartographic frameworks. Following the Minimalist framework, Asp^0 bears the interpretable [$_i$Asp] which can probe for any aspectual feature specified in the aspect marker. Alternatively, if we adopt a Cartographic approach, we can postulate the projection of the relevant aspectual head which probes for the specific aspect feature on the aspect marker. For example, a perfective head would have a [$_i$PFV] feature and probe for the [$_u$PFV] feature.

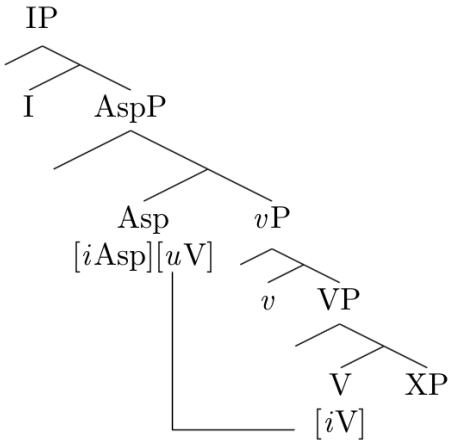
[26] To anticipate, in the next chapter I will argue that *yǒu/jau5* 'have' is not a perfective auxiliary but an existential auxiliary, but I will adopt the view in the literature for simplicity in the discussion in the present chapter.

(84) Agree approach to Chinese aspect

a. Postverbal aspect



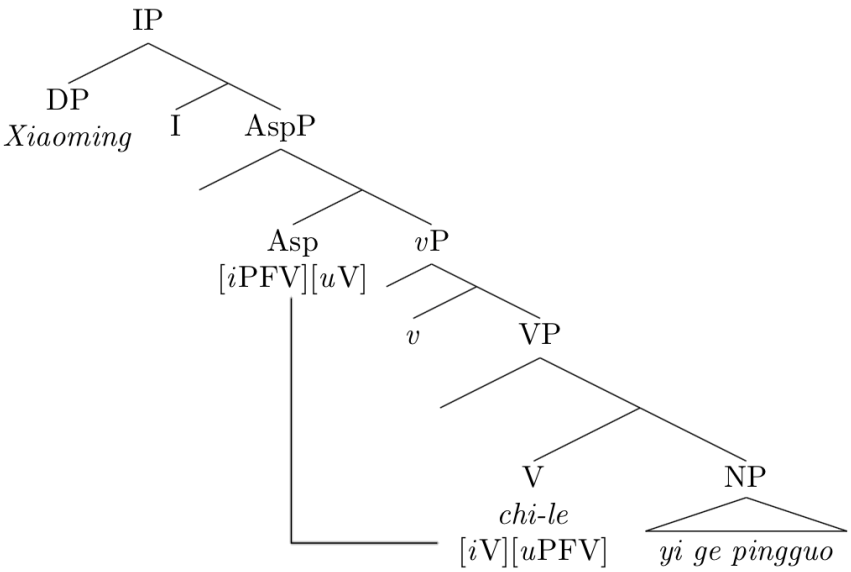
b. Preverbal aspect



(85) Agree approach to Chinese aspect in action

a.	*Xiaoming*	*chi-**le***	*yi*	*ge*	*pingguo*
	Xiaoming	eat-**PFV**	one	CL	apple

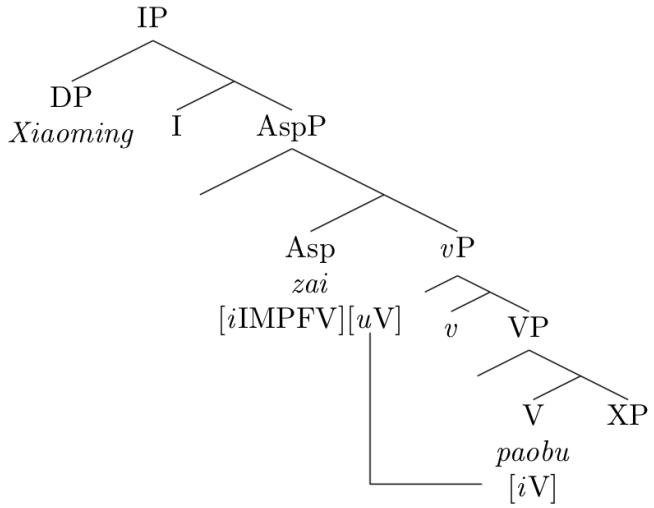
'Xiaoming ate an apple.' (Mand.)



b. *Xiaoming* ***zai*** *paobu*

Xiaoming **be.at** run

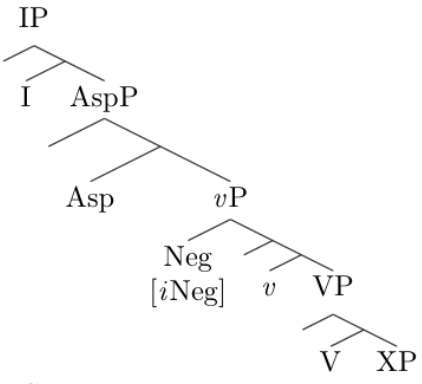
'Xiaoming is running.' (Mand.)



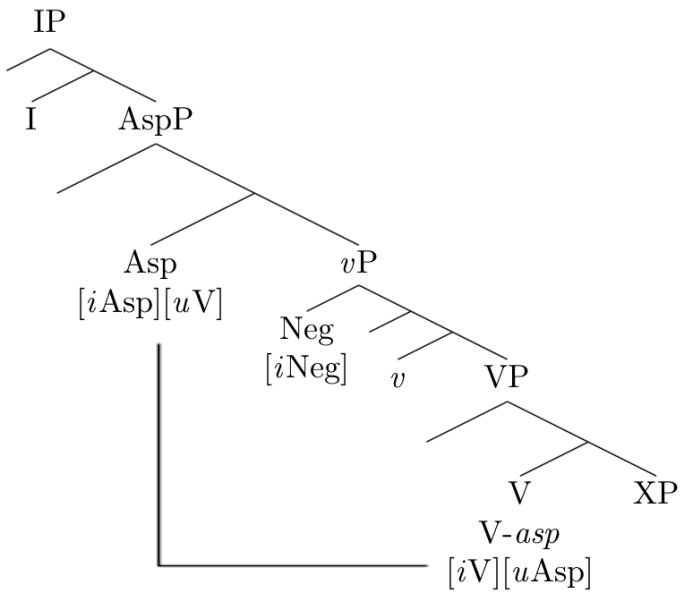
Following the discussion in section 2.4, the 'not' negators (i.e. Mandarin *bù,* Hong Kong Cantonese *m4* and Gaozhou Cantonese *mau5*) are in spec-*v*P as in (86a), so an aspect-marked negative sentence should have the structure in (86b).

(86) 'Not' and aspect: *bù, m4* and *mau5*

a. Bare negative



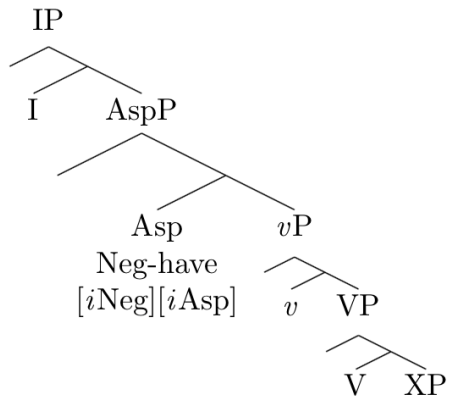
b. Negation with aspect-marking



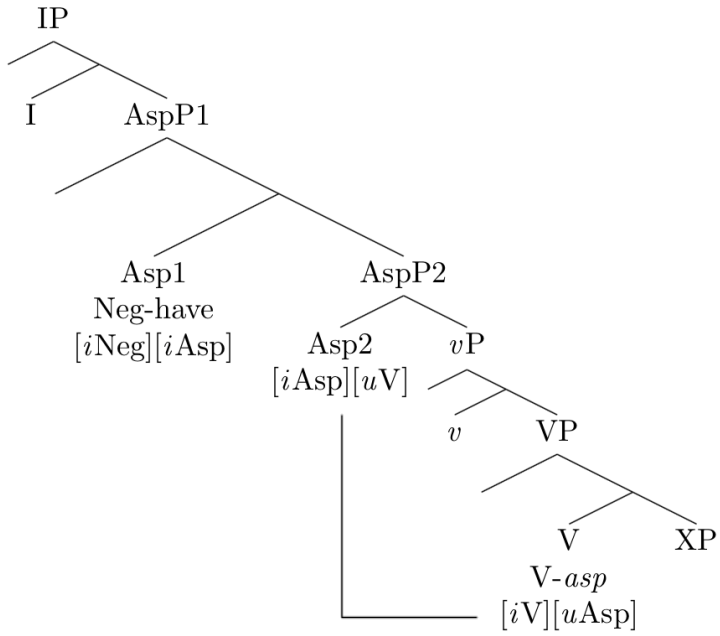
Since *yǒu* 'have' in *méiyǒu* is an aspectual auxiliary in Asp^0 and *méiyǒu* is the realisation of negation adjoined to *yǒu* (cf. Huang, Li & Li 2009), *méiyǒu* — and presumably the 'not have' negators in general, which include *mou5* in Hong Kong Cantonese — is in Asp^0, as represented in (87a).

(87) 'Not-have' and aspect: *méi(yǒu)* and *mou5*

a. Bare negative



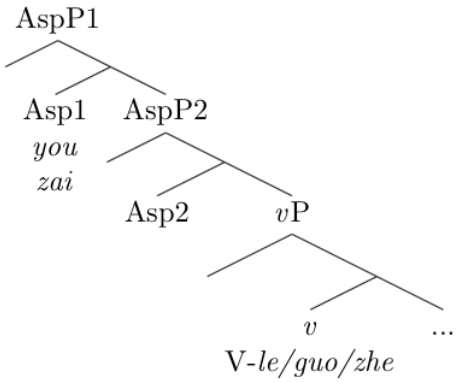
b. Negation with aspect-marking



Since the 'not have' negators are generated in Asp^0, when 'not have' co-exists with another aspect marker in the structure (e.g. experiential sentences negated by *méiyǒu*), another AspP is projected and would probe for the relevant aspect feature in V^0, as in (87b) which is inspired

by the structure in (88) proposed by Huang et al. (2009). [27]

(88) Mandarin aspectual phrase (Huang, Li & Li 2009: section 3.3.1)



The analysis proposed so far succeeds in explaining two key observations in the Chinese negation puzzle presented in (2) at the beginning of this chapter. On the one hand, the clash between 'not have' negators and the presence of another perfective marker in the same structure can be accounted for by their competition for the same structural position, since the auxiliary *yǒu/jau5* 'have' and the perfective markers — Mandarin *le,* Hong Kong Cantonese *zo2,* and Gaozhou Cantonese *de6* — are both understood to express perfective aspect. Precisely, I suggest that both auxiliary 'have' and the postverbal perfective markers carry a [$_u$PFV] feature, hence both of them require an aspectual projection carrying the interpretable counterpart for feature checking. But since they express the same aspect, only one AspP is projected. With auxiliary 'have' generated in Asp^0, the Asp head cannot Agree with the [$_u$PFV] in V^0 anymore, leaving the perfective feature in V^0 uninterpretable.

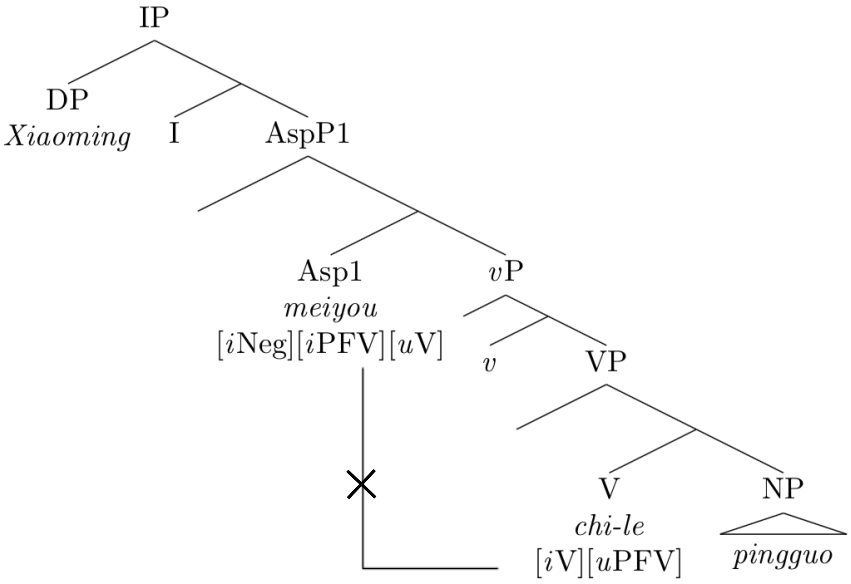
[27] The structures in (87b) ad (88) assume that where there are two aspectual projections, there will be a preverbal aspect marker and a postverbal one; the former is higher in AspP1 and the latter in AspP2. It is, however, empirically possible to have two preverbal aspect markers co-occuring in the structure if we assume that *yǒu* in *méi(yǒu)* is a perfective marker; sentences marked as imperfective by *zai* 'be.at' and negated by *méi(yǒu)* are cases in point. The configurations in (87b) and (88) could not capture those cases. But Chapter 4 will show that the auxiliary 'have' (Mandarin *yǒu* and Cantonese *jau5*) is not a perfective marker, and examples involving co-occurrence of 'not have' and preverbal imperfective 'be.loc' will be accounted for in the formal analysis in Chapter 5.

(89) 'Not have' and perfective aspect

* *Xiaoming* ***mei-you*** *chi-**le*** *pingguo*

Xiaoming **not-have** eat-**PFV** apple

Intended: 'Xiaoming did not eat apple.' (Mand.)



On the other hand, the structure in (87b) captures the fact that 'not have' negators can co-occur with experiential aspect as two AspPs will be projected: the higher Asp1 is where the auxiliary 'have' is generated and where the 'not have' negators are realized, while the lower Asp2 would carry a [$_i$EXP] feature and Agrees with its uninterpretable counterpart in V^0.

Nevertheless, the proposed structures fall short in other respects. First and foremost, the incompatibility of negation by Mandarin *bù* and Hong Kong Cantonese *m4* with perfective as well as experiential aspect is left unaccounted for. Following Relativised Minimality, Neg in (86b) should not be an intervener to the Agree relation between Asp^0 (with [$_i$Asp]) and V^0 (with [$_u$Asp] when a postverbal aspect marker is present), as Neg does not have the same feature composition as either of these heads. Therefore, in principle, *bù* and *m4* should be compatible with all aspect markers, based on the structure in (86b). But, empirically, the opposite is true; these two negators are incompatible with all aspectual viewpoints to various extant. Hence, Chapters 4 and 5 will present a more comprehensive analysis which suggests that there is a modality element in Mandarin *bù* and Hong Kong Cantonese *m4* that conflicts with aspect marking.

Another limitation in the preliminary analysis proposed above concerns the negation of imperfective sentences. As presented in this chapter, the 'not have' negators are not compatible with any aspect markers except the experiential aspect. The incompatibility between 'not have' and the perfective markers is beyond doubt the most prominent and the incompatibility between 'not have' and the imperfective markers appears to be weaker and obscured by variation in situation type-viewpoint compatibilities, but the fact that the presence of negation consistently worsens the structure where aspect marking (except with experiential aspect) is present is clear. The explanation sketched in this section cannot account for this effect; the issue of negation-imperfective compatibility will be addressed in Chapter 5.

3.9 Conclusion

The findings in Chapter 2 and the present chapter have provided a comprehensive picture of how (i) situation type and viewpoint aspect; (ii) negation and situation type; and (iii) negation and viewpoint aspect interact. Without thorough understanding of the first two factors, it is impossible to decipher from the negative aspect-marked sentences ('mixed' sentences) whether the overall (un)acceptability is indeed an indicator for negation-viewpoint aspect (in)compatibility, or rather a result of other factors. Therefore, this chapter has made the important discoveries that (i) experiential aspect is the only aspectual viewpoint that is compatible with negation (specifically, Mandarin *méi(yǒu),* Hong Kong Cantonese *mou5* and Gaozhou Cantonese *mau5*) regardless of situation type, and (ii) situation type-viewpoint compatibility has indispensable impact on the acceptability of 'mixed' imperfective sentences which has often misled one to assume that negation and imperfective viewpoints may be compatible.

This chapter has also presented a modified account for the treatment of aspect markers in Chinese. Three approaches to aspect have been reviewed, namely, verb-raising, aspect-lowering, LF movement. I follow the LF movement approach in suggesting that postverbal aspects are base-generated in V^0 and lexically attached to the verb, but the technical operation has been modified so that no movement is involved, the aspectual feature checking is done via

Agree between the aspect marker in V^0 and the aspectual projection Asp^0. Tentatively, the imperfective 'be.loc' markers and auxiliary 'have' are treated as preverbal aspect markers generated in Asp^0. In the next two chapters, I shall present a formal account for the empirical generalisations made in Chapters 2 and 3.

Chapter 4

Existence and Chinese standard negators

4.1 Introduction

In the previous two chapters, we have seen a recurring property of standard negation by 'not have' which is that the negative sentence often denies the existence of the denoted situation. Recall the findings in Chapter 2, the main difference between 'not' and 'not have' (in varieties with these two standard negators) lies in the interpretation — negation with 'not' may have a volitional or habitual reading depending on the situation type, but negation with 'not have' denies the existence or realisation of the situation invariantly. In Chapter 3, we saw that the only aspectual viewpoint fully compatible with negation is experiential viewpoint, and, where 'not have' and 'not' are both standard negators in the variety, experiential viewpoint is only compatible with 'not have'. Discoveries from bare negation and aspect-marked negation data both point to a connection between 'not have' and non-existence. The aim of this chapter is to establish the nature of the negators of the four varieties of Chinese, and examine how their historical origin has shaped the negation system to its present form.

This chapter is structured as follows. First, I will provide a new understanding of the auxiliary *yǒu/jau5* 'have', suggesting that it is an existential auxiliary instead of a perfective auxiliary. Supported by empirical evidence extracted from the Sinica Corpus, the difference between *yǒu/jau5* 'have' and the postverbal perfective marker *le/zo2* will be explicated, teasing apart the layers of meaning that perfectivity encodes. Based on this new finding, it becomes necessary to revisit the structural analysis of negation with 'not have', that was tentatively proposed in Chapters 2 and 3. Therefore, in Section 4.3 the structural position of negation will once again be tested by the distribution of the different standard negators relative to different adverbs. The result will show that 'not have' and 'not' are of the same structural height, spec-*v*P, contrary to what has been suggested in the literature and assumed in this thesis so far.

Based on three findings, namely that, (i) 'not have' is not in Asp^0, (ii) the auxiliary *yǒu/jau5* 'have' expresses existence but not perfectivity, and (iii) negation by Mandarin *méi,* Hong Kong Cantonese *mou5,* and Gaozhou Cantonese *mau5* always expresses non-existence of the situation as discussed in section 2.3.2, section 4.4 conducts a thorough investigation into the connection between these standard negators and non-existence from a historical point of view. The discussion will adopt Croft's (1991) Negative-Existential Cycle (NEC) to analyse historical texts from pre-Qin period to Modern Mandarin and Cantonese and suggest that the NEC not only explains the connection between 'not have' and non-existence in present-day Chinese, but also provides a historical explanation for some of the cross-linguistic variation observed. The historical origin of *méi, mou5,* and *mau5* accounts for the structural behaviours they share, which set them apart from the other two negators, *bù* and *m4.* Therefore, section 4.5 will account for the systematic interpretational differences between two groups of negators by revisiting the definition of standard negation, and conclude that while NegAs — *méi(yǒu)* and *mou5* — introduce existential quantification to the sentence and negate the proposition by denying the existence of the situation denoted, NegBs — *bù* and *m4* — are the negative form of the generic operator, Gen, which is licensed by the presence of a habituality feature, [Hab], on the predicate, hence the modalized interpretation in bare negatives expressed by NegB. Section 4.5 will also explain how *mau5* in Gaozhou Cantonese, as the only standard negator in the variety, differs from NegA and NegB in being a simple Neg and expresses pure propositional negation unspecified for an existential or modality reading. Finally, section 4.6 concludes the chapter with key claims made on bare negation in the four Chinese varieties.

4.2 Yǒu/jau5 'have': existence and perfectivity

Research on Chinese negation since Wang (1965) has established a general understanding that the auxiliary *yǒu* 'have' is a perfective marker in Mandarin. The idea is based on the observation that *méi(yǒu)* and the postverbal perfective marker *le* cannot co-occur. With Wang's argument that *méi(yǒu)* is morphologically decomposable into *méi* the negator and *yǒu* the perfective marker, the assumption that *yǒu* 'have' is a perfective marker has been used to explain why *méi(yǒu)-le* is ill-formed — it is ruled out by their allomorphic relation. This line of argument,

however, is circular in itself, and no independent evidence has been used to show that *yǒu* 'have' is a perfective marker in affirmative contexts; the unacceptability of *méi(yǒu)-le* has been the only justification for any connection between *yǒu* 'have' and perfectivity. Therefore, the purpose of this section is to re-examine the nature of *yǒu* 'have' (and *jau5* 'have' in Cantonese). This re-examination will bring forth a new understanding to the nature of standard negators such as *méi(yǒu)* and *mou5.*

The first and foremost fact about *yǒu/jau5* 'have' is that it is not only an auxiliary that may appear in negative sentences but it is primarily a lexical verb meaning 'to exist' and 'to possess/own'. The existential and possessive senses of 'have' have persisted from Old Chinese to present-day Chinese varieties; indeed, all four varieties under investigation actively use 'have' as the lexical verb meaning 'to exist' and 'to own/possess', as in the examples below.

(1) *Yǒu/jau5* 'to exist': 'There are pencils in the classroom.'

a. 教室裏**有**鉛筆 (BM)

jiaoshi *li* ***you*** *qianbi*

classroom inside **have** pencil

b. 教室裏**有**鉛筆 (TM)

jiaoshi *li* ***you*** *qianbi*

classroom inside **have** pencil

c. 課室度**有**鉛筆 (HKC)

fosat *dou* ***jau*** *jyunbat*

classroom place **have** pencil

d. 課室具**有**鉛筆 (GZC)

fosat *gui* ***jau*** *jinbat*

classroom place **have** pencil

(2) *Yǒu/jau5* 'to possess': 'I have pencils.'

a. 我**有**鉛筆 (BM)

wo ***you*** *qianbi*

I **have** pencil

b. 我**有**鉛筆 (TM)

wo ***you*** *qianbi*

I **have** pencil

c. 我**有**鉛筆 (HKC)

ngo ***jau*** *jyunbat*

I **have** pencil

d. 我**有**鉛筆 (GZC)

ngo ***jau*** *jinbat*

I **have** pencil

Cross-linguistic variation begins with the use of 'have' as an auxiliary instead of a lexical verb. In Taiwan Mandarin and Hong Kong Cantonese, sentences like (3) are very common, but they are unacceptable in Beijing Mandarin or Gaozhou Cantonese.

(3) a. 我**有**去北京 (TM)

wo ***you*** *qu* *Beijing*

I **have** go Beijing

'I did go to Beijing' or 'I have been to Beijing.'

b. 我**有**去北京 (HKC)

ngo ***jau*** *hui* *Bakging*

I **have** go Beijing

'I did go to Beijing' or 'I have been to Beijing.'

The literature has often suggested that 'have' is a perfective marker in these cases. However, empirical evidence from Taiwan Mandarin presents a different picture. The data considered are taken from the Sinica Corpus spoken data — for Taiwan Mandarin — with genres specified for AV materials and interviews for more colloquial speech. There are a total of 3770 entries

for the keyword search for 有 *yǒu* 'have'. Among the first one thousand entries, there are 50 instances of *yǒu* followed by a verb (i.e. *yǒu* as an auxiliary), with and without aspect marking; (4-6) provide some examples.

(4) 現在買電腦幾乎都**有**買光碟機啊!

xianzai	*mai*	*diannao*	*jihu*	*dou*	***you***	*mai*	*guangdieji*	*a!*
now	buy	computer	almost all		**have**	buy	CD-ROM	SFP

'Nowadays, most of those who buy computers would also buy CD-ROM!' (TM; Sinica Corpus)

(5) 家琪我跟你說，下學期**有**開一個奇怪的通識課

Jiaqi	*wo*	*gen*	*ni*	*shuo,*	*xia*	*xueqi*	***you***	*kai*	*yi*	*ge*
Jiaqi	I	to	you	say	next	term	**have**	open	one	CL
qiguaide	*tongshi*		*ke*							
strange	liberal.studies		course							

'I'll tell you what, Jiaqi, there will be a strange liberal studies course opened next term.' (TM; Sinica Corpus)

(6) 你**有**很偏激

ni	***you***	*hen*	*pianji*
you	**have**	very	extreme

'You were/have been very radical.' (TM; Sinica Corpus)

The examples above show *yǒu* appearing with verbal or adjectival predicate but the temporal structure of the sentences is not necessarily perfective. Perfective viewpoint presents situations as complete with both initial and final endpoints (Smith 1997), and, specifically in Chinese, perfective *le* indicates the termination of the situation denoted by the predicate, whereas, in English, perfective (realised as past tense) expresses both the termination and completion of the situation; the contrast between Chinese and English perfective is illustrated in (7-8), repeated from Chapter 2.

(7) 我昨天寫了信, 可是沒寫完

wo	*zuotian*	*xie-le*	*xin,*	*keshi*	*mei*	*xie-wan*
I	yesterday	write-LE	letter	but	not	write-finish

'I wrote a letter yesterday but didn't finish it.' (Mand.; Smith 1997: 265)

(8) a. #Lily swam in the pond and she may still be swimming. [Activity]

b. #Mrs. Ramsay wrote a letter, but she didn't finish writing it. [Accomplishment]

Consider the Taiwan Mandarin examples in (4-6) again, if *yǒu* is a perfective marker as Wang (1965) has suggested, then the expectation would be that the sentences in (4-6) can be replaced by *le* and still convey the same reading, as presented below in (9-11):

(9) 現在買電腦幾乎都買**了**光碟機啊!

xianzai	*mai*	*diannao*	*jihu*	*dou*	*mai-**le***	*guangdieji*	*a!*
now	buy	computer	almost	all	buy-**PFV**	CD-rom	SFP

'Nowadays, most of those who buy computers would also have bought CD-ROMs!' (TM)

(10) 家琪我跟你說, 下學期開**了**一個奇怪的通識課

Jiaqi	*wo*	*gen*	*ni*	*shuo,*	*xia*	*xueqi*	*kai-**le***	*yi*	*ge*
Jiaqi	I	to	you	say	next	term	open-**PFV**	one	CL
qiguaide	*tongshi*	*ke*							
strange	liberal.studies	course							

'I'll tell you what, Jiaqi, there will be a strange liberal studies course opened next term.' (TM)

(11) 你很偏激**了**

ni	*hen*	*pianji*	***le***
you	very	extreme	**PFV**

'You have become very radical.' (TM)

The difference between *yǒu* and *le* may be very subtle in (5) and (10), but is clear in the other two examples. In (4), the sentence expresses the possibility that people would buy computers and CD-ROMs simultaneously, while in (9) with perfective *le*, the sentence now expresses the idea that people who buy computers would have bought CD-ROMs, with a possibility that the event of buying CD-ROMs precedes the buying of computers. The sentence in (6) and its counterpart in (11) shows more substantial variation: the sentence in (6) refers to the state that the subject was in in a recent past (i.e. 'You have been very radical just now'), but the sentence in (11) has a change-of-state meaning, that is, the subject 'you' has turned radical, which was not true before. Indeed, the corpus data shows instances of *yǒu* and *le* co-occurring in the same sentence such as (12), which could indicate two possibilities: (i) *yǒu* and *le* are not allomorphs; or (ii) *yǒu* and *le* are allomorphs and in a concord relation. The discussion above rules out the second possibility.

(12) 以前是**有**喝**了**會臉紅

yiqian	*shi*	***you***	*he-**le***	*hui*	*lian*	*hong*
past	be	**have**	drink-**PFV**	will	face	red

'In the past, (I) indeed would blush after drinking.' (TM; Sinica Corpus)

Apart from perfective *le,* Taiwan Mandarin *yǒu* can co-occur with basically all aspectual viewpoints (13-16).

(13) 我記得他**有**講**過**一個人喔

wo	*jide*	*ta*	***you***	*jiang-**guo***	*yi*	*ge*	*ren*	*o*
I	remember	he	**have**	speak-**EXP**	one	CL	person	SFP

'I remember he has spoken about someone.' (TM; Sinica Corpus)

(14) 你**有**學**過**你看就懂了

ni	***you***	*xue-**guo***	*ni*	*kan*	*jiu*	*dong*	*le*
you	**have**	learn-**EXP**	you	read	then	understand	SFP

'You have learnt (it) before, you will understand after reading (it).' (TM; Sinica Corpus)

(15) 我剛剛**有**遇**到**哲偉啦!

wo	*ganggang*	***you***	*yu-**dao***	*Zhewei la!*
I	just.now	**have**	meet-**CPL**	Zhewei SFP

'I met Zhewei just now!' (TM; Sinica Corpus)

(16) 他在練喔？他田徑隊的嗎?

ta	*zai*	*lian*	*o?*	*ta*	*tianjing*	*dui*	*de*	*ma?*
he	be.at	train	SFP	he	athletics	team	GEN	Q

'He is training? Is he in the athletics team?'

– 他平常**有在**跑。他不是田徑隊, 可是他平常**有在**跑

ta	*pingchang*	***you***	***zai***	*pao.*	*ta*	*bu*	*shi*	*tianjing*	*dui,*
he	usually	**have**	**be.at**	run	he	not	be	athletics	team
keshi	*ta*	*pingchang*	***you***	***zai***	*pao*				
but	he	usually	**have**	**be.at**	run				

'He runs regularly. He is not in the athletics team, but he runs regularly.' (TM; Sinica Corpus)

Hong Kong Cantonese presents a similar case. Law (2014) mentions that, although *jau5* is a perfective marker, it can appear with the experiential viewpoint *gwo3,* as in (17).

(17) Hong Kong Cantonese auxiliary *jau5* 'have'

a. (i) 我**有**做野

ngo	***jau***	*zou*	*je*
I	**have**	do	thing

'I worked.' (HKC; Law 2014: 269)

(ii) 我**有**做**過**野

ngo	***jau***	*zou-**gwo***	*je*
I	**have**	do-**EXP**	thing

'I have worked before.' (HKC; ibid.)

b. (i) 我**有**去北京

ngo ***jau*** *hui* *Bakging*

I **have** go Beijing

'I did go to Beijing.' (HKC; ibid.)

(ii) 我**有**去**過**北京

ngo ***jau*** *hui-**gwo*** *Bakging*

I **have** go-**EXP** Beijing

'I have been to Beijing (before).' (HKC; ibid.)

I suggest that *yǒu/jau5* 'have' in Taiwan Mandarin and Hong Kong Cantonese can be both a lexical verb meaning 'to exist' and 'to possess' and an auxiliary expressing existence, while the other two Chinese varieties only have lexical *yǒu/jau5* 'have'. Importantly, the concept of existence of the situation encoded by the auxiliary *yǒu/jau5* 'have' is a separate concept from perfectivity and a more fine-grained understanding of perfectivity is necessary. Precisely, while perfectivity indicates termination of the situation (and in some languages, its completion as well), it necessarily entails the existence of the situation (i.e. the existential commitment). When an auxiliary encodes the existence of a situation, the termination of the situation (i.e. the final endpoint) is left unspecified. In other words, completive, perfective and existence are in an entailment relation: completive denotes completion and thus entails termination and existence of the situation, termination denotes the end of the situation and hence entails its existence. The term 'perfective' may vary cross-linguistically in terms of whether it denotes both termination and completion or only termination (though completion may be inferred), but both would necessarily entail existence. In Hong Kong Cantonese, for instance, *jau5* as an auxiliary indicates the existence or realisation of a situation, the perfective viewpoint marker *zo2* signals its termination, and the completive marker *jyun4* 'finish' encodes completion. The Hong Kong Cantonese examples in (18) illustrate the three levels of specification.

(18) Three levels of event specification

a. [Situation: at the dinner table, the host asks if you have had any meat]

Answer:

我**有**食魚呀

ngo	***jau***	*sik*	*jyu*	*aa*
I	**have**	eat	fish	SFP

'I have had fish' or 'I did try the fish.' (HKC)

b. [Situation: a friend asks you what you had for lunch]

Answer:

我食**咗**魚

ngo	*sik-**zo***	*jyu*
I	eat-**PFV**	fish

'I ate fish.' (HKC)

c. [Situation: you are at a wedding banquet with many dishes served in sequence, and you are telling your friend how the banquet is proceeding]

我食**完**魚喇

ngo	*sik-**jyun***	*jyu*	*laa*
I	eat-**finish**	fish	SFP

'I have finished eating fish.' (HKC)

In (18c), the completive marker *jyun4* 'finish' indicates that the activity of eating fish has finished. The difference between (18c) and (18b) is that *zo2* in (18b) only signals that the action of eating fish has terminated (i.e. the series of actions involving putting some fish in the mouth and swallowing it and so on has finished) but does not necessarily mean that the activity must end there, presumably the speaker can continue eating fish (imagine a situation where the speaker is having a buffet lunch with his friends and he was asked what he ate so far). What prevents that interpretation in the context specified in (18b) is that since the question is about what the speaker had for lunch, the question would probably be asked after lunch is finished. Therefore, based on the context given, it is more logical to interpret the fish-eating activity to be completed, but this is only a pragmatic inference, whereas, in (18c), the meaning of completion is semantically encoded by the completive marker. Turning to (18a), the sentence

is a reply to the host's question about whether the speaker has had any meat during dinner. The auxiliary *jau5* 'have' in the answer means that the fish-eating activity has taken place within the time frame set in the question (i.e. during the dinner which presumably is still in action). It is true that for the fish-eating activity to have taken place it must be true that some action of the speaker chewing and swallowing the fish — the series of actions described for the termination meaning in (18b) — must have happened as well. However, the focus here is not that the series of actions has finished, but that the fish-eating event as a whole does exist within the time frame given. In fact, the sentence in (18a) would still be valid if the speaker is eating some fish at the moment of speech, in other words, the chewing and swallowing process does not have to be complete for the statement in (18a) to be true. In short, the presence of the completive marker *jyun4* 'finish' semantically encodes that the event concerned is completed and, naturally, terminated. *Zo2,* the 'perfective' marker can trigger the same completion interpretation but it is only contextually driven; what cannot be cancelled out is the meaning that the activity concerned has reached its final endpoint, which inevitably entails that the activity exists but it is the termination of the activity that is focused. The auxiliary *jau5* 'have' indicates that the event has taken place within some given time frame, but the event may still be ongoing which explains how *yǒu* 'have' in Taiwan Mandarin can appear with the imperfective *zai* as in (16). Undoubtedly, the difference between the existence auxiliary and the perfective marker in Hong Kong Cantonese and Taiwan Mandarin could be a matter of perspective in viewing an event and the line between them might be blurry in some cases, but it is crucial to the understanding of the Chinese aspect system and to the issue of negation-aspect relation that these two concepts are treated separately.

Taking the conclusion that auxiliary *yǒu/jau5* 'have' encodes existence but not perfectivity (precisely, termination) to be on the right track, the next issue is how to account for the cross-linguistic variation observed that Taiwan Mandarin and Hong Kong Cantonese *yǒu/jau5* 'have' can be both a lexical verb and an auxiliary while the auxiliary *yǒu/jau5* 'have' does not exist in Beijing Mandarin and Gaozhou Cantonese. The solution to this issue boils down to the connection between lexical 'have' and auxiliary 'have'. In a nutshell, I suggest that auxiliary 'have' is grammaticalized from lexical 'have'; precisely, *yǒu/jau5* 'have' as a lexical verb denotes existence of an entity (i.e. its argument), while auxiliary 'have' encodes the existence of the situation denoted in the predicate as an abstract entity, contra to what has been

attested in Germanic and Romance languages where the verb 'to have' grammaticalized from a verb of existence and/or possession to a perfect auxiliary.

Establishing that 'have' is an existential auxiliary distinct from its lexical use leads to two crucial implications. First, if *yǒu/jau5* 'have' is an existential auxiliary, and if existence and perfectivity though related by entailment are independent concepts, then the traditional assumption that the co-occurrence of *yǒu* and *le* is prohibited by rules of morphological alternation cannot be true. Furthermore, accounts that employ the *yǒu=le* argument as an explanation for the incompatibility between *méi* and *le* are also challenged. In that case, a new analysis is called for to explain the incompatibility between *méi* and *le;* indeed, the issue extends to the Cantonese varieties as well, Hong Kong Cantonese *mou5* and the perfective marker *zo2,* and Gaozhou Cantonese *mau5* and *de6* cannot co-occur. Second, if *yǒu/jau5* 'have' is not a perfectivity auxiliary, it would not be projected in Asp^0, and since Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5* are generally understood to be generated in the same Asp^0 as *yǒu/jau5* as a consequence of these negators being a compound of negation adjoining to *yǒu/jau5,* the structural position of *méi(yǒu)* and *mou5* should be reconsidered. In the next section, I will demonstrate by examining the relative positions of negation and different adverbs that Mandarin *méi(yǒu),* Hong Kong Cantonese *mou5* and Gaozhou Cantonese *mau5* are lower in the structure than previously suggested.

4.3 Re-positioning 'not have'

In this section, the distribution of various kinds of adverbs relative to the standard negators in the four Chinese varieties will be examined as an indicator of where the negators are positioned in the clause. Following Cinque's (1999, 2006) seminal work on adverbs and the functional hierarchy, different classes of adverbs with distinct height on the clausal spine are used to determine where the standard negators should be placed in simple declarative clauses. The adverbs tested in the four varieties are presented in Table 4.1. The negators will be placed either immediately before or after the adverb and the acceptability of the resulting structures will reveal the appropriate hierarchical order.

Table 4.1. Chinese adverbs tested.

	BM & TM		HKC		GZC	
'apparently'	好像	*hǎoxiàng*	好似	*hou2ci5*	好似	*hou2ci5*
'in the past'	以前	*yǐqián*	以前	*ji5cin4*	以前	*ji5cin4*
'certainly'	肯定	*kěndìng*	肯定	*hang2ding6*	肯定	*hang2ding6*
'often'	常常	*chángcháng*	成日	*seng4jat6*	經常	*ging1soeng4*
'always'	總是	*zǒngshì*	成日	*seng4jat6*	成日	*seng4jat6*
'just (now)'	剛剛	*gānggāng*	頭先	*tau4sin1*	頭先	*tau4sin1*
'hurriedly'	匆忙	*cōngmáng*	匆忙	*cong1mong4*	好急	*hou2gap1*
'loudly'	大聲	*dàshēng*	大聲	*daai6seng1*	大聲	*daai6sing1*
'seriously'	認真	*rènzhēn*	認真	*jing6zan1*	認真	*jing6zan1*

Based on Cinque's universal hierarchy of functional categories in (19) and the hierarchy of adverbs in Mandarin that he has proposed (20), the adverbs in Table 4.1 can be assumed to take the positions represented in (21).

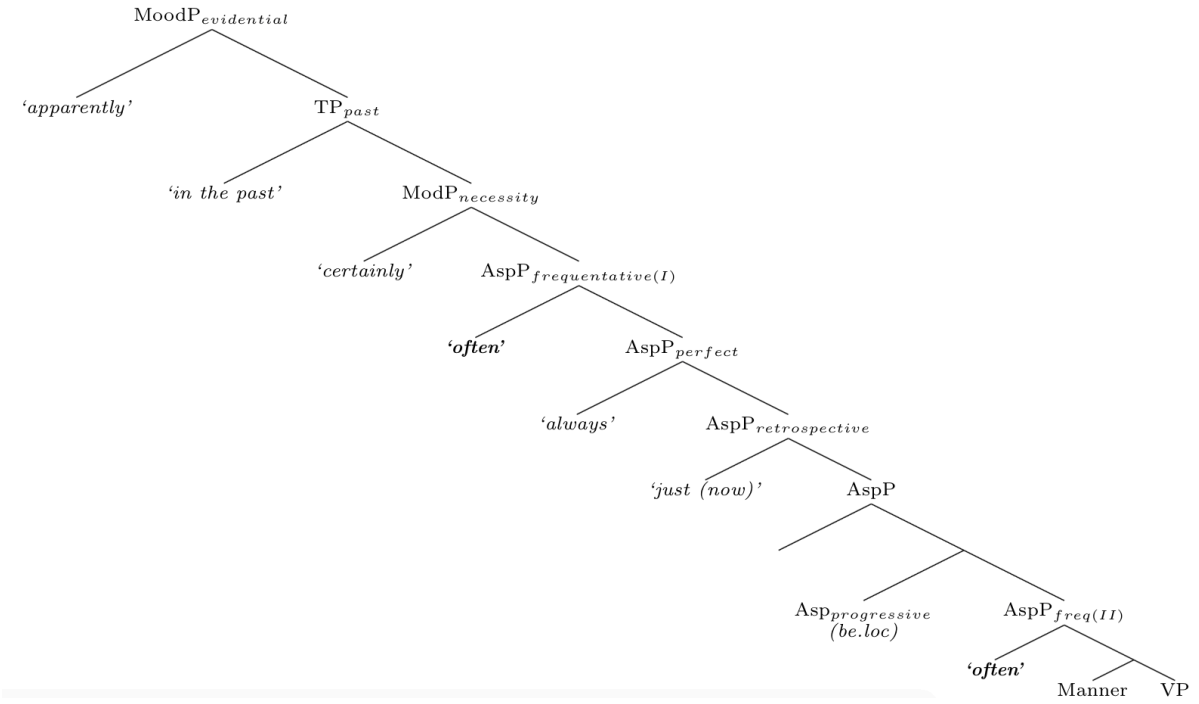
(19) The universal hierarchy of clausal functional projections (Cinque 1999:106)

[*frankly* $Mood_{speech\ act}$ [*fortunately* $Mood_{evaluative}$ [*allegedly* $Mood_{evidential}$ [*probably* $Mod_{epistemic}$ [*once* T(Past) [*then* T(Future) [*perhaps* $Mood_{irrealis}$ [*necessarily* $Mod_{necessity}$ [*possibly* $Mod_{possibility}$ [*usually* $Asp_{habitual}$ [*again* $Asp_{repetitive(I)}$ [*often* $Asp_{frequentative(I)}$ [*intentionally* $Mod_{volitional}$ [*quickly* $Asp_{celelative(I)}$ [*already* T(Anterior) [*no longer* $Asp_{terminative}$ [*still* $Asp_{continuative}$ [*always* $Asp_{perfect(?)}$ [*just* $Asp_{retrospective}$ [*soon* $Asp_{ploximatiive}$ [*briefly* $Asp_{continuous}$ [*characteristically(?)* $Asp_{generic/progressive}$ [*almost* $Asp_{prospective}$ [*completely* $Asp_{Sg\ Completive(I)}$ [*tutto* $AspP1_{Completlve}$ [*well* Voice [*fast/early* $Asp_{celerative(II)}$ [*again* $Asp_{repetitive(II)}$ [*often* $Asp_{frequentative(II)}$ [*completely* $Asp_{Sg\ Completive(II)}$]

(20) Hierarchy of Mandarin adverbs (Cinque 1999: 41)

laoshi-shuo 'honestly' > *buxing* 'unfortunately' > *xianran* 'evidently' > *xianzai* 'now' / *yexu* 'perhaps' > *mingzhide* 'wisely' > *yiban* 'usually' > *changchang* 'often' > *yijing* 'already' > *bu-zai* 'no longer' > *zongshi* 'always' > *yizhi* 'continuously' / *ganggang* 'just' > *wanquan* 'completely' > *hao* 'well'

(21) $\text{Mood}_{\text{evidential}}$ *apparently* > T (Past) *in the past* > $\text{Mod}_{\text{possibility}}$ *certainly* > $\text{Asp}_{\text{frequentative(I)}}$ ***often*** > $\text{Asp}_{\text{perfect}}$ *always* > $\text{Asp}_{\text{retrospective}}$ *just (now)* > $\text{Asp}_{\text{progressive}}$ *(be.loc)* > $\text{Asp}_{\text{frequentative(II)}}$ ***often*** > Manner adverbs



The reasoning here is that, first, if the epistemic and time adverbs (e.g. Mandarin *hǎoxiàng* 'apparently' and *yǐqián* 'in the past') in ModP and TP (or IP) can or must precede negation, then negation is below I^0. And if the manner adverbs (e.g. Hong Kong Cantonese *daai6seng1* 'loudly') can or must follow negation, then negation must be to the left of *v*P or VP and within the c-command domain of I^0. Second, if what has been suggested in the literature, namely that *yǒu* 'have' in *méi(yǒu)* 'not (have)' is an allomorph of perfective *le,* then *yǒu* (and hence *méiyǒu)* should be generated in $\text{Asp}_{\text{PFV}}{}^0$. And since *bù* in Mandarin and *m4* in Hong Kong Cantonese

have been argued to be in spec-*v*P (see section 2.4), we expect there to be a structural height difference between negation by *bù* and *m4* and negation by *méi(yǒu)* and *mou5;* the position of *mau5* in Gaozhou Cantonese is still an open question. A significant difference between the two groups of negators should be found particularly with their relative position to adverbs lower than $Asp_{perfect}$ (or $Asp_{terminative}$ if perfective aspect in Chinese is read as terminative).

Judgment results reported in Ernst (1995) have shown that, in Mandarin, when *bù* is present, manner adverbs must follow *bù* (22a), while epistemic adverbs (22b) and time adverbs (22c) must precede negation. Hence, standard negation in Mandarin is within the c-command domain of I^0 and to the left of *v*P.

(22) Positioning adverbs and *bù* negation

a. Manner adverbs

小明(* 亂) **不** (亂)跑，坐在那裡很乖

Xiaoming *(*luan)* ***bu*** *(luan)* *pao,*

Xiaoming (chaotic) **not** (chaotic) run

zuo zai *nali* *hen* *guai*

sit at there very well-behaved

'Xiaoming isn't running all over the place, but is sitting there, well-behaved.' (Mand.; Ernst 1995)

b. Epistemic adverbs

小明(好像|顯然) **不** (*好像|*顯然)高興

Xiaoming *(haoxing* |*xianran)* ***bu*** *(*haoxing* |**xianran)*

Xiaoming (apparently|obviously) **not** (apparently|obviously)

gaoxing

happy

'Xiaoming is apparently/obviously not happy.' (Mand.; ibid.)

c. Time expressions

我(今天) **不** (*今天)來

wo	*(jintian)*	***bu***	*(*jintian)*	*lai*
I	(today)	**not**	(*today)	come

'I am not coming today.' (Mand.; ibid.)

The findings reported in this chapter[28] largely concur with Ernst (1995), except that the findings here do not indicate any difference in structural height between the 'not' and the 'not have' negators; (23) shows some exemplars of the sentences tested in the questionnaire.

(23) Negation and adverb distribution

a. 小明 (好像) **不** (*好像) 滿意

Xiaoming	(*haoxiang*)	***bu***	(**haoxiang*)	*manyi*	(BM)
Xiaoming	(*haoxiang*)	***bu***	(**haoxiang*)	*manyi*	(TM)
Xiaoming	(apparently)	**not**	(apparently)	satisfied	

'Apparently, Xiaoming is not satisfied.'

b. 我 (頭先) **冇** (*頭先) 睇電視

ngo	*(tausin)*	***mou***	*(??tausin)*	*tai*	*dinsi*
I	(just)	**not.have**	(just)	watch	TV

'I did not watch TV just now.' (HKC)

c. 小明 (*大聲) **冇** (大聲) 講話

Siuming	*(*daaiseng)*	***mau***	*(daaiseng)*	*gongwaa*
Siuming	(loudly)	**not**	(loudly)	speak

'Siuming does/did not speak loudly.' (GZC)

The tables below present the acceptability judgment findings from the four Chinese varieties. Table 4.2A and Table 4.2B, for instance, show the acceptability of having *bù* 'not' and *méi(yǒu)* 'not-have' immediately after or before the adverbs in Beijing Mandarin respectively, while

[28] The results reported in this section are taken from the same set of questionnaires detailed at the beginning of the thesis; see section 1.4 for the details concerning methodology.

Tables 4.3A and 4.3B shows the results from Taiwan Mandarin. The scores and annotation follow the same scale as described in section 1.4.3.

Table 4.2A. Beijing Mandarin *bù* and adverb distribution results

				Bù			
MOOD evidential 'apparently'		4.7	*hǎoxiàng*		*hǎoxiàng*	1.2	*
T past 'in the past'	?	4.3	*yǐqián*		*yǐqián*	1.1	*
MOD possibility 'certainly'	?	4.6	*kěndìng*		*kěndìng*	1.5	??
ASP frequentative (I) 'often'		4.7	*chángcháng*		*chángcháng*	4.0	?
ASP perfect 'always'		4.8	*zǒngshì*		*zǒngshì*	3.3	?
ASP retrospective 'just'	??	1.8	*gānggāng*		*gānggāng*	1.0	*
ASP frequentative (II) 'often'		4.7	*chángcháng*		*chángcháng*	4.0	?
'hurriedly'	*	1.2	*cōngmáng*		*cōngmáng*	2.3	??
'loudly'	*	1.0	*dàshēng*		*dàshēng*	3.7	?
'seriously'	*	1.3	*rènzhēn*		*rènzhēn*	3.9	?

Table 4.2B. Beijing Mandarin *méi(yǒu)* and adverb distribution results

				Méi(yǒu)			
MOOD evidential 'apparently'	?	4.3	*hǎoxiàng*		*hǎoxiàng*	1.1	*
T past 'in the past'		5.0	*yǐqián*		*yǐqián*	1.2	*
MOD possibility 'certainly'		4.5	*kěndìng*		*kěndìng*	1.3	*
ASP frequentative (I) 'often'	??	1.8	*chángcháng*		*chángcháng*	2.7	??
ASP perfect 'always'	??	1.7	*zǒngshì*		*zǒngshì*	3.8	?
ASP retrospective 'just'		4.8	*gānggāng*		*gānggāng*	1.2	*
ASP frequentative (II) 'often'	??	1.8	*chángcháng*		*chángcháng*	2.7	??
'hurriedly'	??	1.4	*cōngmáng*		*cōngmáng*	4.4	?
'loudly'	*	1.1	*dàshēng*		*dàshēng*	4.8	
'seriously'	*	1.1	*rènzhēn*		*rènzhēn*	4.7	

Table 4.3A. Taiwan Mandarin *bù* and adverb distribution results

				Bù			
MOOD evidential 'apparently'		5.0	*hǎoxiàng*		*hǎoxiàng*	1.3	*
T past 'in the past'		4.8	*yǐqián*		*yǐqián*	1.3	*
MOD possibility 'certainly'		4.9	*kěndìng*		*kěndìng*	1.9	??
ASP frequentative (I) 'often'		4.6	*chángcháng*		*chángcháng*	4.1	?
ASP perfect 'always'		4.5	*zǒngshì*		*zǒngshì*	2.6	??
ASP retrospective 'just'	?	3.9	*gānggāng*		*gānggāng*	1.1	*
ASP frequentative (II) 'often'		4.6	*chángcháng*		*chángcháng*	4.1	?
'hurriedly'	*	1.4	*cōngmáng*		*cōngmáng*	2.0	??
'loudly'	*	1.3	*dàshēng*		*dàshēng*	4.3	?
'seriously'	??	2.6	*rènzhēn*		*rènzhēn*	4.8	

Table 4.3B. Taiwan Mandarin *méi(yǒu)* and adverb distribution results

				Méi(yǒu)			
MOOD evidential 'apparently'	?	3.6	*hǎoxiàng*		*hǎoxiàng*	1.0	*
T past 'in the past'		5.0	*yǐqián*		*yǐqián*	1.4	*
MOD possibility 'certainly'	?	3.9	*kěndìng*		*kěndìng*	1.1	*
ASP frequentative (I) 'often'	?	3.3	*chángcháng*		*chángcháng*	5.0	
ASP perfect 'always'	??	2.9	*zǒngshì*		*zǒngshì*	3.9	?
ASP retrospective 'just'		4.9	*gānggāng*		*gānggāng*	1.1	*
ASP frequentative (II) 'often'	?	3.3	*chángcháng*		*chángcháng*	5.0	
'hurriedly'	*	1.0	*cōngmáng*		*cōngmáng*	3.6	?
'loudly'	*	1.0	*dàshēng*		*dàshēng*	5.0	
'seriously'	*	1.3	*rènzhēn*		*rènzhēn*	4.9	

The results concur with Ernst's (1995) analysis that adverbs in the TP domain, namely, *hǎoxiàng* 'apparently', *yǐqián* 'in the past' and *kěndìng* 'certainly' must precede negation, while the three manner adverbs — *cōngmáng* 'hurriedly', *dàshēng* 'loudly' and *rènzhēn* 'seriously' must follow negation. Such patterns show no variation according to the choice of negator (*bù* or *méiyǒu*)

or the variety of Mandarin concerned (Beijing or Taiwan Mandarin). The same pattern is found in the two Cantonese varieties, as shown in the tables below.

Table 4.4A. Hong Kong Cantonese *m4* and adverb distribution results

				M4			
MOOD evidential 'apparently'		5.0	*hou2ci5*		*hou2ci5*	1.5	*
T past 'in the past'		4.6	*ji5cin4*		*ji5cin4*	1.1	*
MOD possibility 'certainly'		5.0	*hang2ding6*		*hang2ding6*	3.8	?
ASP frequentative (I) 'often'		4.8	*seng4jat6*		*seng4jat6*	3.2	?
ASP perfect 'always'		4.8	*seng4jat6*		*seng4jat6*	3.2	?
ASP retrospective 'just'	?	3.3	*tau4sin1*		*tau4sin1*	1.8	??
ASP frequentative (II) 'often'		4.8	*seng4jat6*		*seng4jat6*	3.2	?
'hurriedly'	??	1.6	*cong1mong4*		*cong1mong4*	3.1	?
'loudly'	*	1.1	*daai6seng1*		*daai6seng1*	4.8	
'seriously'	??	2.8	*jing6zan1*		*jing6zan1*	4.7	

Table 4.4B. Hong Kong Cantonese *mou5* and adverb distribution results

				Mou5			
MOOD evidential 'apparently'	?	3.2	*hou2ci5*		*hou2ci5*	1.8	??
T past 'in the past'		4.4	*ji5cin4*		*ji5cin4*	1.8	??
MOD possibility 'certainly'	??	2.6	*hang2ding6*		*hang2ding6*	2.1	??
ASP frequentative (I) 'often'	?	4.3	*seng4jat6*		*seng4jat6*	4.2	?
ASP perfect 'always'	?	4.3	*seng4jat6*		*seng4jat6*	4.2	?
ASP retrospective 'just'		4.4	*tau4sin1*		*tau4sin1*	2.8	??
ASP frequentative (II) 'often'	?	4.3	*seng4jat6*		*seng4jat6*	4.2	?
'hurriedly'	??	2.1	*cong1mong4*		*cong1mong4*	3.7	?
'loudly'	??	1.8	*daai6seng1*		*daai6seng1*	4.2	?
'seriously'	??	1.8	*jing6zan1*		*jing6zan1*	4.4	

Table 4.5. Gaozhou Cantonese *mau5* and adverb distribution results

				Mau5			
MOOD evidential 'apparently'		4.8	*hou2ci5*		*hou2ci5*	3.0	??
T past 'in the past'		4.9	*ji5cin4*		*ji5cin4*	1.9	*
MOD possibility 'certainly'		4.9	*hang2ding6*		*hang2ding6*	2.7	??
ASP frequentative (I) 'often'		4.5	*ging1soeng4*		*ging1soeng4*	4.6	
ASP perfect 'always'		4.3	*seng4jat6*		*seng4jat6*	4.7	
ASP retrospective 'just'		4.9	*tau4sin1*		*tau4sin1*	1.8	*
ASP frequentative (II) 'often'		4.5	*ging1soeng4*		*ging1soeng4*	4.6	
'hurriedly'	?	3.0	*hou2gap1*		*hou2gap1*	4.0	?
'loudly'	*	1.9	*daai6seng1*		*daai6seng1*	4.5	
'seriously'	??	2.3	*jing6zan1*		*jing6zan1*	4.5	

What is of great interest here is how negation is distributed relative to aspectual adverbs. Recall that *yǒu/jau5* 'have' has been argued to be a perfective auxiliary in the literature, and *méi(yǒu)* and *mou5* as its negative counterpart in Mandarin and Cantonese. If that is true, then *méi(yǒu)* and *mou5* would be expected to be in $Asp_{terminative}$, since perfectivity in Chinese expresses termination of the situation as discussed in the last section. As $Asp_{terminative}$ is adjacent to $Asp_{perfect}$ in the Cinque hierarchy, *méi(yǒu)* and *mou5* are expected to precede the adverbs that appear to the right of $Asp_{terminative}$ in the hierarchy, namely, $Asp_{perfect}$, $Asp_{retrospective}$ and $Asp_{frequentative\ (II)}$ in the data. But this expectation is not borne out. In Beijing Mandarin and Taiwan Mandarin, *méi(yǒu)* has to precede *zǒngshì* 'always' (i.e. $Asp_{perfect}$) on the one hand, but must follow *gānggāng* 'just' (i.e. $Asp_{retrospective}$) on the other. In Hong Kong Cantonese and Gaozhou Cantonese, *mou5* and *mau5* can precede or follow *seng4jat6/sing4jat6* 'always', and must follow *tau4sin1* 'just'. Crucially, the same distributional preference applies to *bù* and *m4* in Mandarin and Hong Kong Cantonese, which shows that there is no significant difference between the structural position of *bù* and *m4* on the one hand, and *méi(yǒu), mou5* and *mau5* on the other; both groups of negators appear rather low in the structure.

The pattern with the frequentative adverb 'often' is ambiguous in all four varieties. Lin (2003a) has noted that the frequency adverb *changchang* 'often' in Mandarin can occur both before

and after *bù* or *méi(yǒu),* with no change in grammaticality although the interpretation differs with the negator as well as the position of the adverb. The difference in adverb position in (24a) and (24b) creates scope difference as reflected in the surface scope of the adverb and negation: in (24a) the adverb precedes negation thus the meaning is that the negated event, 'not taking showers', occur in a higher than average frequency (i.e. *chángcháng* 'often'), with the adverb specifying the frequency of the negated event; in (24b) where negation precedes the adverb, the scope of negation covers the entire predicate including the frequency adverb, hence the reading is 'it is not true that I often take showers' with the adverb modifying the event of taking showers. On the other hand, the choice of negator — *bù* or *méi(yǒu)* in Mandarin — produces a semantic difference where *méi* negates the proposition by stating that the event does not exist or is not realised, while *bù* carries a lack-of-volition reading. This semantic difference should be quite familiar by now (see Chapter 2 for more systematic discussion), and Lin reports that the effect is stronger in (24a) — meaning 'I often do not shower because I don't want to' — than (24b).

(24) Frequency adverb 'often'

a. 我常常 **(不|沒)** 洗澡 [ADV > NEG]

wo	*chang-chang*	**(*bu***	**|*mei*)**	*xizao*
I	often-often	**not**	**|not.have**	shower

'I often do not shower.' (Mand.; Lin 2003a: 434)

b. 我 **(不|沒)** 常常洗澡 [NEG > ADV]

wo	**(*bu***	**|*mei*)**	*chang-chang*	*xizao*
I	**not**	**|not.have**	often-often	shower

'I do not often shower.' (Mand.; ibid.: 434)

In terms of structural position of the negators, there are two ways to interpret the pattern in (24), which basically shows that the adverb *chángcháng* 'often' can precede or follow negation. In general, there are four logically possible relative positionings of adverbs and negators:

Table 4.6. Interpreting relative positioning of adverbs and negation.

	[ADV > NEG]	[NEG > ADV]	Li (1999/2007)	Cinque (1999, 2006)
(i)	✓	*	ADV higher than NEG (Type I and II)	ADV higher than NEG
(ii)	✓	✓	ADV and NEG take the same position (Type III)	The same ADV can realise two different functional categories, one above and one below NEG (e.g. ASP frequentative, ASP repetitive, ASP celerative, ASP completive; these categories have a higher and a lower projection — I and II)
(iii)	*	✓	ADV is below NEG (N/A)	ADV is below NEG
(iv)	*	*	indeterminate	indeterminate

There are two approaches in reading adverb distribution as a diagnostic for negator position: Li's (1999) approach and Cinque's (1999) approach. The two approaches are identical in their analysis of the relative positons except for scenario (ii) — where, apparently, the adverb can precede and follow the negator and the difference in position will produce a different meaning according to the relative scope of the adverb and negation; this is the situation illustrated in (24). Li (1999) suggests that adverbs of the same class can be flexibly distributed, and since some adverbs can appear before or after *bù,* this has been used as an argument for *bù* being an adverb, and that *bù* belongs to the same class of adverbs as Type III adverb, which would explain why it can be distributed freely relative to Type III adverbs.[29] In short, flexibility in

[29] Li (1999) has classified all Chinese preverbal adjuncts into three types according to their structural distribution: Type I adjuncts appear in sentence-initial position and generated in TopP, Type II adjuncts appear after the subject in TP, and Type III adjuncts are immediately preverbal in PrP (a.k.a. vP). Li suggests that Type III adjuncts include four kinds of adverbials: (i) manner adjuncts, (ii) adjuncts of source, benefactive instrument and reason, (iii) indefinite time adjuncts, and (iv) inner locative adjuncts. Since the negator *bù* is

distribution indicates class membership and structural similarity. On the other hand, Cinque argues for a universal hierarchy for different functional categories, and the adverb distribution is seen as an indicator of the relative order of the categories, since the adverbs appear in the specifier position of the relevant category. Therefore, theoretically speaking, two items that express different functions cannot take up the same position in the structure. This, however, does not prevent the same form/item from being polysemous in expressing different functional categories; in other words, the same functional category may have multiple instantiations — some higher, some lower; the variation may happen within a variety or as a matter of cross-linguistic variation. Therefore, where the adverb can appear before and after the negator, Cinque's approach would interpret it as a one form-multiple functions phenomenon where the same adverb can occupy more than one functional projection, and, in a case like (24), one happens to be to the left of negation and the other to the right. In short, flexibility in distribution is only a superficial phenomenon triggered by the one-to-many mapping of form and function of the adverb, but not a sign that the adverb and negation occupy the same structural position. This does not rule out the possibility that *bù* or other negators may be an adverb, but it rules out the possibility that different functional categories occupy the same position or are flexibly distributed.

Indeed, the frequency adverb *changchang* 'often' is ambiguous in the sense that it can be in spec-Asp$_{\text{frequentative (I)}}$ or spec-Asp$_{\text{frequentative (II)}}$, and there is a considerable height difference between these two projections as seen in the hierarchy in (19). In Cinque (1999), the English examples in (25) are used to illustrate that difference between the two frequentative projections, and that the two *often*s can co-occur in the same sentence.

also argued to be a Type III adjunct, and that members of the same type of adjuncts are presumed to be flexible in their distribution, these four kinds of adjuncts are argued to be in flexible distribution with *bù,* i.e. they can either precede or follow *bù* with a change in meaning according to scope but no grammatical consequence. This analysis is, however, contradicted by the empirical findings presented in Tables 4.2A and 4.3A, which showed that manner adverbs can only follow *bù* in both Beijing and Taiwan Mandarin; a similar pattern has been found in Hong Kong Cantonese *m4* and Gaozhou Cantonese *mau5.*

(25) Frequentative *often* (Cinque 1999: 26)

a. Texans *often* drink beer.

b. Texans drink beer *often*.

c. John *often* knocked on the door *often.*

Cinque explains that the higher *often* can be an adverb of quantification while the lower *often* cannot. By being an adverb of quantification, the higher *often* in (25a) unambiguously quantifies over the event of 'Texans drink beer', but the lower *often* in (25b) only quantifies over the act of 'drinking beer'. The contrast is sharp, since (25a) can be paraphrased as 'most Texans drink beer' without specifying how frequently they drink it; the fact that (25c) is well-formed shows that there are two positions that host the frequentative adverb *often.* Applying the analysis for English in (25) to the Mandarin examples may be tricky, since the same frequentative adverb *changchang* 'often' cannot occur twice in the same clause; structures like (26), which replicate the English sentence in (25), are completely unacceptable.

(26) *我**常常**洗澡**常常**

***wo**	***changchang***	*xizao*	***changchang***
I	**often-often**	shower	**often-often**

Intended: 'I often take showers often.' (Mand.)

The only way to test the position of *changchang* 'often' is its interpretation. The sentences in (27) refer to the situation that Chinese people drink tea more frequently than the norm, i.e. the adverb 'often' is quantifying over and modifying the act of tea-drinking, and does not scope over to quantify the subject — a sign that it is the lower 'often'. However, the sentences also allow an inference that 'most Chinese drink tea', which derives from the generic operator that binds the bare DP subject, which is typical of the higher 'often'. This result also applies to both Hong Kong and Gaozhou Cantonese, hence, the ambiguity is unresolved.

(27) Frequentative adverb in Chinese

a. 中國人**常常**喝茶

Zhongguo-ren ***changchang*** *he* *cha*

Chinese-people **often-often** drink tea

'The Chinese drink tea frequently.' (Mand.)

b. 中國人**成日**飲茶

Zunggok-jan ***sengjat*** *jam* *caa*

Chinese-people **all.day** drink tea

'The Chinese drink tea all the time.' (HKC)

c. 中國人**經常**飲茶

Zunggok-jan ***sengjat*** *jam* *caa*

Chinese-people **all.day** drink tea

'The Chinese drink tea frequently.' (GZC)

Since adverbs must appear before the predicate in Chinese, it is hard to pinpoint which aspect projection Chinese 'often' belongs to. Therefore, the adverb 'often' may not be an ideal candidate to find out the structural position of negation in Chinese.

Based on the data presented in this section, it is possible to conclude that standard negators in the four Chinese varieties share a virtually identical structural position, which is to the right of $Asp_{retrospective}$ but higher than the manner adverbs, in other words, at the left edge of *v*P. Moreover, negation consistently precedes the progressive/imperfective 'be.loc' marker in all four Chinese varieties.

(28) Negation and progressive 'be.loc'

a. 我(*在)**不|沒**(在)唱歌

wo (**zai*) ***bu*** ***|mei*** (*zai*) *changge*

I be.at **not** **|not.have** be.at sing.song

'I am/was not singing.' (Mand.)

b. 我(*喺度)**唔|冇**(喺度)唱歌

ngo	(**haidou*)	***m***	***|mou***	(*haidou*)	*coenggo*
I	be.loc	**not**	**|not.have**	be.loc	sing.song

'I am/was not singing.' (HKC)

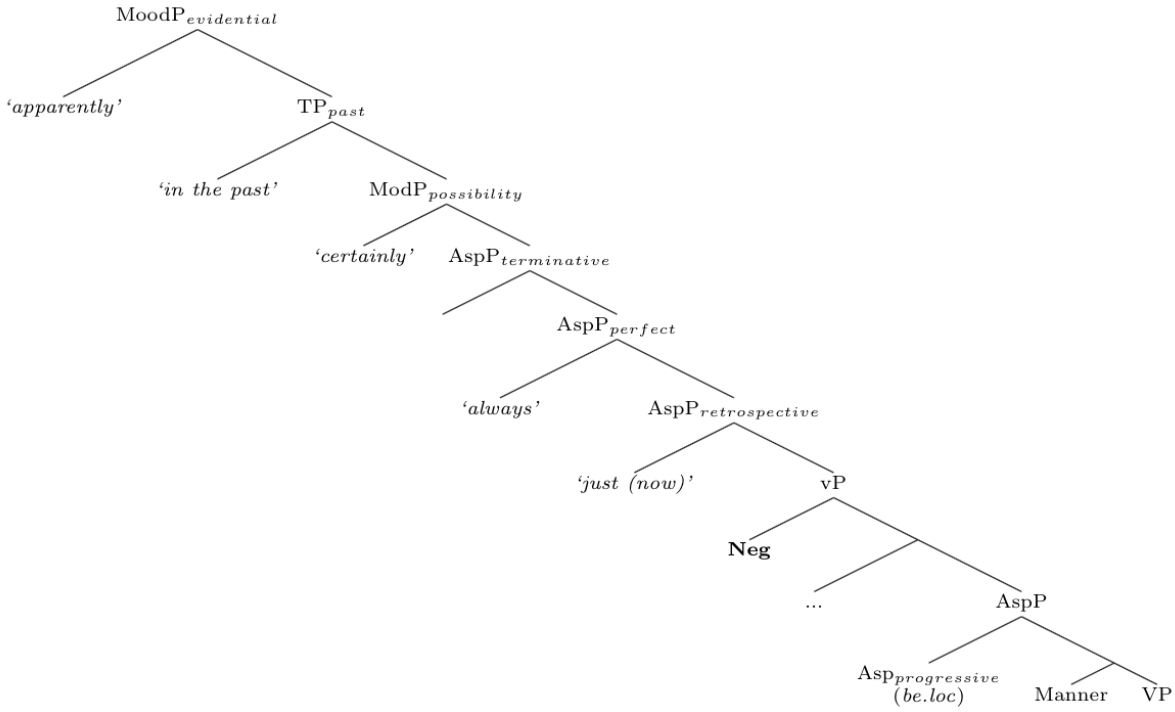
c. 我(*在己)**冇**(在己)唱歌

ngo	(**coigei*)	***mau***	(*coigei*)	*coenggo*
I	be.here	**not**	be.here	sing.song

'I am/was not singing.' (GZC)

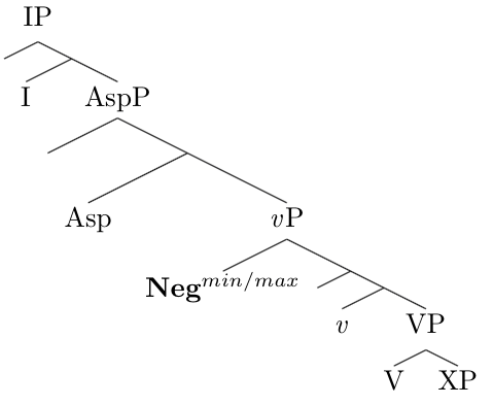
The structure in (29) summarises the discussion on negation and adverb positions in Chinese.

(29) Negation and adverbs in Chinese



I suggest that standard negation in all four Chinese varieties is in spec-*v*P, c-commanding the predicate, which can also include the progressive 'be.loc' and manner adverbs. There is virtually no difference between the structural positions of the two groups of negators; placing *méi(yǒu)* and *mou5* in $\text{AspP}_{\text{terminative}}$ (or $\text{AspP}_{\text{perfect}}$) would fail to capture the fact that these negators always follow the retrospective adverb *ganggang/tausin* 'just'. Hence, I argue for the structure in (30) for standard negation in Chinese.

(30) Negation in Chinese



Negation is still in spec-*v*P as in (29) and is realised as a Neg$^{min/max}$. The fact that Neg itself is both the head and the maximal projection accounts for the observation that Mandarin *bù,* Hong Kong Cantonese *m4* and Gaozhou Cantonese *mau5* show adverbial behaviour when they modify the predicate (31a), but at the same time, they are able to adjoin to modals (31b) and to other adverbs in constituent negation (31c) — akin to the English negative morphemes such as *un-* in *unhappy.*

(31) Negation as Neg$^{min/max}$

a. Standard negation

我**不**寫這封信

wo	***bu***	*xie*	*zhe*	*feng*	*xin*
I	**not**	write	this	CL	letter

'I do not write this letter.' (Mand.)

b. Modals

我就**冇會**睬佢喎

ngo	*zau*	***mau***	***wui***	*coi*	*keoi*	*wo*
I	then	**not**	**will**	care	3.SG	SFP

'I will ignore him.' (GZC^{+} [M4])

c. Constituent negation

佢好**唔開心咁**走咗喇

keoi	*hou*	***m-hoisam-gam***	*zau-zo laa*
3.SG	very	**not-happy-ly**	go-PFV SFP

'She very unhappily left.' (HKC)

The structural position of standard negation in the four Chinese varieties has important implications for understanding the architecture of the Chinese negation system. Essentially, by showing that *méi(yǒu)* and its Hong Kong Cantonese counterpart, *mou5* are not in $Asp_{terminative}$, the general assumption that *yǒu* and *le* are allomorphs (also *jau5* and *zo2* in Hong Kong Cantonese) and their morphological connection dictates their 'complementary' distribution is gravely challenged. Furthermore, the fact that *méi(yǒu)* and *bù,* as well as *mou5* and *m4* in Hong Kong Cantonese, do not display any significant difference in their distribution relative to various kinds of adverbs shows that the difference — semantic and structural — between these negators cannot be accounted for by their inherent aspectual composition. The issues of choice of negator and negation-aspect compatibility have to be resolved by other means. In the next section, I explore a new line of inquiry from a diachronic angle and suggest that negators such as *méi(yǒu), mou5* and *mau5* have developed from negative existential predicates, which accounts for their semantics and distribution in contemporary Chinese varieties.

4.4 The history and nature of 'not have'

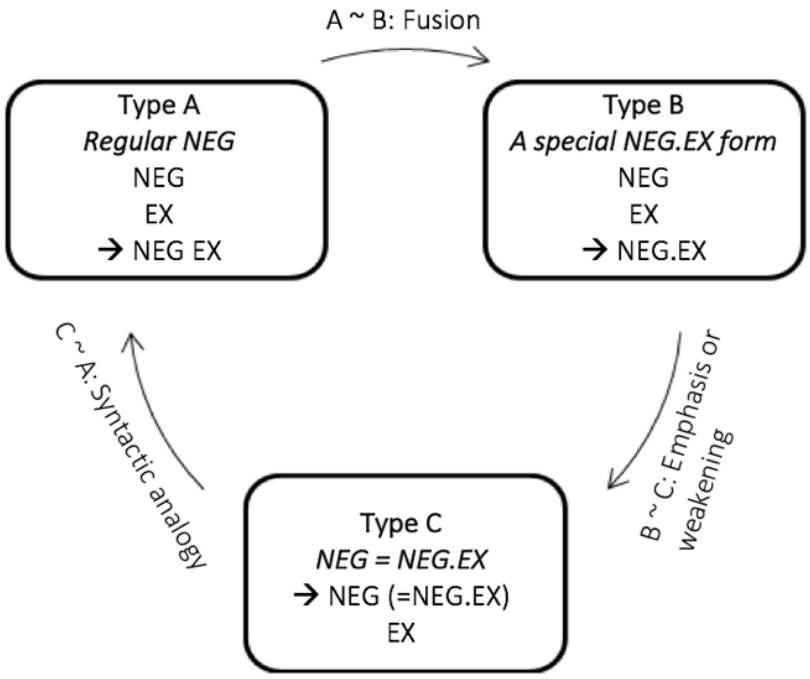
This section will consider the claim that the negator 'not have' is a standard negator for the denial of situation existence from a diachronic perspective, by tracing the origin and development of this negator in history. I will first introduce Croft's diachronic model, the Negative-Existential Cycle (NEC), upon which the diachronic analysis for Chinese negation will be based. Then, section 4.4.2 will provide historical evidence to sketch out the development that the 'not have' negator in Mandarin (i.e. *méi*) has undergone, which shows that the NEC is attested in Chinese. Finally, section 4.4.3 applies the NEC to the two Cantonese varieties, and

demonstrates the cross-linguistic variation in relation to the development of Croft's diachronic model.

4.4.1 Croft's Negative-Existential Cycle (NEC)

Croft (1991) has proposed a negative cycle that is driven by the merging and separation of negation with the existential predicate. The main idea is illustrated in (32) (adapted from Croft 1991: 6; van Gelderen 2008, 2011: 296; Willis, Lucas & Breitbarth 2013: 24; Veselinova 2014):

(32) The Negative-Existential Cycle (Croft 1991)



The diagram shows three main language types (A, B, and C) in terms of how a negative existential is expressed, and three transition types in between (A~B, B~C, and C~A) involving three different processes of language change. As Croft argues by means of "dynamicization of synchronic typologies" [30] (1991: 1), these six language types are considered not only as

[30] Croft (1991) defines 'dynamicization of synchronic typology' as the interpretation of each language type or state as a stage in a diachronic process (or a family of diachronic processes). Quoting Greenberg, "the method is therefore like that of producing a moving picture from successive still shots obtained from languages at various stages of the development that interests us" (1966: 517). Therefore, strictly speaking,

synchronic typological classes, but also as stages of a negative cycle where the evolution of sentential negation is driven by the grammaticalisation of the expression for negative existential.

In this model, Type A languages are at the most compositional and transparent stage, where "the negative existential construction is the positive existential predicate plus the ordinary verbal negator" (Croft 1991: 6-7). Lahu is cited as a clear example:

(33) Type A

a. *šɔ́-pɔ̄* *mâ* *qay*
tomorrow NEG go
'I'm not going tomorrow.' (Lahu: Tibeto-Burman; Matisoff 1973)

b. *ɔ̀-yâ* *mâ* *cɔ̀* *šɔ̄*
time NEG EX DUR
'There's still no time.' (Lahu: Tibeto-Burman; ibid.)

As the negation system of a language evolves, a special form which is specialised for denoting negative existence may gradually emerge. This usually involves contraction or fusion of the general verbal negator and the positive existential predicate. But since it is a gradual process, the two options: NEG EX and NEG.EX, can co-exist as free variants or in different specific contexts, for a period of time during the *A~B transition* until the system has fully developed into a Type B, with NEG.EX as the only way to express a negative existential. Amharic shows a rather stable Type B system, where the special NEG.EX form *'yäll…m'* is the only choice though its form is not strictly derived from the general negator *'a(l)-...-əm'* or the positive existential verb *'all-'* (Croft 1991: 9).

Croft's NEC is only a quasi-historical model, which *postulates* how the negation system of languages which negators bear connection with the negative existential predicate may evolve through time. The validity of NEC requires further support from historical data. Hence it is one of the key purposes of this chapter to provide historical evidence to confirm that NEC is indeed attested in Chinese, as Croft suggested.

(34) Type B

səkkʷar	*yälläm*
sugar	NEG.EX.3SG

'There is no sugar.' (Amharic: Semitic; Leslau 1968)

As the special negative existential form becomes more and more productive, it begins to generalise to contexts beyond its original use. In other words, it can be used "for ordinary verbal negation" (Croft 1991: 10); this is an indicator that a Type B system is approaching Type C. A test for whether a language has reached Type C is to see if the negative existential (NEG.EX) can negate other verbs; if it can, then the language has reached Type C. Being a negative *cycle,* the model predicts that after reaching Type C, the negation system would go back to the original compositional Type A. To distinguish a stable Type C language from one that is moving on to a full cycle, one can check for the compatibility of the positive existential predicate with NEG in negative existential contexts. If they are not compatible, then we are dealing with a Type C language, as exemplified by Nunggubuyu (Croft 1991: 12) in (35).

(35) Type C

anúa-lo	*tamóata*	*tágo*	*(*i-sóaʔi)*
village-in	person	NEG.EX	3.SG.RL-EX

'There's no one in the village' (Nunggubuyu: Australian Aboriginal; Heath 1984: 499)

When the positive existential is once again compatible with NEG in even negative existential contexts, possibly creating an emphatic effect at first, it indicates that the NEG which equals NEG.EX has begun to be "reanalysed as only a negator"; hence C~A and finally back to Type A. To be precise, the fact that the positive existential predicate can (at first, optionally) appear with NEG in negative existential contexts shows that a syntactic analogy has been established between the existential predicate and ordinary verbs (Croft 1991: 12). Marathi is a case in point (36). Table 4.7 summarises the main stages of development postulated in the NEC.

(36) Type C~A

tithə koni nāhī (āhe)

there anyoneNEG EX

'There isn't anyone there.' (Marathi: Indo-Aryan; Deshpande, p.c. with Croft)

Table 4.7. Stages of the NEC.

	Negation	Existential	Negative existential
A	NEG	EX	NEG *(EX)
B	NEG	EX	NEG.EX (*EX)
C	NEG (= NEG.EX)	EX	NEG (*EX)
C~A	NEG (= NEG.EX)	EX	NEG (EX)

In sum, as a diachronic model, Croft's NEC postulates a negation system that initially treats the existential predicate as a normal verb, as in Type A where the negator and the existential predicate are obligatory in a negative existential construction. The system then develops a special treatment for the negation of existential predicates, the most prominent way is to lexicalise the negative form of the existential predicate as in Type B. Since the negative existential has its own special realisation, the existential predicate becomes redundant in negative contexts and only appears in affirmative contexts. Up to this stage, the NEC is driven by the presence/absence of the analogy between the existential predicate and the normal verb; when the system moves on to Type C, the motivation lies in the expansion of the negative existential to other domains of the grammar. When the negative existential can negate (most) ordinary verbs, it is a standard negator and even the general negator of the language, i.e. Type C. However, at this stage the negative existential is polysemous in being both the negative existential predicate in negative existential contexts and the standard negator elsewhere, which explains why the existential predicate remains redundant in negative existential contexts as before. When the origin of the negator as a negative existential predicate is no longer apparent, the existential predicate is once again treated on a par with other verbs; this syntactic analogy makes the presence of the negator and the existential predicate in even negative existential constructions obligatory once more, i.e. the system moves back to Type A.

4.4.2 Evidence for the historical connection between 'not have' and non-existence in Chinese

Chinese is often regarded as one of the exemplars of Croft's Negative-Existential Cycle. According to Croft (1991), Mandarin belongs to the transition Type B~C, as he notes that: [31]

> "in Mandarin Chinese it appears that the negative-existential *méi* is already beginning to employ the positive existential *yǒu* analogically, and moreover is proceeding to use *méi* plus *yǒu* as a verbal negator (i.e. resembling Type C) in some contexts without any phonological fusion taking place" (Croft 1991: 23)

Croft's classification is confirmed by the Beijing and Taiwan Mandarin data in this study. In both varieties of Mandarin, the verb *yǒu* 'to have' is used as the existential predicate, as illustrated in (37). To negate an existential structure, *bù* is strictly ruled out (37b); *méi* is the only legitimate negator and in this case, *yǒu* 'to have' is optional (37c).

(37) Existential construction

a. 教室裏**有**鉛筆

*jiaoshi li **you** qianbi*

classroominside **have** pencil

'There are pencils in the classroom.' (Mand.)

b. *教室裏**不有**鉛筆

** jiaoshi li **bu** **you** qianbi*

classroom inside **not** **have** pencil

'There aren't pencils in the classroom.' (Mand.)

[31] More precisely, Croft has argued that Mandarin should be regarded as Type A~C, with stage B missing. As mentioned in the text, the transition from a highly compositional Type A (NEG EX) to the emergence of a special NEG.EX form in Type B is expected to involve phonological fusion. This, however, is argued to be absent in Mandarin. Croft claims that phonological fusion, for reasons unknown, is "inhibited" in isolating languages (1991: 23). However, section 4.4.3 will show that Hong Kong Cantonese is a counterexample to Croft's claim, cf. Law (2014).

c. 教室裏**沒(有)**鉛筆

jiaoshi *li* ***mei(-you)*** *qianbi*

classroom inside **not-have** pencil

'There aren't pencils in the classroom.' (Mand.)

On the one hand, the fact that *méi* can stand alone to express negative existence indicates that *méi* is the special form for negative existential and that both varieties of Mandarin are at least of Type B in the NEC. On the other hand, the empirical data in Chapter 2 which shows simple verbal bare declarative clauses negated by *méi(yǒu)* indicates that *méi(yǒu)* is also a standard negator in Beijing and Taiwan Mandarin; Table 4.8 provides a quick recap of the findings in Chapter 2.

Table 4.8. Negation of bare declaratives in Mandarin varieties.

	BM		TM	
	bù 'not'	*méi(yǒu)* 'not have'	*bù* 'not'	*méi(yǒu)* 'not have'
State [+psych]	✓$_{4.8}$	?$_{3.4}$	✓$_{4.9}$	?$_{4.4}$
State [–psych]	✓$_{5.0}$	??$_{2.5}$	✓$_{5.0}$	??$_{2.4}$
Activity	✓$_{4.8}$	?$_{4.4}$	✓$_{5.0}$	?$_{4.3}$
Accomplishment	?$_{4.1}$	?$_{4.1}$	✓$_{4.6}$	✓$_{4.8}$
Achievement	??$_{1.6}$	?$_{4.4}$	??$_{1.6}$	?$_{4.4}$
Semelfactive	?$_{3.9}$	?$_{4.5}$	?$_{4.0}$	✓$_{4.7}$

Nonetheless, Table 4.8 presents two findings which show that neither Beijing Mandarin or Taiwan Mandarin can be of Type C — the stage when the special form for negative existential has developed into a general negator in the system. Firstly, the special form for negative existential, i.e. *méi(yǒu)* 'not have', is not the only standard negator; *bù* 'not' is also generally acceptable in negating sentences containing different classes of verbs. Secondly, the distribution of *méi(yǒu)* is not without restriction. Even in bare declarative clauses, *méi(yǒu)*

was found to be unacceptable when the sentences contain non-psych stative predicates in both varieties of Mandarin, as in (38).

(38) 'Not have' and non-psych states

我 (不｜??**沒有**) 知道這件事 (BM)

wo (bu |??mei-you) zhidao zhe jian shi

我 (不｜***沒有**) 知道這件事 (TM)

*wo (bu |*mei-you) zhidao zhe jian shi*

I not |not-have know this CL event

Intended: 'I do not know about this event.'

'I did not know about this event.'

Indeed, the discussion in Chapter 3 suggests that *méi(yǒu)* is incompatible with aspectual viewpoints apart from the experiential (39).

(39) 'Not have' and aspectual viewpoints

我沒散(??**了**|?**過**|??**着**)步 (BM)

wo mei san-(??le |?guo |??zhe) -bu

我沒散(??**了**|?**過**|?**着**)步 (TM)

wo mei san-(??le |?guo |?zhe) -bu

I not.have stroll-(PFV |EXP |CONT)-steps

Bare affirmative: 'I stroll.'

In sum, *méi(yǒu)* 'not have' in both varieties is a standard negator but has not developed into a general negator which takes over the entire grammatical system; in other words, both Beijing and Taiwan Mandarin belong to the transition Type B~C as Croft (1991) has suggested. Therefore, it should be evident by now that at least in the Mandarin varieties, the standard negator *méi(yǒu)* 'not have' must have developed from a negative existential predicate. However, a question remains as to how this link between negation and existence (or precisely, non-existence) emerged in Chinese negation in the first place and whether Croft's NEC is indeed attested in Chinese historically. The remainder of this section will examine the link

between Croft's NEC and the behaviour of standard negators in the four contemporary Chinese varieties, by, first, probing into the development of negative existential expressions in the history of Chinese, then concentrate on the emergence of Mandarin *méi(yǒu),* Hong Kong Cantonese *mou5* and Gaozhou Cantonese *mau5* as both the negative existential expression and a standard negator in history. The findings will account for why these three standard negators display similar properties in (i) being both negative existential predicates and standard negators (see section 4.5), (ii) expressing non-existence when they act as standard verbal negators in bare negative sentences (see section 2.3 for data and 4.5 for the analysis), and (iii) being compatible only with experiential aspect in standard negation (see Chapter 3 for data and Chapter 5 for the analysis of aspect-marked negative sentences). Due to limitation in scope, this dissertation only offers a preliminary diachronic investigation into a small sample of texts (the selected texts will be introduced shortly). However, since the purpose of this discussion is only to draw important links between Croft's diachronic model and the empirical observations made on the standard negation in the four contemporary Chinese varieties, the set of data included in this section already suffices (cf. Zhang 2002 for a broader diachronic examination of Chinese negation and its connection with the NEC, which will be reviewed in sections 4.4.2.1 and 4.4.3).

The discussion will examine eight sets of texts from the Old Chinese period to the Pre-Modern Chinese period. There has yet to be a unanimous consensus over the periodisation of the Chinese language among historical linguists, but there are two main criteria for the delineation of periods, namely, phonological change and grammatical change. A detailed description of various possible periodisations is included in Appendix C Table C1, but based on the existing proposals, I have the following as the working periodisation for the present discussion:

(40) Periodisation of the Chinese language

Old Chinese, a.k.a. Shanggu Hanyu: Shang to Han dynasty (ca. 1600BC - AD220)

Middle Chinese, a.k.a. Zhonggu Hanyu: Wei-Jin period to 10th c. AD (AD220-960)

Pre-Modern Chinese, a.k.a. Jindai Hanyu: Song dynasty to Late Qing period (960-1842)

Modern Chinese, a.k.a. Xiandai Hanyu: Republican era to present (1911-present)

These manuscripts are chosen for their sample of dialogues and thus closer representation of colloquial language use.[32] Table 4.9 provides basic information about the selected texts.

Table 4.9. Historical texts under investigation.[33]

Historical periods	Texts	Year of compilation	Genre
Old Chinese	《論語》 *The Analects*	480-350BC *Warring States period*	Dialogue collection
	《史記》 *Shiji*	109-91BC *Western Han*	History
Middle Chinese	《三國志》 *Records of the Three Kingdoms*	AD265-300 *Wei-Jin period*	History
	《世說新語》 *A New Account of the Tales of the World*	420-581 *Southern & Northern dynasties*	Short stories

[32] There are two tacit issues when considering the historical texts. First, the language documented in writing might not reflect the spoken colloquial form. This is a well-known challenge in historical linguistics, and it is especially true in the study of historical Chinese linguistics, since the Chinese logographic writing rarely provides phonological clues for the articulation of the characters. Hence, based on the historical record available, I follow the traditional assumption that the written language does reflect the spoken form to a certain extent, and the choice of texts which include dialogues may bring the written language even closer to the speech at the time. The second issue concerns the potential regional variation involved across the texts which cover a broad time scale. Indeed, it is a great challenge for the present study, and for research in historical linguistics in general, to pinpoint the exact regional variety represented in the texts. For one thing, the author(s) to some texts is still unknown or is multiple. *The Analects* is a case in point; it is the collection of dialogues between Confucius and his students, posthumously compiled by his followers, so there are multiple authors with their identities still undetermined. Nonetheless, Following Tai & Chan (1999), I assume that there is a koine in each period, mostly according to the location of the capital city of the time, hence Table D1 in Appendix D has approximated the regional variety that the respective text might be representing.

[33] see Appendix D Table D1 for the number of words in each text.

Pre-Modern Chinese	《太平廣記》 *Taiping Guangji*	977-978[34] *Northern Song*	Anthology
	《朱子語類》 *Zhuzi Yulei*	1270 *Southern Song*	Dialogue collection
	《西遊記》 *Journey to the West*	1520-1580 *Ming*	Novel
	《紅樓夢》 *Dream of the Red Chamber*	1784 *Qing*	Novel

The historical investigation addresses two issues: firstly, since the contemporary Mandarin varieties both belong to Type B~C in the NEC, we want to establish if the present realisation of 'not have' has undergone any evolution over time. Secondly, if there have been other forms to express negative existence historically, what motivated the present realisation of negative existential (i.e. *méi(yǒu)*) to win out and further develop into a standard negator? For the sake of a more focused discussion, this section will concentrate on the development in Mandarin and for that reason all historical data will be transcribed in Hanyu Pinyin; section 4.4.3 will extend the scope of investigation to the Cantonese varieties and account for cross-linguistic variation.

4.4.2.1 Issue 1: evolution of the negative existential

As we have seen, the verb 'have' is the existential predicate in present-day Chinese (realised as *yǒu* in Beijing and Taiwan Mandarin, and *jau5* in the Cantonese varieties). Indeed, the verb 'have' has expressed existence ever since the Old Chinese period, as illustrated in (41).

[34] *Taiping Guangji* was edited and published in AD977 (Northern Song), but most of the stories in the collection were written in Tang dynasty (AD618-907).

(41) 'Have' as an existential predicate

a. 天下**有**不順者, 黃帝從而征之

tianxia	***you***	*bu*	*shun*	*zhe,*	*Huangdi*	*conger zheng zhi*
world	**have**	not	obedient	person	Huangdi	then fight PRO

'Where there are disobedient populations, Huangdi would fight them.'

(《史記·五帝本紀》*Shiji,* 109-91BC)

b. 鄭人**有**賣鄭於秦

Zheng	*ren*	***you***	*mai*	*Zheng*	*yu*	*Qin*
Zheng	people	**have**	sell	Zheng	to	Qin

'There are people in Zheng who betray the country for Qin.'

(《史記·秦本紀》*Shiji,* 109-91BC)

c. **有**參軍見鼠白日行，以手板批殺之

you	*canjun jian*	*shu*	*bairi*	*xing,*
have	officer see	rat	day	walk
yi	*shouban*	*pi*	*sha*	*zhi*
with	board	hit	kill	PRO

'There was an officer who saw a rat walking in daytime, so he hit and killed it with a board.'

(《世說新語》*A New Account of the Tales of the World,* AD420-581)

The first two examples are taken from two different chapters of an Old Chinese history text, *Shiji.* In example (41a), 'have' creates a predicate from the nominal complement, *bú shùn zhě* 'disobedient populations', to mean that disobedient people exist and with reference to the locative subject *tianxia* 'the world'; the clause is therefore an existential construction meaning 'there exist disobedient populations in the world' (or literally 'the world exists disobedient populations'). Example (41b) presents a similar case; 'have' is the predicate meaning 'to exist' and it connects the entity that exists — people who betray the country, *Zheng,* for another country, *Qin* — with the locative reference point, *the population of Zheng.* Therefore, the meaning expressed is that within the population of Zheng, there exist people who betray their own country for Qin. The third example is extracted from a later text, *A New Account of the Tales of the World,* a short story volume completed in the Northern-Southern period (AD420-

581). The example shows 'have' expressing the existence of an officer who saw a rat in daytime. Here, unlike the two earlier examples, no locative reference is present. In fact, the structure is reminiscent of the specific indefinite structure in contemporary Chinese; examples (42-43) below provide the modern Mandarin and Hong Kong Cantonese translation of the first clause in (41c).

(42) **有**一個士兵看見一隻老鼠大白天在街上跑來跑去

[***you***	*yi*	*ge*	*shibing*]	*kanjian*	*yi*	*zhi*	*laoshu*
have	one	CL	officer	see	one	CL	rat
dabaitian	*zai*	*jie*	*shang*	*pao-lai-pao-qu*			
big.morning	be.at	street	up	run-come-run-go			

'An officer saw a rat running in the street in broad daylight.' (Mand.)

(43) **有**個士兵見到有隻老鼠日光日白喺條街度走黎走去

[***jau***	*go*	*sibing*]	*gin-dou*	*jau*	*zek*	*lousyu*	*jat-gwong-jat-baak*
have	CL	officer	see-CPL	have	CL	rat	sun-light-sun-white
hai	*tiu*	*gaai*	*dou*	*zau-lai-zau-hui*			
be.at	CL	street	LOC	run-come-run-go			

'An officer saw a rat running in the street in broad daylight.' (HKC)

In short, the three examples in (41) show 'have' as an existential predicate ever since the earliest records; we will return to the subtle difference between (41c) and the other two examples later in section 4.4.3 when we discuss the status of *yǒu/jau5* 'have'.

Since the verb 'have' is the existential predicate, I will approach the issue of how negation of existence was expressed by first identifying all the negative markers that can accompany the verb 'have', and establish their respective developments. Historical records have revealed that at least twelve negative markers were available over the course of Chinese history (Chappell & Peyraube 2016), but not all negative markers can appear with the existential predicate; Table 4.10 below shows the possibility of various negator-existential predicate pairings (i.e. NEG+HAVE pairings) in the eight selected texts.

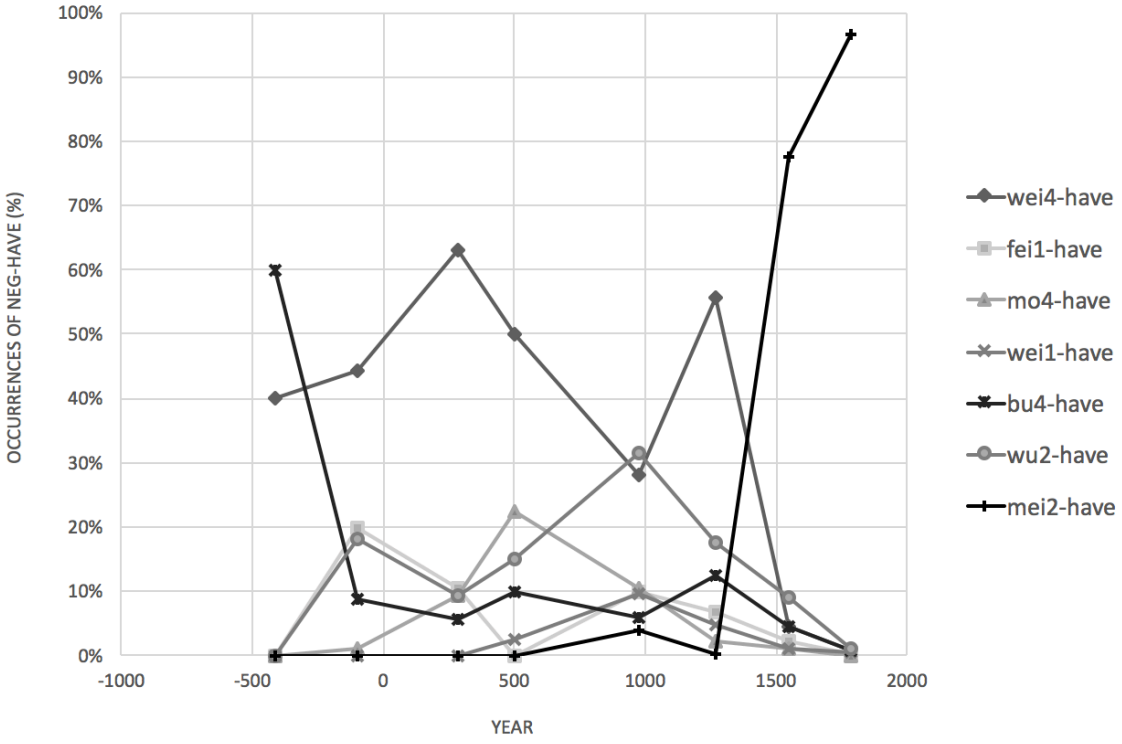
Table 4.10. [NEG+HAVE] pairings.[35]

	[NEG+HAVE]		[NEG+HAVE]
勿 *wù*	(rare)	微 *wēi*	
毋 *wú*	(rare)	蔑 *miè*	*
弗 *fú*	*	莫 *mò*	
匪 *fěi*	(rare)	**不 *bù***	
非 *fēi*		**無 *wú***	
未 *wèi*		**沒 *méi***	

The evidence of the selected texts suggests that 弗 *fú* and 蔑 *miè* never co-occurred with the existential predicate. Three others were also very rare in co-occurring with the existential predicate, namely 勿 *wù* and 匪 *fěi*, which combined with the existential predicate fewer than ten times in the eight selected texts, and 毋 *wú* only appeared with the existential predicate *yǒu* 'have' in one text — *Shiji* for twelve tokens (i.e. 7% of the total NEG+HAVE tokens in the text). Excluding these five negative markers, the pattern in Figure 4.1 is found. Note that the fact that these five negators rarely or never appear with *yǒu* 'have' in the texts, does not entail that their occurrences elsewhere are equally low; Tables D3 and D5 in Appendix D show that development of the negators per se has its own pathway, largely separate from the development of [NEG-HAVE] realisations.

[35] see Appendix D Table D2 for the exact number of occurrences of each [NEG+*yǒu*] pairing per text.

Figure 4.1. NEG+HAVE realisations in historical texts (version 1). [36]



In Figure 4.1, the x-axis represents year, with 0 being AD1, and the minus sign stands for BC. Each line represents a NEG+HAVE realisation, each line has eight points, each marks the result from one of the eight texts selected for this study. The y-axis shows the proportion of each NEG+HAVE combination over the total number of NEG+HAVE occurrences in the text. For instance, 莫有 *mò*-have occurs ten times in the third text, *Records of the Three Kingdoms* (AD265-300), out of the total of 106 NEG+HAVE occurrences, hence the percentage shows 9.4% at the third point of the triangle-mark line. In another text produced later in history, *A New Account of the Tales of the World* (AD420-581) — the fourth text — the form *mò*-have only occurs nine times, but since there are only 40 tokens of NEG+HAVE in total in this text, the percentage shows 22.5% at the fourth point of the same triangle-mark line. The prominent pattern in Figure 4.1 is that although many NEG+HAVE combinations are attested consistently in the eight texts, their frequency of occurrence is rather low; *wēi*-have (grey cross line), *mò*-have (triangle-mark line), and *fēi*-have (square-mark line) are cases in point. Focusing on those

[36] In Figures 4.1 and 4.2, the numerals next to the Pinyin stand for tones: 1 = high level tone, 2 = rising tone, 3 = dipping tone, and 4 = falling tone.

combinations which show more substantial change over time, we have the picture in Figure 4.2 showing only four NEG+HAVE combinations, namely, *wèi*-have (i.e. 未有 *wèi-yǒu*), *bù*-have (i.e. 不有 *bù-yǒu*), *wu2*-have (i.e. 無有 *wú-yǒu*), and the focus of this chapter, *mei2*-have (i.e. 沒有 *méi-yǒu*). The design of Figure 4.2 is the same as that in Figure 4.1.

Figure 4.2. NEG+HAVE realisations in historical texts (version 2).

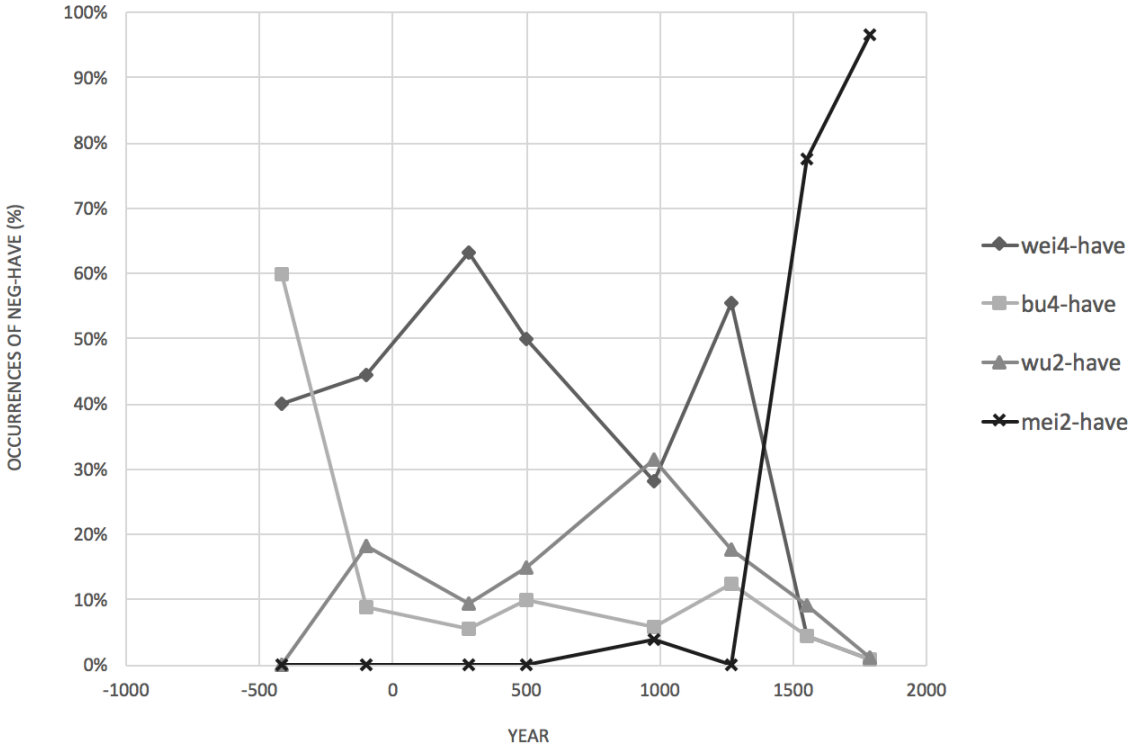


Figure 4.2 presents three important findings. First, *bù*-have is the earliest realisation of NEG+HAVE, as seen in *The Analects* (480-350BC), but its frequency declined around AD1300. Second, *wú*-have emerged as a competing form of NEG+HAVE against *bù*-have, its use was constantly on the rise until around AD1300. The finding that *bù* and *wú* coexisted since Old Chinese concurs with the general understanding that there had been an M-/P-division in the Old Chinese negation (see Hashimoto 1978 and Zhang 2002 for more details). In brief, the issue of M-/P-negation division concerns the historical observation that there were two groups of negators distinguishable by their initial consonant in Old Chinese — one group has an initial plosive, the other has a nasal; in contemporary Chinese, this nasal-plosive division is arguably found in the North-South division of regional varieties. Taking the 'not' negator as an indicator,

Northern varieties have a plosive 'not', like *bù* in Beijing Mandarin, while Southern varieties have a nasal 'not', such as *m4* in Hong Kong Cantonese and *mau5* in Gaozhou Cantonese; Table 4.11 presents the regional M-/P-division (adapted from Hashimoto 1978/1985 and Zhang 2002).

Table 4.11. The M-/P-division in the negator of regional varieties.[37]

		'not'	'not have'
N	瀋陽 Shenyang	pu	mei (iou)
N	北京 Beijing	pu	mei (iou)
N	濟南 Jinan	pu	mei (iou); mu (iou)
N	西安 Xian	pu	mo iou; m iou
N	合肥 Hefei	pəʔ	me; mɯ
S	蘇州 Suzhou	fəʔ	m pɤʔ
S	南昌 Nanchang	pət	mau iu
S	長沙 Changsha	pu	mau tɤ; mau
S	溫州 Wenzhou	fu	nau < m-
S	福州 Fuzhou	ŋ̩ < m̩	mɔ
S	廈門 Xiamen	m̩	bo < m-
S	汕頭 Shantou	m̩	bo < m-
S	梅縣 Meixian	m̩	mɔ
S	廣州 Guangzhou	m̩	mou

Table 4.11 shows that the so-called M-/P-division may not be as neat as it seems, but should be read as a gradation that changes from an M-form domination in the south to a non-nasal

[37] The phonological representation in Table 4.11 follows the IPA. The cities are arranged by their geographical location from north to south, the labels N(orth) and S(outh) are determined by whether they are to the north or south of Chang Jiang (a.k.a. Yangtze River), which is the traditional way of defining the North-South divide in China.

form in the north; between the two zones, the non-nasal non-plosive F-form 'not' emerged as found in Suzhou and Wenzhou.

Zhang (2002) suggests that the M-/P-negation division is important in the sense that M-negators across the varieties of Chinese follow Croft's NEC and bear close association with non-existence, which is not found in the P-negators. According to Zhang's analysis, the Chinese negation system in the earliest oracle bone records belonged to Type B~C, with *wú* being both the special form for negative existential and a verbal negator in some contexts, but since *wú* was not the only verbal negator, the system cannot be of Type C. In later Old Chinese, the system may have evolved to Type A, where *wú* requires the presence of the verb *yǒu* 'have' to express negative existence. By Middle Chinese, the [*wú*-have DP] structure became more common and the use of *wú* and other derived forms like 毛 *mau* prevailed particularly in the southern varieties (Zhang 2002: 33), so that by late Tang Dynasty (around 10th century AD) the M-negators dominated the southern part of China, while the P-negators were still frequently used in the North. The key stages are summarised in Table 4.12 below.

Table 4.12. Historical development in expression of negative existential.

	Old Chinese		Middle Chinese	Pre-Modern Chinese
	Early	Later		
North	B~C	A	A	M- and P-negators co-exist
	wú as NEG.EX and standard negator	*wú *(HAVE)* as NEG EX	*wú HAVE DP*	
South			B	M-negators dominates
			mou (=wú) and other derived forms emerged	

Zhang proposed that, in southern varieties such as Cantonese and Hakka, the 'not' negators were derived from 'not have' negators, which were once the general negator (see also Law 2014, who suggested that the Hong Kong Cantonese *mou5* was the product of *mou4* + *jau5*). The reinvention of another standard negator could possibly be motivated by the need to keep the negation of existentials distinct from the negation of other verbs. I will return to Zhang's

analysis of the Cantonese negators in section 4.4.3, but, crucially, Zhang's account does not explain how the Mandarin negation system evolved from the Old Chinese state to its present form, i.e. the emergence of *méiyǒu* as negative existential predicate and standard negator. Significantly, Figure 4.2 shows that *méi*-have (or *méiyǒu*) was not recorded in the sample of texts until AD1300, and since then *méiyǒu* has become the predominant form to realise NEG+HAVE; the situation has continued to the present, where in contemporary Mandarin no other form of NEG+HAVE is unacceptable. The emergence of *méiyǒu* may seem rather sudden in Figure 4.2, but it is reasonable to postulate that the 'sudden appearance' of *méiyǒu* found in the texts shows only the dawn of documentation of more colloquial speech rather the actual emergence of the strategy. The late-13th century to the beginning of the 14th century marks the end of a long history of Han rule and the beginning of 'foreign' rule — the Yuan Dynasty (AD1271-1368) was a period of unification under the rule of the Mongolians. The issue at hand is to find out how *méiyǒu* became the predominant form for NEG+HAVE, and how that leads to its development into a standard negator in present-day Mandarin varieties.

4.4.2.2 Issue 2: emergence of méi(yǒu) as negative existential and standard negator

Based on the historical texts (beyond the eight selected texts) in the Chinese Ancient Text (CHANT) database and the Chinese Text Project, we can see that the first appearance of 沒 *méi/mò* dates back to the Pre-Qin era where it carried three related meanings: (i) to sink or submerge (44), (ii) to die (45), and (iii) the end of something (46).[38]

[38] These three readings of 沒 *méi/mò* though archaic are still found in present-day Mandarin and Cantonese. In Beijing and Taiwan Mandarin the phonological realisation of this lexical item when it expresses these readings is *mò* (*mut6* in Hong Kong Cantonese) but when it functions as a standard negator it is realised as *méi* — this function is not found in Cantonese but the phonological realisation would still be *mut6*. For ease of exposition, I follow the pronunciation in contemporary Mandarin in glossing the lexical uses of this word as *mò* and the negation uses as *méi* in the examples and in the text. Note, however, that, in terms of sound change, *méi* has not developed from *mò* (Schuessler 2007: 390).

(44) *Mò* ‘to sink or submerge’

a. 不臨深泉, 何以知**沒**溺之患

*bu lin shen quan, heyi zhi **mo**-ni-zhi huan*

not come deep stream how know **submerge**-drown-POSS danger

‘If one does not come close to a deep stream, how can one understand the danger of drowning?’ (《孔子家語》*Kongzi Jiayu,* 206BC-AD220)

b. 可以步行水上不**沒**

*keyi buxing shui shang bu **mo***

can walk water above not **sink**

‘[He] can walk on water and won’t sink.’ (《抱朴子》*Baopuzi,* AD300-343)

c. 日月出**沒**其中

*ri yue chu **mo** qi zhong*

sun moon out **sink** PRO within

‘The sun and moon appear there.’ (《藝文類聚》*Yiwen Leiju,* AD624)

In (44b), *mò* is the main verb of the subordinate clause and denotes the action of sinking, and, in (44c), quoted from a later text – *Yiwen Leiju,* an encyclopedia compiled during the Tang Dynasty (AD624) – illustrates how the meaning ‘to sink/submerge’ has been extended to non-human entities, such as the sun and the moon (i.e. sunset is depicted as the sun sinking or submerging). Crucially, *mò* appears with *nì* ‘drown’ to mean someone sank and drowned in (44a) which shows the natural link between sinking and death – i.e. to sink/submerge > to drown > to die. Indeed, simultaneously, *mò* also denotes ‘to be dead’, as in the examples below:

(45) *Mò* 'to be dead'

a. 父在, 觀其志; 父**沒**, 觀其行

fu	*zai,*	*guan*	*qi*	*zhi;*
father	live	observe	his	will
fu	***mo,***	*guan*	*qi*	*xing*
father	**die**	observe	his	conduct

'While one's father lives, observe his aspiration; when one's father dies, observe his conduct.' (《論語》*The Analects,* 480-350BC)

b. 二親既**沒**, 所居齋寢

er	*qin*	*ji*	***mo,***	*suo*	*ju*	*zhai*	*qin*
two	parents	already	**die**	PRO	dwell	alone	sleep

'With the death of the parents, [he] lived alone in [his] place (for mourning).' (《顏氏家訓》*Yanshi Jiaxun,* AD420-581)

c. 生有顯功, **沒**有美名

sheng	*you*	*xian*	*gong,*	***mo***	*you*	*mei*	*ming*
live	have	remarkable	feat	**dead**	have	good	name

'[He] had remarkable achievements when he lived, and a good name after he died.' (《藝文類聚》*Yiwen Leiju,* AD624)

Example (45a) is a clear case in point. The parallelism of the two sentences is deliberately used to highlight the contrast in content: in the first sentence, the first clause says, 'when father lives', so in the second sentence, the first clause expresses its opposite which is 'when father dies', and the meaning of 'to die' is encoded by *mò.* On the face of it, (45c) presents a case of *mò yǒu* (a.k.a. *méiyǒu*), but this is not true. Like (45a), the sentence here contains two clauses with parallel structure but contrastive meaning: the first clause states that the person concerned (though pro-dropped), possesses remarkable achievements when alive, and the second clause contrasts with that by stating what he possesses when dead; in both cases, the verb *yǒu* 'have' means 'to possess/own'. The third meaning of *mò* that existed at the same time is 'the end of something', which is an extension of the notion of death which we have seen in (45). Death is the end of life, so when this concept is extended to non-human entities, just as the meaning of 'to sink/submerge' has been metaphorically extended to the sun (i.e.

sunset) in (44c), the concept of death can be 'the end' in general; the examples in (46) illustrate the point.

(46) *Mò* 'the end of something'

a. 於夏十月, 火既**沒**矣

yu	*xia*	*shi*	*yue,*	*huo*	*ji*	***mo***	*yi*
in	summer	tenth	month	fire	already	**exhaust**	PRT

'In summer, October, when the fire has died down.'

(《孔子家語》*Kongzi Jiayu,* 206BC-AD220)

b. 恐**沒**世不復見如此人

kong	***mo***	*shi*	*bu*	*fu*	*jian*	*ruci*	*ren*
fear	**end**	world	not	again	see	such	person

'Fear that it won't be possible to find such person till end of the world.'

(《世說新語》*A New Account of the Tales of the World,* AD420-581)

c. 立言不**沒**

li	*yan*	*bu*	***mo***
establish	word	not	**end/extinguish**

'The words [one] established do not perish.' (《藝文類聚》*Yiwen Leiju,* AD624)

When *mò* denotes 'the end of something', it can be used as a verb (i.e. 'to end') or an adjective (i.e. 'final'); the former is illustrated in (46a, c), and the latter in (46b). Once the meaning of *mò* has been semantically 'stretched' to mean 'death' or even 'the end', both practically indicate that the entity concerned ceases to exist, *mò* has become a natural candidate to express non-existence in general. Indeed, by the late-13th century, the negative existential function of 沒 (*méi*) emerged (47) and so was its use as a verbal negator (48). Xu (2003) suggests that the emergence of *méi* could be phonologically-driven. According to Xu, sound change took place in appropriately the 10th century AD making *wú* (*mou4* in Hong Kong Cantonese, which resembles the Middle Chinese realisation more closely) and *mò* almost indistinguishable phonetically. As a result, by the Song Dynasty (AD960-1279), *mò* had replaced *wú* as the negative existential. In fact, the semantic bleaching and sound change accounts fit rather well

in terms of timing and the empirical evidence, and it is likely that both factors worked together and motivated the rise of *méi/mò* as the new negative existential predicate, and following the NEC, this special form for negative existential later developed into a standard negator in contemporary Mandarin varieties. Indeed, Schuessler (2007: 376-377, 517-518) mentions that two possible pathways have been proposed. On the one hand, Norman (1988: 126) suggests that *méi* (which was pronounced as *muət* in Middle Chinese) could be a variant of 勿*wú* or 未 *wèi,* which was later fused with or influenced by *yǒu* 'have'. On the other hand, Pulleyblank (1973: 121) proposes that the etymology of 'not have' came from 'submerge': from the reconstructed form **ma:* to 末 *mò* 'the end of something' to 亡 *wáng* (*mong4* in Hong Kong Cantonese) 'to die or be dead', then to 無 *wú* (Hong Kong Cantonese *mou4*) 'not or nothing' or 莫 *mò* 'not or don't' (Hong Kong Cantonese *mok6*), and finally to 沒 *mò/méi* as 'not have' (Hong Kong Cantonese *mut6*). However, to thoroughly examine which of the two factors plays a more significant role in the historical development would go beyond the scope of the present study.

(47) *Méi* as negative existential

a. 一向都**沒**分別

yixiang *dou* ***mei*** *fenbie*

along all **MEI** difference

'There's no difference all along.' (《朱子語類》*Zhuzi Yulei,* Song dynasty AD1270)

b. 將船撐至**沒**人煙處

jiang *chuan* *cheng* *zhi* ***mei*** *renyan* *chu*

make boat punt till **MEI** people.smoke place

'[He] punted the boat to a place without people.'

(《西遊記》*Journey to the West,* Ming dynasty AD1520-1580)

c. **沒**人照顧

mei *ren* *zhaogu*

MEI people take.care

'There is no one to look after him.' OR 'He has no one to look after him.'

(《儒林外史》*The Scholars,* Qing dynasty AD1750)

(48) *Méi* as verbal negator

都**沒**理會了

dou ***mei*** *lihui* *le*

all **MEI** take.notice LE

'[they] all didn't take notice.' (《朱子語類》*Zhuzi Yulei,* Song dynasty AD1270)

The negative existential predication and general verbal negation functions of *méi* arose virtually simultaneously; this is evident from the text from Song dynasty, *Zhuzi Yulei*, a collection of philosophical dialogues between Zhuzi and his students compiled in AD1270. Extracted from this same text, (47a) is an instance of *méi* denoting the non-existence of an entity, *fenbie* 'difference', though the locative reference which we have seen in the Old Chinese examples of *yǒu* 'have' (41a-b) is absent; (48), on the other hand, shows *méi* as a verbal negator since it denies that the event of 'taking notice' has occurred. In those earlier texts, neither the negative existential predicate nor verbal negator *méiyǒu* is found. It was not until the Ming Dynasty (AD1368-1644) that the *méi-yǒu* 'not-have' combination first appeared as a negative existential expression, as shown in (49). By the 18th century, *méiyǒu* 'not have' together began to function as a verbal negator; the first documentation appeared in the *Dream of the Red Chamber* (AD1748) (50).

(49) *Méiyǒu* as negative existential

a. 連宿處也**沒**有了

lian *shu* *chu* *ye* [***mei*** *you*] *le*

even sleep place also [**MEI** have] LE

'There isn't even a place to stay now.' OR '[We] don't have a place to stay.'

(《西遊記》*Journey to the West,* Ming dynasty AD1520-1580)

b. 此處並**沒**有什麼蘭麝、明月、洲渚之類

ci *chu* *bing* [***mei*** *you*] *shenme*

this place really [**MEI** have] what

lanshe *mingyue* *zhouchu* *zhi* *lei*

fragrant.herbs bright.moon islet that kind

'There aren't herbs, moon, islet or the likes [elements for poetry] here.'

(《紅樓夢》*Dream of the Red Chamber,* Qing dynasty AD1780-1792)

(50) *Méiyǒu* as verbal negator

還**沒有**走到跟前

hai [***meiyou*** *zou-dao*] *genqian*

still [**not-have** walk-CPL] in.front

'still have not walked to the front.'

(《紅樓夢》*Dream of the Red Chamber,* Qing dynasty AD1780-1792)

Journey to the West, a world-renowned novel from Ming dynasty, contains many tokens of *méiyǒu* expressing negative existence such as (49a). However, what (49a) also reveals is the ambiguity involved. Since subject pro-drop has always been very common in Chinese, instances like (49a) can be interpreted as 'someone does not even have a place to stay' or that 'this place/there does not even have a place for people to stay'; if it is the former (i.e. the subject is a human) then (49a) is a possessive structure, with *méiyǒu* meaning 'not possess', but if the latter is true (i.e. the sentence has a locative subject), then it is an existential construction, and *méiyǒu* means 'not exist', just as in (49b). The ambiguity is significant to the development of *méiyǒu* from a negative existential predicate to a verbal negator (and a standard negator): since *yǒu* 'have' can be an existential predicate and a possessive predicate, it could have provided a stepping stone for *méi* to evolve from a negative existential predicate to a standard negator. Indeed, the verb *yǒu* 'have' has been polysemous in expressing existence and possession ever since the Old Chinese period; its existential sense has been discussed in section 4.4.2.1, and the examples below illustrate *yǒu* 'have' as a possessive predicate.

(51) 'Have' as possessive predicate

a. 秦王**有**虎狼之心

Qin wang ***you*** *hu* *lang* *zhi* *xin*

Qin emperor **have** tiger wolf GEN heart

'The Emperor of Qin is full of ambition and calculation.' (lit. 'The Emperor of Qin has a heart like the tiger or wolf.') (《史記·項羽本紀》*Shiji,* 109-91BC)

b. 庾子躬**有**廢疾，甚知名

Yu Zigung ***you*** *feiji,* *shen* *zhiming*

Yu Zigung **have** disability quite well-known

'Yu Zigung has physical disability which is quite well-known.'

(《世說新語》*A New Account of the Tales of the World,* AD420-581)

(51a) is an Old Chinese example, where *yǒu* 'have' is the main verb that predicates over the nominal complement, *hǔ láng zhī xīn* 'ambition' (literally, 'the heart of the tiger or wolf'), and the subject *Qín wáng* 'King of Qin' is the possessor. Likewise, in (51b), the subject (*Yǔ Zígūng*) possesses a physical disability, and the verb *yǒu* 'have' denotes 'to possess'.

To summarise, the development of negation in Chinese started with a highly diverse situation where there were over ten negative markers actively existing in the language, and among those negative markers, there are at least three productive strategies to express negative existence: (i) *wú* can stand alone as a special form of negative existential (Zhang 2002), (ii) *bù* can negate the existential predicate *yǒu* 'have' to express negative existence, and (iii) *wú* can combine with the existential predicate *yǒu* 'have' to express negative existence. Following Croft's NEC classification, Old Chinese displayed signs of a Type A system with the second strategy (i.e. *bù-yǒu*), a Type B system with the first strategy (i.e. *wú*), as well as a B~C (or even C~A) system with the third strategy (i.e. *wú-yǒu*) – since *wú* was only one of the verbal negators in Chinese, it should be considered as B~C, but its presence with the existential predicate in negative existential contexts resembles a C~A system, thus the ambiguity. These strategies for the negative existential continued as competing alternatives in historical records until the emergence of a 'novel' form, *méi,* in the late-13th century AD, which developed through series of semantic extensions and bleachings from 'sink' to 'dead' and finally to non-existence and

general verbal negation. Therefore, *méi* started off as a special form for negative existentials and by and large simultaneously a verbal negator (i.e. Type B~C). When it later became compatible with the existential predicate *yǒu* 'have' in negative existential contexts, *méi-yǒu,* just as *wú-yǒu,* can be ambiguously interpreted as a sign of a B~C or C~A system: Type B~C because *méi* and *bù* co-exist as standard negators in contemporary Mandarin, and Type C~A because *méi* itself is both a negative existential predicate and a verbal negator. Its compatibility with *yǒu* 'have' could indicate that the system is moving on to the compositional Type A.

The historical development sketched in this section bears important implications for the analysis of contemporary Mandarin negation. First, the fact that *méi* predates *méiyǒu* in being a negative existential predicate and verbal negator shows that *méi* cannot be interpreted as a contracted form of *méiyǒu.* The optional presence of *yǒu* in present-day Mandarin varieties is not a matter of phonological fusion or reduction: the fact that *yǒu* can appear with *méi* in negative existential contexts and standard negation indicates that the existential content of *méi* may be bleached, which makes the presence of *yǒu* acceptable and not semantically redundant; and its optionality shows that semantic bleaching is still underway. Second, the development of *méi* from negative existential predicate to verbal negation might explain why *yǒu* must be negated by *méi* while other verbs can be negated by either *méi* or *bù.* The connection between *méi* and *yǒu* lies in their common semantic origin, i.e. existence. The next section will analyse the negation system of the two Cantonese varieties (Hong Kong and Gaozhou Cantonese) based on the NEC. The result will not only highlight the cross-linguistic similarities and differences, but also account for the ambiguous status of *wú-yǒu* and *méi-yǒu.*

4.4.3 The NEC and cross-linguistic variation

The connection with the NEC that Croft has proposed in Mandarin can also be found in the Cantonese varieties. The verb 'to have' is used as the existential predicate in Chinese varieties in general, but is phonologically realized differently in different varieties – *yǒu* in (Mainland and Taiwan) Mandarin, and *jau5* in Hong Kong and Gaozhou Cantonese. The existential constructions in the Cantonese varieties are illustrated below:

(52) Hong Kong Cantonese

a. 課室度**有**鉛筆

fosat *dou* ***jau*** *jyunbat*

classroom place **have** pencil

'There are pencils in the classroom.' (HKC)

b. *課室度**唔有**鉛筆

* *fosat* *dou* ***m*** ***jau*** *jyunbat*

classroom place **not** **have** pencil

'There aren't pencils in the classroom.' (HKC)

c. 課室度**冇(*有)**鉛筆

fosat *dou* ***mou*** ***(*jau)*** *jyunbat*

classroom place **not.have** **have** pencil

'There aren't pencils in the classroom.' (HKC)

(53) Gaozhou Cantonese

a. 課室具[39]**有**鉛筆

fosat *gui* ***jau*** *jinbat*

classroom that.place **have** pencil

'There are pencils in the classroom.' (GZC)

b. 課室具**冇(有)**鉛筆

fosat *gui* ***mau*** ***(jau)*** *jinbat*

classroom that.place **not** **have** pencil

'There aren't pencils in the classroom.' (GZC)

Examples (52) and (53) show the existential construction in Hong Kong Cantonese and Gaozhou Cantonese in affirmative and negative contexts respectively; in both varieties, the verb *jau5* 'to have' expresses the existence of the entity denoted by its complement, i.e. pencil, with reference to a location, i.e. classroom. The affirmative structure is the same as that in the

[39] The Chinese character here is just an approximation for the phonetic realization *gui* since Cantonese in general lacks a systematic orthography.

Mandarin varieties (37). The negative sentences in (52b-c) and (53b) show some differences: (52b-c) show that the only legitimate negator in Hong Kong Cantonese negative existential construction is *mou5,* but even there the presence of the existential predicate is strictly forbidden; the Gaozhou Cantonese counterpart in (53b) seems to resemble the Mandarin structure only that the negator is *mau5* 'not', but not a 'not have' negator like the others. Since Hong Kong Cantonese *mou5* 'not.have' can express negative existence on its own, it can be regarded as a special form for negative existential, and hence Hong Kong Cantonese should be regarded as at least of Type B. Like Beijing and Taiwan Mandarin, Hong Kong Cantonese *mou5* 'not.have' can also be used as a standard negator as discussed in the last two chapters, but at the same time subject to some aspectual restrictions as illustrated in (54-55). Therefore, Hong Kong Cantonese belongs to Type B~C, like the Mandarin varieties.

(54) 'Not have' and non-psych states

我 (唔｜??有) 知道呢件事

ngo	*(m*	*|??mou)*	*zidou*	*li*	*gin*	*si*
I	not	|not.have	know	this	CL	event

Intended: 'I do not know about this event.'

'I did not know about this event.' (HKC)

(55) 'Not have' and aspectual viewpoints

我冇散**(*咗|過|??緊)**步

ngo	*mou*	*san-(*zo*	*|gwo*	*|??gan)*	*-bu*
I	not.have	stroll-(PFV	|EXP	|IMPFV)-	steps

Bare affirmative: 'I stroll.' (HKC)

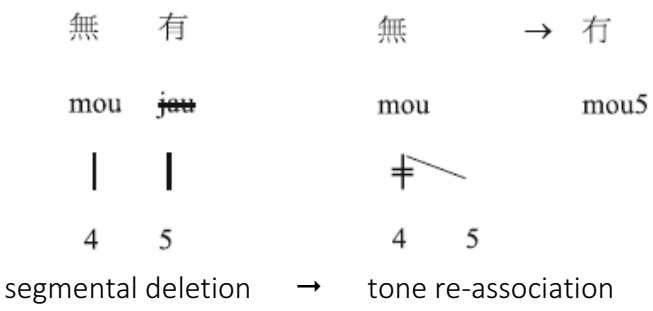
In short, following Croft's NEC, the three contemporary Chinese varieties which have two standard negators ('not' and 'not have') – Beijing Mandarin, Taiwan Mandarin, and Hong Kong Cantonese – all belong to Type B~C, meaning that they have a special form for the expression of negative existential, i.e. 'not have', but this form has yet to be generalised to the entire negation system.

Gaozhou Cantonese is singled out among the four Chinese varieties in this study since it has only one standard negator, namely, *mau5* is a general negator. On the face of it, Gaozhou Cantonese seems to lack a special realisation for negative existential, but at the same time, the presence of the existential predicate *jau5* 'have' is optional in negative existential contexts, which indicates that *mau5* can express negative existence on its own and could be developing into a special form for the negative existential, hence Gaozhou Cantonese should be regarded as Type A~B.

However, according to Zhang (2002), while 無 *wú* had declined in use in the North in Middle Chinese period, it became the predominant form for negative existence in the South and many phonologically derived forms emerged in the southern varieties. Zhang thus proposes that the M-negators could be the result of combining *wú* – once a standard negator developed from a negative existential – and the existential predicate *yǒu* (in Cantonese, *mou4* and *jau5*). Zhang has cited a great number of Cantonese varieties as examples of this historical development, including, *mou5* in standard Cantonese (Hong Kong Cantonese included) and *mau5* in Xinyi Cantonese. This latter example is crucial, precisely because (i) Gaozhou, Xinyi, and Huazhou are the three county-level cities within Maoming, southwestern county in Guangdong Province, and (ii) the negator, *mau5,* in Xinyi variety is identical to that in Gaozhou Cantonese.

As far as Hong Kong Cantonese is concerned, Zhang's discovery is supported by Law (2014), who elaborates the phonological process involved as follows:

(56) Hong Kong Cantonese: *mou5* < *mou4* + *jau5*



Law suggests that the marking of *mou5* involved two processes: first, the segmental information in the existential predicate *jau5* is deleted, then its tone (i.e. tone 5, the low-rising tone) is re-associated to the left, and replaced the original tone 4 of *mou4;* the result is *mou5.* Therefore, according to Law, wherever *mou5* appears, *jau5* is also present in the structure but phonologically silent (see Yue 2001 for an alternative account where it is argued that *mou5* is a product of *m4* + *jau5; m* provides the initial consonant and *jau5* provides the tone, and the vowel is influenced by the consonant). Law's (2014) analysis is supported by the reconstruction findings in Norman (1988) and Schuessler (2007). Norman (1988: 213) describes that many M-negators in Chinese southern dialects are developed from 無 *wú* and new negators are formed by the fusion of *wú* and *yǒu* (Hong Kong Cantonese *mou4* and *jau5* > *mou5*). Schuessler (2007: 518-519) further suggests that *wú* developed to express negative existence or the meaning of 'not have' in general (including negative possessive) during the Western Zhou period (1027-771BC), and it later replaced all other forms with similar functions. Hence, 無 *wú* is highly likely to be the source of the negative existential and standard negator *mou5* in contemporary Hong Kong Cantonese.

If Law's (2014) phonological analysis is well-founded and Zhang's observation about Xinyi Cantonese *mau5* is also applicable to Gaozhou Cantonese, this would have two important implications. First, Gaozhou Cantonese *mau5* is also a standard negator developed from the negative existential, similar to the other three varieties – *méi(yǒu)* in Mandarin and *mou5* in Hong Kong Cantonese. In that case, Gaozhou Cantonese would not belong to Type A~B, but a typical example of Type C~A. Since *mau5* alone can express negative existence, and given Zhang's account that *mau5* is derived from *mou4* + *jau5* 'not [=not.have] + have', *mau5,* itself is an example of a special form of negative existential that developed into a verbal negator. Indeed, the Gaozhou Cantonese data in Chapter 3 also supports this account: in terms of negation-viewpoint compatibility, *mau5* resembles *méi(yǒu)* and *mou5* in being able to appear with the experiential viewpoint *gwo3,* which would be unexpected as *mau5* (translated as 'not') should presumably pattern with the 'not' negator of the other varieties, i.e. *bù* and *m4.* The major difference between Gaozhou Cantonese and the other three Chinese varieties is that this derived verbal negator is not only a standard negator but also *the* general negator in the variety, which is a definitive feature of Type C. Once the existential predicate *jau5* can once

again appear with this derived negator (i.e. *mau5*) in negative existential contexts, it would indicate that the negation system in Gaozhou Cantonese has moved to a full cycle, i.e. C~A; this is indeed the case as seen in (53b). The second point concerns the difference between *méi* in the Mandarin varieties and *mou5* in Hong Kong Cantonese. As argued above, Hong Kong Cantonese and the Mandarin varieties all belong to Type B~C, but unlike its Mandarin counterpart, *mou5* cannot occur with *jau5* as illustrated in (52c). This restriction not only applies to negative existential structures (i.e. when *jau5* is an existential predicate), but happens across the board — whenever *mou5* is present *jau5* mustn't be, as shown below:

(57) 我**冇(*有)**鉛筆

ngo	***mou***	***(*jau)***	*jyunbat*
I	**not.have**	**have**	pencil

'I do not have/own pencils.' (HKC)

(58) 我**冇(*有)**知道呢件事

ngo	***mou***	***(*jau)***	*zidou*	*li*	*gin*	*si*
I	**not.have**	**have**	know	this	CL	event

'I did not know about this event.' (HKC)

(59) 我**冇(*有)**散過步

ngo	***mou***	***(*jau)***	*san-gwo-bu*
I	**not.have**	**have**	stroll-EXP-steps

'I have not strolled before.' (HKC)

This would be expected if we follow the phonological account proposed by Law. Precisely because *jau5* is merged with 無 *mou4* phonologically, the process applies to all syntactic structures indiscriminately. Mandarin *méi,* on the other hand, did not go through the same phonological fusion. *Méi* developed into a negative existential predicate in Mandarin through a series of semantic changes: from 'to sink/submerge' which leads to natural result of drowning and death (hence 'to be dead') and later extended to mean 'the end of something', which could develop from the idea of death being the end of life, the meaning of 'end of something' or

'something being extinguished or perished' can easily develop into the idea of non-existence, i.e. negative existence.

In Veselinova's (2013) typological study of negative existentials, three major sources have been identified as summarised in the table below (adapted from Veselinova 2013: 137, Table 7):

Table 4.13. Summary of the origins of negative existentials.

Sources	No. of languages
(i) Univerbation of standard negator and another word	17 (27%)
(ii) Lexical item with a negative content	25 (39.7%)
(iii) Formally identical with standard negation (origin unknown)	21 (33.3%)

In terms of Veselinova's analysis, the Old Chinese *wù* and present-day Mandarin *méi* are examples of the second source of negative existentials, since they are lexical items with a negative content – *wù* means 'absent' and *méi/mò* can mean 'dead', both of which are common lexical sources for negative existentials in her typological study.[40] In contrast, the evolution of *mou5* and *mau5* in the two Cantonese varieties belongs to source (i), where the negative existential is derived from the former standard negator *mou4* (*wú* in Mandarin) and the existential predicate *jau5* 'have'. The fact that *méi* never 'contained' a 'have' element, made it possible to appear with the existential predicate *yǒu* without causing any structural clash or semantic redundancy, both of which are reasons that block the occurrence of *mou5-jau5* in present-day Hong Kong Cantonese. Comparing the two Cantonese varieties, the possible though optional appearance of *jau5* with *mau5* for negative existence and negative possession shows that the semantics of *mau5* has been further bleached to the extent that its original meaning as negative existential has been much weakened, whereas the sense of negative existence is still prominent in Hong Kong Cantonese *mou5.*

[40] Veselinova (2013: 118-119, Table 2) has mentioned several common lexical origins for negative existential predicates, namely, 'lack', 'absent', 'there is not', 'empty', and 'dead'.

4.4.4 Summary

To sum up, this section has argued, based on historical evidence (from Old Chinese to Modern Mandarin and Cantonese), that Croft's (1991) Negative-Existential Cycle, which postulates a connection between negation and the existential predicate as a driving force for the evolution of negation systems, is indeed attested in the history of Chinese and in various contemporary Chinese varieties. Following the NEC classification, Beijing and Taiwan Mandarin as well as Hong Kong Cantonese belong to the transition Type B~C where *méi* and *mou5* respectively are special forms of negative existential which have, on the one hand, extended their use to general verbal negation, while on the other hand, have yet to become the general negator; *méi* and *mou5* co-exist with *bù* and *m4* as standard negators in Mandarin and Hong Kong Cantonese respectively. Gaozhou Cantonese, unlike the others, has *mau5* as the general negator which, following Yue (2001), Zhang (2002), and Law (2014), I suggest that *mau5* is derived from *mou4* (once a special form for negative existential) and the existential predicate *jau5.* Since the existential predicate *jau5* 'have' can optionally appear with *mau5* even in negative existential contexts, Gaozhou Cantonese is an example of Type C~A, which means that the existential content of *mau5* has bleached to the extent that it has become a normal verbal negator, thus compatible with the existential predicate without creating any redundancy or clash. The historical development and the attestation of the NEC in the four Chinese varieties provide solid evidence that *méi* in Mandarin varieties, *mou5* in Hong Kong Cantonese, and *mau5* in Gaozhou Cantonese are strongly connected with the concept of (non-)existence. In the next section, I will show how being verbal negators that bear historical and semantic connection with non-existence has conditioned their distribution, and can account for important generalisations regarding the systematic interpretational difference created by the choice of negator in Chinese bare negatives as presented in Chapter 2.

4.5 Realisations of standard negation

In Chapter 2, the empirical findings on bare negatives showed that, where a variety has more than one negator, the negators are not necessarily in complementary distribution; rather, the

choice of negator often creates a semantic contrast. The pattern is systematically that the negators that originate from the negative existential predicate following Croft's NEC (see the discussion in the last section) — Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5* — always negate the proposition by denying the existence or realisation of the situation concerned, whereas the other negators — Mandarin *bù* and Hong Kong Cantonese *m4* — negate the proposition with an extra level of meaning involving lack of volition or habituality. For ease of exposition, I will henceforth refer to the first group (i.e. *méiyǒu* and *mou5*) as NegA and the second group (*bù* and *m4*) as NegB. Moreover, Chapter 2 also shows that Gaozhou Cantonese is a Chinese variety with only one standard negator. The negator *mau5* despite having developed from the NEC, allows for all three interpretations in isolation (i.e. non-existence, lack of volition, or lack of habituality), the exact reading being determined either by formal markings (e.g. aspect markers, sentence-final particles) or by the context.

According to Miestamo (2005: 42), 'standard negation' (SN) is a construction that modifies "a verbal declarative main clause expressing a proposition *p* in such a way that the modified clause expresses the proposition with the opposite truth value to *p*, i.e. ¬*p*, or the proposition used as the closest equivalent to ¬*p* in case the clause expressing ¬*p* cannot be formed in the language, and that is (one of) the productive and general means the language has for performing this function." However, the meaning of this negative sentence which expresses ¬*p* can be ambiguous in the sense that the strategies for generating a ¬*p* proposition can be multiple. In short, although all five negators investigated here are standard negators in their respective variety, they display three distinctive ways of negating the proposition. The remainder of this section will first propose an analysis to resolve the issue of what determines the choice of negator in systems involving more than one standard negator, especially for non-psych stative and achievement predicates which are the only two types of predicates where the choice of negator can produce a difference in grammaticality, by probing into the nature of the two classes of negators. Then, the focus will turn to the negation system of Gaozhou Cantonese, which is a less familiar system as far as Chinese negation is concerned, though not so typologically. Note, however, that this section will concentrate on bare negation; issues related to negation with overt aspect marking will be discussed in Chapter 5.

4.5.1 Negation as non-existence: Mandarin *méiyǒu* and HKC *mou5*

NegA involves two negators — *méi(yǒu)* in Beijing and Taiwan Mandarin, and Hong Kong Cantonese *mou5* — which are both standard negators developed from Croft's Negative-Existential Cycle as discussed in section 4.4. Therefore, the negation that they express states the non-existence of the situation denoted in the predicate. Note that this is fundamentally different from a negative existential construction though the same forms are also used for such constructions as shown in the previous section: as standard negators, they deny the existence of a situation, while as a negative existential predicate they deny the existence of their argument, which is an entity. This forms a natural line of grammaticalisation where first the non-existence of tangible objects (e.g. pencils in the classroom) is expressed, then more abstract entities (e.g. freedom, moral), and finally events and situations (e.g. dancing, writing of the letter). Yet, so far, the discussion has focused on the diachronic origin of these negators and the semantic connection between their different functions, the precise formal operation involved has still not been addressed. I propose that, formally, NegA negates the proposition expressed in the predicate by first enclosing the proposition with the existential quantification which is then negated; NegA itself realises both the existential quantifier and negation (i.e. Neg + ∃). This follows logically from its historical origin and semantics: these two negators, *méi(yǒu)* and *mou5,* not only share the same historical origin of being a standard negator that developed from the negative existential predicate following Croft's NEC, but, more importantly, they are both of Type B~C in the Cycle. As Type B~C negators, *méi(yǒu)* and *mou5* are special forms of the negative existential predicate which have extended their negative function to predicates other than the existential predicate (i.e. a standard negator), but have yet to be generalised to the whole grammatical system (i.e. not a general negator) since negation in the two Mandarin varieties can also be expressed by *bù* 'not' and in Hong Kong Cantonese by *m4* 'not'. But the question is: why would it be necessary for NegA to provide existential quantification for the predicate in bare negatives? The short answer is: Chinese sentences with bare predicates are not quantified.

The issue goes back to Davidson's (1967) original proposal for an event argument which all action sentences possess, and upon which adverbial modifications are applied. This is briefly illustrated in (60) (Davidson 1967: 92):

(60) a. Shem kicked Shaun.

b. (∃*x*) (kicked (Shem, Shaun, *x*))

In the classical Davidsonian approach, the verb *kicked* is a three-place predicate with an Agent, *Shem,* a Theme *Shaun,* and an event argument *x* which represents the event of *kicking/kicked.* Crucially, in the logical form in (60b) the event variable *x* is quantified by an existential quantifier. This existential quantification was inspired by Reichenbach's (1947) proposal that ordinary action sentences have an existential quantifier binding the 'action variable' and that the sentence per se does not describe an event, it is the presence of existential quantification over the action variable that states the truth condition for the sentence that: if the action sentence is true, "there is an event that makes it true", hence the necessity of an existential quantifier binding the English declarative sentence in (60).

In Chinese, however, this 'necessary' existential quantification over the event variable may not be taken for granted as easily in its bare declaratives. Huang (1990) pointed out that in bare declarative sentences — declarative sentences without any temporal modification by aspect markers or adverbials — like (61a), the sentence does not involve an existential quantification, the presence of the perfective aspect marker *le* adds the existential quantification back to the logical form of the sentence as in (61b).

(61) Existential quantification (Huang 1990: 58)

a. 他吃飯

ta chi fan

(literally, ⟦He eats rice⟧)

= eat (he, rice)

b. 他吃**了**飯

*ta chi-**le** fan*

he eat-**PFV** rice

(literally, ⟦He ate rice⟧)

= (∃*e*) (*e* = he eats rice) (*e* happened); or

= (∃*e*) (eat (he, rice, *e*))

Tang & Lee (2000) and Tsai (2008) have made a similar observation that bare simple declaratives are 'incomplete' (presumably, non-referential, though grammatical) in the sense that they cannot stand alone as independent utterances. Sentences like (62a) are cases in point. In Huang's analysis, these bare declaratives lack existential quantification, but in Tang & Lee (2000), Tsai (2008) and earlier works such as Kong (1994), it is suggested that the 'incompleteness' effect results from lack of anchoring. To Kong, anchoring is understood in line with Enç's (1987) temporal anchoring, according to which an event is anchored with respect to the moment of speech or a reference event. Tang & Lee (2000: 2) extended this idea to another means of anchoring, focus anchoring, by which "an item is anchored with respect to a reference set of items, or an event is anchored vis-à-vis a reference set of events". Specifically, aspect marking (e.g. perfective *le* and experiential *guo*) provides temporal anchoring, so that, when *le* is present in a sentence like (61a), the output sentence (61b) is 'complete'.[41] Interrogatives and contrastive focus provide focus anchoring to the structure, while negation is regarded as the strategy for both temporal and focus anchoring, (62b), since negation induces focus effects in contrasting the situation or event depicted with an alternative set of

[41] Tsai (2008) reported a different grammatical pattern regarding perfective *le.* He suggests that simple affirmative declarative sentences marked by perfective *le* (or *-le*[1] in his original terminology) alone are still incomplete; (i) illustrates his point (Tsai 2008: 677):

(i) %*Akiu na-le shu*
Akiu take-Prf book
'Akiu took books.'

According Tsai, following a three-layered analysis of aspectual projections, only outer aspects can undergo Asp-to-T raising and instantiate a lexical tense operator for tense anchoring. In Mandarin, only progressive *zai* and experiential *guo* are outer aspects, while perfective *le* and durative *zhe* are middle aspects, hence *le* cannot move to T and no tense anchoring is present in a structure such as (i). However, based on the empirical findings in section 3.2, summarised in Table 3.1, there is little indication of such contrast between *le* on the one hand and *guo* or *zai* on the other. Expectedly there will be considerable variation in acceptability according to the situation type concerned, but taking activity sentences for a comparable sample with example (i) in Tsai, the simple declarative sentences marked by *le, guo* and *zai* are all fully acceptable – scored 4.7/5.0, 5.0/5.0 and 5.0/5.0 respective – the difference is not substantial enough to render the *le*-sentences incomplete or unacceptable to Mandarin speakers. Therefore, in the rest of this thesis I will still consider *le* as an aspect marker that can provide temporal anchoring in Mandarin, while leaving aside the three-layered approach of aspect marker classification for further research.

situations or events — presumably between the affirmation of the proposition denoted and its denial.

(62) Negation as anchoring strategy

a. 他吃蘋果

ta chi pingguo

he eat apple

'He eats apples.' (Mand.; Tang & Lee 2000)

b. 他**沒**吃蘋果

ta ***mei*** *chi pingguo*

he **not** eat apple

'He didn't eat an apple.' (Mand.; ibid.)

The observation of bare declaratives in Chinese being 'unquantified' in Huang (1990) (or 'unanchored' *a la* Tang & Lee 2000) could be connected to the lack of grammaticalized tense in Chinese, and hence no tense marking is obligatory. In fact, the idea that the Davidsonian $\exists x$ entails an "element of time (or tense)" came as early as Lemmon's comment on Davidson's analysis in the same 1967 volume, in the sense that for a sentence like 'Shem kicked Shaun' to be true, it not only requires that there is an individual, *Shem*, and an individual, *Shaun*, such that the former has performed a *kicking* action on the latter, but that this action took place sometime in the past, hence *kicked* but not *is kicking* for instance.[42] The important point here is that the event variable, as with all variables, has to be bound. If according to Reichenbach (1947) and Davidson (1967) that the event variable (*e*) is bound by an existential quantifier, this quantification would bring an existential reading to the event — 'there exists an event, such that…'. Since any realised event would have taken place at some point/period of time, the existential reading would necessitate further temporal specification to the proposition. This would be naturally fulfilled by tensed languages (i.e. languages where formal tense marking is obligatory), but for a tenseless language such as Chinese, temporal specification is

[42] Lemmon (1967) went on to claim an identification of events with their spatial-temporal locations. This is not the view that I will adopt here, but his insights towards to the importance of a time element in events are crucial.

marked by aspect markers which are optional. Therefore, in bare declaratives where aspectual marking, adverb of quantification or other means of 'anchoring' are absent, the logical form should be without an event variable, as there is no quantifier to bind it — no existential quantifier since there is no aspectual marking, no universal quantifier as adverb of quantification like *always* is also not present as in (63) (adapted from Chierchia 1995: 189):

(63) a. Fred always smokes.

b. ∀*s* [C(*f, s*)] [smoke (*f, s*)]

= 'For all situations *s*, such that the context, C, is when Fred *f* is present in the situation (e.g. Fred's office), Fred smokes.

The analysis above yield two important implications to the discussion on Chinese negation: first, bare declarative sentences in Chinese are not quantified; second, aspect and negation are strategies to provide quantification (or anchoring) to bare declarative sentences in Chinese. Assuming that bare declaratives are not quantified and that NegA is etymologically a combination of negation and the existential quantifier, when NegA applies to a bare declarative, it not only negates the proposition, but also first and foremost provides quantification for the otherwise unquantified sentence, that is, it brings back the Davidsonian ∃*e* to the logical form of the sentence, hence the systematic non-existence of the situation interpretation when NegA is used. To illustrate, the logical form of the Mandarin sentence in (61) under negation by NegA would be as (64) below:

(64) 他沒有吃飯

ta meiyou chifan

he not-have eat.rice

(literally, ⟦He did not eat rice⟧)

= (¬∃*e*) (*e* = he eats rice); and

= (¬∃*e*) (eat (he, rice, *e*))

Aspect marking can also quantify the sentence but in a slightly different way from NegA; I will return to the issue of aspect in Chapter 5.

4.5.2 Negation and genericity: Mandarin *bù* and HKC *m4*

Negation by NegB — Mandarin *bù* and Hong Kong Cantonese *m4* — involves a different mechanism. Tang & Lee (2000) have made an observation, in similar vein to Huang (1990), that sentences containing the copula *shì* 'be' or some stative verbs like (65) can be 'complete' without anchoring.

(65) 張三討厭李四

Zhangsan *taoyan Lisi*

Zhangsan dislike Lisi

'Zhangsan dislikes Lisi.' (Mand.; Tang & Lee 2000: 3)

In Chapter 2, two types of stative predicates were examined: psych states (e.g. 'to like') and non-psych states (e.g. 'to know'). The negation compatibility pattern shows that though stative predicates in general prefer NegB, psych states are compatible with both classes of negators; in other words, only non-psych states are incompatible with NegA. This observation has so far remained unresolved, but Tang & Lee's note in passing and the classification of Chinese predicates in Chen (2007) will shed some light on the matter.

Chen's (2007) dissertation proposed to classify predicates in Chinese along two dimensions: (i) statives versus eventives; and (ii) stage-level versus individual-level predicates. Table 4.14 presents the four logically possible types of predicates according to this classification.

Table 4.14. Classification of predicates (Chen 2007: 24)

	Stative	Eventive
Stage-level	A 病 *bìng* 'sick' 在家 *zài jiā* 'at home' 高興 *gāoxìng* 'happy' 熱 *rè* 'hot'	B 生病 *shēngbìng* 'fall sick' 看 *kàn* 'look' 贏 *yíng* 'win' 吃飯 *chīfàn* 'dine/eat' (lit. eat rice)
Individual-level	C 聰明 *cōngmíng* 'clever' 像 *xiàng* 'resemble' 善良 *shànliáng* 'kind' 好客 *hàokè* 'hospitable'	D 總是 V *zǒngshì (verb)* 'always V' 經常 V *jīngcháng (verb)* 'often V' 教書 *jiàoshū* 'teach'

Following the classification above, Chen proposes that in Mandarin, *bù* selects for stative predicates, and *méi(yǒu)* selects for stage-level predicates. In order words, *bù* is compatible with predicates of Types A and C, while *méi(yǒu)* can negate predicates of Type A and B. Type D is different from the other types of predicates in that it is a derived type. Stage-level eventive predicates (i.e. Type B predicates) can become individual-level predicates in the presence of either an overt quantificational adverb, such as, *zǒngshì* 'always' and *jīngcháng* 'often', or an empty modal. Verbs like *jiàoshū* 'to teach', for instance, can refer to one's profession as a teacher if an empty modal — presumably, for habituality or genericity — is present. At first sight, Chen's account runs into some empirical problems. On the one hand, although *bù* is argued to be compatible with Types A and C predicates, some Type A predicates, such as *bìng* 'sick', cannot be negated by *bù* (66).

(66) *小明不病

**Xiaoming bu bing*

Xiaoming not sick

Intended: 'Xiaoming is not sick.' (Mand.)

On the other hand, some Type B predicates like *kàn* 'look' (67) and *chīfàn* 'dine/eat' (68) are compatible with *bù* which poses another challenge to the predictions made in Chen's analysis.

(67) 他不看

ta *bu* *kan*

3.SG not look/see

'He does not want to see.' or 'He won't see.' (lit. 'he does not see.') (Mand.)

(68) 我不吃飯

wo *bu* *chi* *fan*

I not eat rice

'I do not want to eat (rice)' (lit. 'I do not eat (rice).') (Mand.)

In fact, the two problems are of different nature and easily resolvable. Assuming that Chen's analysis of Mandarin negation is on the right track, the first problem could be a matter of predicate classification, i.e. that *bìng* 'sick' is not stative, but should be classified as eventive similar to *shēngbìng* 'to fall sick'. The second problem may not be a problem given that Type B predicates can become individual-level predicates (Type D) when an empty modal is present. The real issue here is the nature of this empty modal. Similar proposals have been made by Huang (1988) and Ernst (1995). In the former, an empty modal is postulated to account for the modality reading (volition or habitual) that *bù* sentences often generate, as seen in (65-66) and discussed in detail in Chapter 2. In Ernst's account, an empty Asp^0 is proposed, to host a [+HAB(ituality)] feature which licenses the use of *bù*. Both accounts are similar in spirit, and they both suggest that, in the presence of this empty modal or Asp^0, *bù* is higher in the structure as it is adjoined to this empty head. The idea of establishing a connection between *bù* (and NegB in general) and habituality is highly plausible; however, the claim that *bù* is in Asp^0 or Mod^0 whenever it triggers a volitional or habitual reading goes against the empirical findings in section 4.3: the adverb distribution data have shown that the position of *bù* (and *m4* in Hong Kong Cantonese for that matter) remains low in spec-*v*P in bare negatives across the board. Therefore, a solution for what licenses the use of *bù* in Mandarin and *m4* in Hong Kong Cantonese, as well as the modality reading that they evoke, must be able to identify the

nature of this empty element, which has a modal nature expressing habituality or volition, but does not require NegB to move. I follow Chen (2007) in suggesting that this empty modality element is the generic operator (Gen) proposed by Chierchia (1995) for the distinction between individual-level and stage-level predicates.

Chierchia's (1995) proposal of a generic operator is made within the context of a broader discussion on the topic of genericity; his focus is on the distinction between individual-level and stage-level predicates. The main claim is that individual-level predicates (i-level predicates) are inherently generic as they have a generic operator (Gen) built into their lexical entry, whereas stage-level predicates (s-level predicates) are free to occur with or without Gen. The idea of a generic operator comes from the semantics of quantificational adverbs (a.k.a. Q-adverbs) such as *always* and *usually,* which Chierchia has summarised into five properties:

(69) Properties of quantificational adverbs (Chierchia 1995)

a. Q-adverbs can bind eventualities. (*Fred always smokes.*)
b. Q-adverbs can bind variables provided by indefinites. (***An Italian*** *is usually short.*)
c. Q-adverbs can bind variables provided by kind-denoting definites. (***This dog*** *is usually easy to train;* ***Dogs*** *are usually easy to train.)*
d. Q-adverbs can bind more than one variable. (***A cat*** *usually chases* ***a mouse****.*)
e. Q-adverbs can (by and large) freely select the arguments they bind. (***A cowboy*** *usually carries a gun.*)

[boldface added to indicate the arguments bound by the Q-adverb]

Gen is argued to possess all the above properties of Q-adverbs, in the sense that the presence of Gen in sentences like (70b) triggers the same semantics as the presence of a Q-adverb would as in (70a).

(70) Gen and Q-adverbs

a. Fred always smokes.

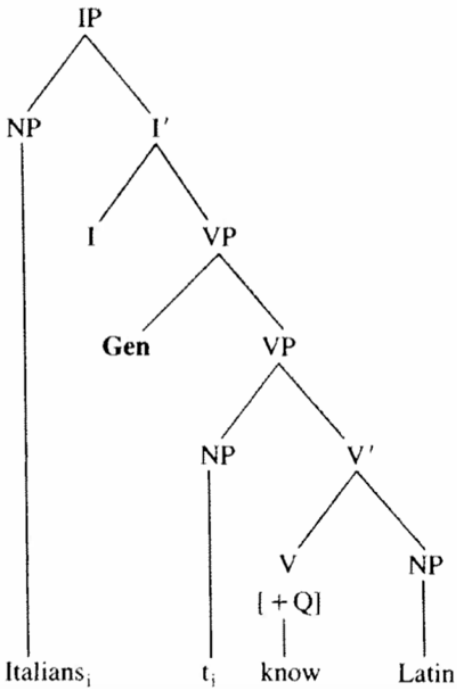
   ∀s [C(f,s)] [smoke (f,s)]

b. Fred smokes.

   Gen s [C(f,s)] [smoke (f,s)]

In other words, in the logical form, Q-adverbs are realised as the universal quantifier (∀). When Q-adverbs are absent but the predicate involved is an i-level predicate or it is an s-level predicate which is used in its generic form, the generic operator, Gen, is present in the logical form. The function and semantics of Gen and the universal quantifier are virtually the same; essentially, Gen is a modalised universal quantifier. There are two crucial claims in Chierchia's proposal, in relation to Chinese negation. First, i-level predicates inherently carry a habitual morpheme (Hab) which has a [+Q] and the [+Q] feature requires the presence of Gen, so that unless both [+Q] feature on the predicate and the Gen operator co-exists in the structure, the i-level predicate cannot be licensed. In Chierchia's model, the function of the [+Q] feature is to turn the VP into a function that looks for Gen, as illustrated in (71); if the search fails, the structure will be uninterpretable.

(71) *Italians know Latin.* (Chierchia 1995: 213)



In other words, there is a variable binding relation between Gen and [+Q] feature on V; Gen is the binder and the [+Q] is the variable to be bound. Hence, until the variable is successfully bound, the predicate cannot receive an i-level reading. The second claim is that Gen, being a modalised universal quantifier, indicates that the property it scopes over applies generically to the individual (the external argument). To quote Chierchia, for a property to apply generically

to an individual means that the property "holds for a substantial part of the existence of that individual", which includes laws, routines, habits, and the like that are "tendentially stable in time" (1995: 196).

The first point regarding i-level predicates accounts for the compatibility between NegB and non-psych states. The explanation for this compatibility pattern lies in the stative predicates used in the study: two psych states, *to fear* and *to like,* and two non-psych states, *to know (about something)* and *to know (someone).* In fact, applying the predicate classification in Chen (2007), it becomes apparent that the non-psych stative predicates are also i-level predicates, while the psych states are s-level predicates. Chen predicts that, in Mandarin, *bù* can negate both kinds of stative predicates, but *méi(yǒu)* can only negate s-level statives. The acceptability judgment results in the present study confirm her prediction. But the question is: why should *bù* (and *m4* in Hong Kong Cantonese) be able to negate i-level predicates while *méi(yǒu)* and *mou5* cannot?

The inherent selection story may be neat but it is essentially circular as well. I propose that NegB (i.e. *bù* and *m4*) are instantiations of negation and Gen. Since Gen is a modalised universal quantifier, it probes for a modal element in the structure, and only if such an element is present would Gen (and hence NegB) be licensed to appear. As far as bare negatives are concerned, when the predicate in VP is an i-level predicate, the [Hab] feature that it inherently bears will license the presence of Gen (and NegB). Here I have simplified Chierchia's account by eliminating the [+Q] feature which acted as the mediator between the habituality morpheme on V and Gen; and in my proposed analysis, the variable-binder relationship between [Hab] on V and Gen is reinterpreted as a Probe-Goal relation.[43] Hence, when the predicate is an i-level predicate (e.g. Hong Kong Cantonese *zi1dou3* 'to know (about something)', and Mandarin *rènshi* 'to know (someone)'), the natural choice of negator would be NegB. In the case when

[43] In fact, as far as standard negation is concerned, it makes little difference whether the relationship between Gen and [Hab] is analysed as a binder-variable relationship or a Probe-Goal relation. But later in Chapter 5, the discussion on complex structures and negation by NegB will show a clear inclination for the latter analysis where [Hab] as a modal element licenses Gen (and NegB); we will return to this issue in Chapter 5 section 5.4.2.

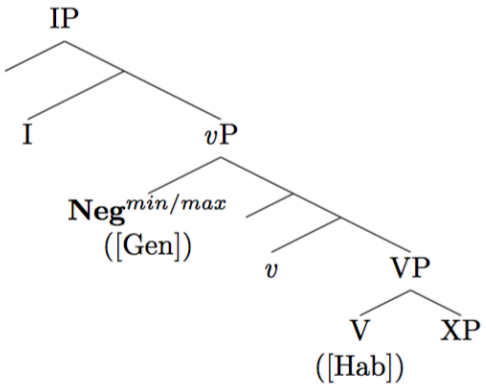
the VP denotes an s-level predicate, then there are two possible scenarios: (i) if the s-level predicate is free to take a generic form/reading — the s-level predicate allows for the [Hab] feature — then Gen is licensed by [Hab] in V and the resultant interpretation would be a generic, i-level one; but (ii) if the s-level predicate does not have a generic reading available, i.e. the [Hab] feature is not available, then a structure with Gen (hence NegB) present would crash as Gen is infelicitous without the licensing by a modal element.

The proposal here accounts for several important empirical observations. First, it explains why only NegB is compatible with the non-psych states in the study. The reasons are, first, that the non-psych stative predicates tested are also i-level predicates, and i-level predicates carry a [Hab] feature which licenses the Gen operator in NegB. If NegA is present instead, the generic reading produced by [Hab] on the i-level predicate in the structure will clash with the existential reading which NegA as NEG-$\exists$ encodes, hence the unacceptability of negating i-level predicates with NegA. Second, the postulation of NegB being the instantiation of both negation and the generic operator (NEG-Gen) straightforwardly accounts for the consistent lack of volition or habituality reading that a simple negative declarative sentence with NegB produces across Beijing Mandarin, Taiwan Mandarin and Hong Kong Cantonese. Third, the incompatibility between NegB and achievements can be explained not only by the fact that achievements, such as, Mandarin *yíng bǐsài* 'to win a race', are s-level predicates, but more importantly, they are s-level predicates that can hardly produce a generic reading. *To win a race*, for instance, is an instantaneous and spontaneous event, which may marginally allow for a habitual reading: an individual can have an intention to win a race, hence 'He wants to win races' is acceptable, but 'He wins races' can also be felicitous in very specific circumstances. One example would be a successful Formula One driver who always wins races, however, in this case, the winning of races would be read as a habitual fact (based on his track record) rather than the description of a single spontaneous event which is the very nature of an achievement. However, such an exception is less possible for other achievement predicates, such as *daa2laan6 zek3 bui1* 'shatter CL mug' in Hong Kong Cantonese or *rènchū Chén xiānshēng* 'recognise Mr Chan' in the Mandarin varieties; it is difficult to imagine someone who would take shattering mugs or recognising a particular individual as a habit. Semelfactives, in principle, should also be incompatible with NegB and genericity for its instantaneous nature. Nonetheless, semelfactives like *to cough* or *to hiccup* can easily be coerced as iteratives —

repeated occurrence of instantaneous events, e.g. coughing — and iteratives can under some marked circumstances be interpreted in an i-level way. For example, to interpret 'I do not cough' in a generic way would mean the individual never coughs, and this is one of his/her characteristics — a stable truth about this individual. Finally, recall how some bare declaratives containing a stative verb can be 'complete' without being 'anchored' according to Tang & Lee (2000). I suggest that these verbs carry the [Hab] feature, so long as they function as i-level predicates, as reflected in the intended reading of those sentences.

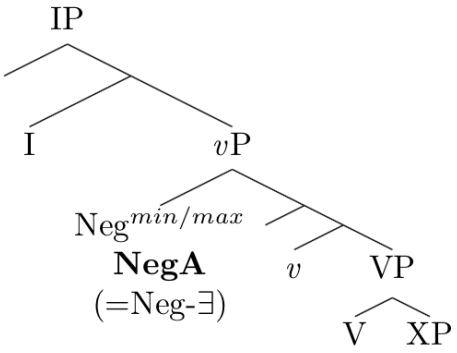
Therefore, in summary, the configuration for Chinese bare negatives is as (72).

(72) Bare negation structure in Chinese

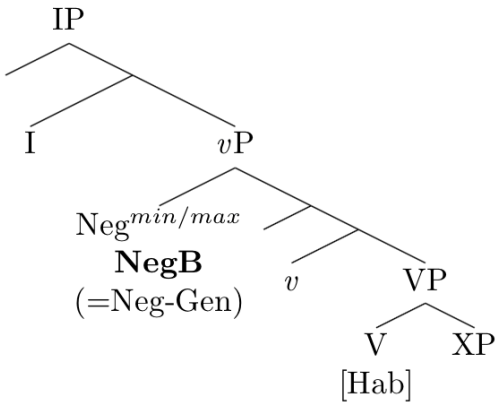


The generic operator, Gen, is realised when NegB is present; the habituality feature ([Hab]) is present on the verb depending on the nature of the predicate: an individual-level predicate comes with this [Hab] feature inherently, while a stage-level predicate does not. The negators, whether NegA or NegB, are generated in spec-*v*P as $Neg^{min/max}$. In the two Mandarin varieties and Hong Kong Cantonese, where more than one standard negator is available, NegA expresses non-existence of the situation since it instantiates both negation and existential quantification over the predicate (a.k.a. the event argument) as in (73), while NegB negates the sentence by stating a lack of habituality or volition, as it realises negation and the generic operator (cf. Chierchia 1995), as shown in (74).

(73) NegA and bare negatives



(74) NegB and bare negatives



The distribution of these two negators in bare negatives depends on whether the predicate allows for a generic/habitual reading, which is formally realised as the [Hab] feature. Most predicates optionally allow for a habitual reading, in that case, the choice between NegA and NegB is a semantic one: NegA constantly expresses non-existence, while NegB conveys a modalised negative involving habituality. But for achievement predicates which do not allow for a habitual reading, and for individual-level predicates that cannot be type-shifted to a stage-level reading, such as 'to know', then the choice between the two negators would create clear grammatical contrast; the former is only compatible with NegA, and the latter only with NegB.

4.5.3 Pure propositional negation: GZC *mau5*

The analysis proposed so far captures the distribution of the two standard negators in Beijing Mandarin, Taiwan Mandarin and Hong Kong Cantonese; Gaozhou Cantonese, however, does not share the same system of negation. There are three major differences between the

negation system in Gaozhou Cantonese and those in the other three Chinese varieties. First, it has only one standard negator, *mau5;* this fact has been established in Chapters 1 and 2. Second, as far as bare negatives are concerned, *mau5* does not display the restrictions on situation types that NegA and NegB would impose. The data in Chapter 2 reveals that Gaozhou Cantonese *mau5* is compatible with predicates of all situation types, with only a slight marginality when it negates achievements (the average score for negative achievement sentences is 3.9/5.0). Third, semantically, bare negatives in Gaozhou Cantonese are open to three interpretations: non-existence of the situation, lack of volition, and lack of habituality; in short, the interpretations introduced by both NegA and NegB in the other three Chinese varieties are available in Gaozhou Cantonese bare negatives as mentioned in Chapter 2. Based on these empirical facts, I suggest that Gaozhou Cantonese *mau5* is a 'pure' Neg, which falsifies the proposition just as Miestamo (2005) defines standard negation — it modifies a clause expressing the proposition *p* to express the proposition which has the opposite truth value to *p*, i.e. ¬*p*. Precisely *how* the proposition *p* is falsified is not specified by *mau5;* in Beijing Mandarin, Taiwan Mandarin and Hong Kong Cantonese, NegA specifies that *p* is false as the situation concerned is non-existent, while NegB falsifies *p* by stating that there is no intention or habit of realising the situation concerned. Therefore, what the standard negator, *mau5,* in Gaozhou Cantonese expresses is a 'pure' propositional negation.

The analysis concurs with the NEC classification made in section 4.4, that Gaozhou Cantonese *mau5* is of Type C~A while Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5* are of Type B~C. Being a Type C negator means that the negator developed from the negative existential predicate, and has then been grammaticalized into a verbal negator which can apply to the entire verbal grammatical system (i.e. there is polysemy between negative existential and ordinary verbal negation). And as the cycle moves on, "the negative-existential-cum-verbal-negator begins to be reanalysed as only a negator" (Croft 1991: 17), which is the case of Gaozhou Cantonese *mau5* since the positive existential predicate can optionally be used in negative existential construction once more, as illustrated in (75).

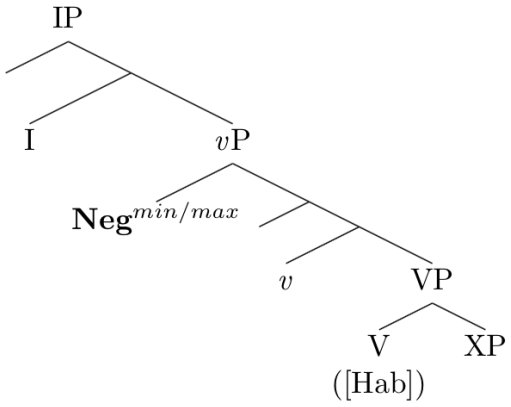
(75) 課室具冇**(有)**鉛筆

fosat	*gui*	***mau***	***(jau)***	*jinbat*
classroom	that.place	**not**	**have**	pencil

'There aren't pencils in the classroom.' (GZC)

If the characterisation of Gaozhou Cantonese *mau5* is on the right track, the configuration for Gaozhou Cantonese bare negatives would be as (76):

(76) Bare negative in Gaozhou Cantonese



Two questions remain: first, what provides existential quantification, ∃(*e*), for the proposition if *mau5* is just Neg (unlike NegA which is a combination of Neg and the existential quantifier)? Second, what binds the [Hab] feature on V, since *mau5* does not realise Gen? Indeed, since bare declaratives in Chinese are not 'quantified', as argued in Huang (1990), and that the existential predicate *jau5* 'have' has not grammaticalized as an existential auxiliary in Gaozhou Cantonese (it is an existential predicate, but not an existential auxiliary; see Chapter 2 section 2.3.3 for detailed discussion on the status of *mau5 jau5* 'not have' in Gaozhou Cantonese), quantification cannot be provided by the negator *mau5,* unlike NegA in the other varieties. However, this only means that quantification (or 'anchoring', cf. Tang & Lee 2000) needs to be marked by other expressions, namely, aspectual markers. As mentioned above, Gaozhou Cantonese bare negatives are open to three different interpretations; a typical example from Chapter 2 is repeated in (77).

(77) 我冇食己隻蛋糕

ngo *mau* *sik* *gei* *zik* *daangou*

I not eat this piece cake

a. 'I will not eat this piece of cake' — volitional

b. 'I do not (usually) eat this piece of cake' — habitual

c. 'I did not eat this piece of cake.' — existential/realisational (GZC)

There are two ways to disambiguate these readings: (i) contextual information, for instance, a question that the negative sentence forms an answer to, and (ii) aspectual marking. Examples (78-80) illustrate the two strategies.

(78) 你食己隻蛋糕嗎？

nei *sik* *gei* *zik* *daangou* *maa?*

you eat this CL cake Q

'Will you eat this piece of cake?'

– 我冇(想)食己隻蛋糕

ngo *mau* *(sieng)* *sik* *gei* *zik* *daangou*

I not want eat this piece cake

'I will not eat this piece of cake' or 'I do not want to eat this piece of cake' (GZC)

(79) 你平時食己隻蛋糕嗎？

nei *pingsi* *sik* *gei* *zik* *daangou* *maa?*

you usually eat this CL cake Q

'Do you usually eat this piece of cake?'

– 我(平時)冇食己隻蛋糕**(個)**

ngo *(pingsi)mau* *sik* *gei* *zik* *daangou* ***(go)***

I usually not eat this piece cake HAB

'I do not usually/normally eat this piece of cake.' (GZC)

(80) 你食喺己隻蛋糕嗎？

nei *sik-de* *gei* *zik* *daangou* *maa?*

you eat-PFV this CL cake Q

'Did you eat this piece of cake?'

– 我冇食**(過)**己隻蛋糕

ngo *mau* *sik(-**gwo**)* *gei* *zik* *daangou*

I not eat-**EXP** this piece cake

'I did not eat this piece of cake.' or 'I have not eaten this piece of cake.'[44] (GZC)

In (80), the experiential marker *gwo3* in the answer, provides existential quantification over the predicate in the same way as perfective *le* in Mandarin quantifies the proposition in Huang's (1990) analysis, as repeated in (81).

(81) (= 59) Existential quantification (adapted from Huang 1990: 58)

a. 他吃飯

ta *chi* *fan*

(literally, ⟦He eats rice⟧)

= eat (he, rice)

b. 他吃**了**飯

ta *chi-**le*** *fan*

he eat-**PFV** rice

(literally, ⟦He ate rice⟧)

= (∃*e*) (*e* = he eats rice) (*e* happened); or

= (∃*e*) (eat (he, rice, *e*))

[44] Another common strategy to negate perfective sentences is to use *mei6 jau5* 'not.yet have'. For instance, the answer to (80) can be:

(i) 我**未有**食己隻蛋糕

ngo ***mei*** ***jau*** *sik* *gei* *zik* *danngou*

I **not.yet** **have** eat this CL cake

'I have not yet eaten this piece of cake.'

In short, without any aspectual marking, adverb of quantification or other means of quantification, the event variable cannot be quantified and so cannot be present in the logical form, hence ∃(*e*) is absent in bare negatives marked by *mau5* in Gaozhou Cantonese, as with the bare declaratives in Chinese in general, which could explain why bare negatives in Gaozhou Cantonese are ambiguous between an existential reading and the modality readings which often rely on contextual information to disambiguate.

To resolve the second issue, consider examples (79) above and (82) below. The habitual reading is marked by the sentence-final habitual marker *go3.* In fact, in the Gaozhou Cantonese field recordings, speakers consistently used *go3* to disambiguate the habitual reading from other possible interpretations of a bare negative sentence as in (82):

(82) Gaozhou Cantonese Habitual marker

a. 我冇食肉

wo mau sik nuk

I not eat meat

lit. 'I not eat meat'

(i) 'I do not eat meat.' — habitual

(ii) 'I did not eat meat.' — realisational

(iii) 'I do not want to eat meat.' — volitional (GZC)

b. 我冇食肉**個**

wo mau sik nuk ***go***

I not eat meat **HAB**

'I do not eat meat' (perhaps a vegetarian). (GZC)

Therefore, where the habitual reading is the intended interpretation, the presence of the habitual marker *go3* is necessary to bind the [Hab] feature on the predicate, since no Gen operator is present in the negator *mau5* (unlike NegB, which is the negative form of Gen).

4.6 Conclusion

This chapter has presented three pieces of evidence in support for the proposal that *méi(yǒu)* in Mandarin, *mou5* in Hong Kong Cantonese, and *mau5* in Gaozhou Cantonese are not perfective negators but standard negators which negate the sentence by denying the existence of the situation denoted. First, as shown in corpus data from Taiwan Mandarin and examples from Hong Kong Cantonese, *yǒu/jau5* 'have' does not express perfectivity but existence, and hence should be regarded as an existential auxiliary. Second, in terms of adverb distribution, all the five standard negators investigated — NegA (*méiyǒu* in Mandarin and *mou5* in Hong Kong Cantonese), NegB (*bù* in Mandarin and *m4* in Hong Kong Cantonese), and *mau5* in Gaozhou Cantonese — share the same structural position, which is between $Asp_{retrospective}$ and $Asp_{generic/progressive}$ in the Cinque hierarchy. I thus argue that they are all in spec-*v*P, i.e. at the edge of the lower phase. The structural position of NegA shows that negators of that class cannot be the negative form of a perfective auxiliary (commonly assumed to be *yǒu/jau5* 'have') which would wrongly predict the realisation of negation to be adjoined to $Asp_{perfect}$ or $Asp_{terminative}$ which are both higher than $Asp_{retrospective}$. The attestation of Croft's Negative-Existential Cycle in Chinese *méi(yǒu), mou5* and *mau5,* provides a diachronic explanation for how these three negators are multifunctional in being both negative existential predicates and standard negators. And the fact that Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5* are both of Type B~C (i.e. the stage when negative existential predicates generalise to become verbal negators in part of the grammatical system) offers a coherent account for the grammaticalisation of these two negators from expressing non-existence of entities as negative existential predicates to expressing the non-existence of situations as standard verbal negators. On the other hand, Gaozhou Cantonese *mau5* as a Type C~A negator following the Croft's Cycle (i.e. a negative-existential-cum-verbal-negator that has been fully reanalysed as a general verbal negator) also concurs with the empirical facts that *mau5* expresses 'pure' propositional negation without specification for an existential or modality reading, unlike NegA and NegB in the other varieties.

Subsequently, this chapter has proposed a new analysis to account for the empirical observations in Chinese bare negatives, which boils down the compatibility between negation

and different types of predicates/situations. The observations can be summed up in three points:

(i) Only NegB can negate non-psych states;

(ii) Only NegA can negate achievements;

(iii) Elsewhere, the contrast between NegA and NegB is purely semantic: NegA expresses non-existence of the situation, NegB expresses a lack of volition and habituality.

I argue that NegB is the negative form of the generic operator *a la* Chierchia (1995). It comes into an Agree relation with the [Hab] feature on verbs. Extending Chen's (2007) analysis of Mandarin *bù,* I have suggested that NegB is compatible with predicates which allow a generic reading, which include predicates which are stage-level but can be interpreted with habituality. The added or derived habituality/modality reading comes from the generic operator in NegB. This explains why a stage-level predicate like 'to sing' is compatible with NegB in Chinese so long as the intended reading is e.g. 'I do not (normally/usually) sing.' The semantics and distribution of NegA follows naturally from its etymology as a standard negator developed from a negative existential predicate. Since bare declaratives in Chinese are by default unquantified, the presence of NegA in bare negatives not only negates the proposition but also provides existential quantification for the sentence. The effect is, on the one hand, that the resultant negative reading is one stating the non-existence of the situation, and, on the other hand, the existential quantification can type-shift individual-level predicates which allow for an existential reading, such as, 'to like', to stage-level predicates and thus become compatible with NegA. The analysis presented here provides a new understanding of the nature of the standard negators in the four Chinese varieties, and accounts for the distribution of different negators in bare negatives. The next chapter will move on to address the final question regarding negation with overt aspect, which will clarify the intricate relationship between negation and aspectual viewpoints in Chinese and languages beyond the Sinitic family.

Chapter 5

Definiteness and negation-aspect relations

5.1 Introduction

With the facts about negation-aspect compatibility established in Chapter 3 and the issue of the semantic contrasts created by the compatibility between negation and situation type resolved in Chapter 4, a final issue that remains to be addressed is the sensitivity to aspectual viewpoint markings in Chinese standard negation. The aspectual sensitivity may too easily be appropriated when the attention focuses on Chinese varieties with more than one standard negator, particularly Mandarin; sensitivity to aspect is often seen as an inherent property of the negators which determines their distribution; in other words, the labour of the two negators is divided by the aspectual specification in the sentence. Nevertheless, the fact that a Chinese variety with only one standard negator, such as Gaozhou Cantonese, still displays the same aspectual sensitivity in negation is surprising, and calls for a re-examination of the ultimate cause of this intricate relationship between negation and aspect in Chinese. The purpose of this chapter is to advance a new view and solution to this old puzzle regarding Chinese negation and aspect.

This chapter is structured as follows. Section 5.2 begins with a review of three main approaches to negation-aspect compatibility in the literature, namely, the morphological approach in Wang (1965), Huang's (1988) Principle P approach, and the aspectual selection approach adopted in most current works. The section will conclude that negation in Chinese is sensitive to aspect due to the low position in which aspect-markers are generated, but the compatibility between negation and individual aspectual viewpoints is triggered by a phenomenon more general than the aspectual feature clash suggested in the literature. Section 5.3 will examine the nature of aspect formally, and show that aspect can encode definiteness in assertion time of an event in the same way as articles encode definiteness in the reference of nominals.

Therefore, I will propose that aspect markers in Chinese carry a definiteness feature. Section 5.4, then, illustrates how this analysis accounts for the negation-aspect compatibility findings in Chinese varieties. The main claim is that definite aspect and negation are not compatible due to the presupposition effect that definiteness creates on the proposition. This correctly predicts that indefinite aspect, i.e. experiential aspect, is compatible with negation in so far as NegA (Mandarin *méiyǒu* and Hong Kong Cantonese *mou5*) and Gaozhou Cantonese *mau5* are concerned; the across-the-board incompatibility between NegB (*bù* and *m4*) and aspect-marking is due to the clash between the generic operator in NegB and the existential quantification necessitated by the presence of aspect. Section 5.5 concludes the discussion.

5.2 Explaining aspectual sensitivity in Chinese negation

In this section, I will introduce three main approaches towards negation-aspect compatibility in the literature, namely, morphological alternation, Principle P, and aspectual selection, and see how far each can account for the empirical observations made in Chapter 3. The section will close with a new analysis of the aspectual sensitivity seen in Chinese negation, which argues that the position of aspect in the clause is the reason behind it.

5.2.1 Morphological alternation approach

The morphological alternation approach was first proposed in Wang (1965), who offered the first formal analysis for the Chinese negation puzzle. Wang's main claim is that *bù* and *méi* are two morph-phonological realisations of the negator: the negator is realised as *méi* only when it is followed by a perfective marker *yǒu* 'have'. This includes both perfective and experiential aspects since Wang suggests that *yǒu* 'have' in *méi(yǒu)* and perfective *le* are two morphological alternants of the perfective morpheme, and the experiential marker *guo* is a contracted form of *yǒu-guò.* Wang's morphological explanation offers a simple solution to two compatibility issues: (i) the incompatibility between *méi* and *le,* and (ii) the incompatibility between *bù* and both perfective markers. Both issues are resolved by drawing morphological connections between the elements concerned: the first issue is accounted for by treating *méi*

and *le* as allomorphs, and the second issue by the claim that *bù* and *méi* are morphological alternants of negation. The idea that Mandarin *méi(yǒu)* is morphologically complex and decomposable and that *yǒu* 'have' in *méi(yǒu)* and *le* are allomorphs have been explicitly or implicitly adopted in subsequent studies (cf. Chao 1968; Teng 1973, 1974; Huang 1988; Lin 2003), probably because of the straightforward solution that the account offers.

The structure in (1b) largely captures the analysis that Wang (1965: 467) suggested, and examples (2-6) illustrate how the morphological connections work to generate well-formed Mandarin sentences.

(1) Wang (1965): *bù* > *méi* alternation

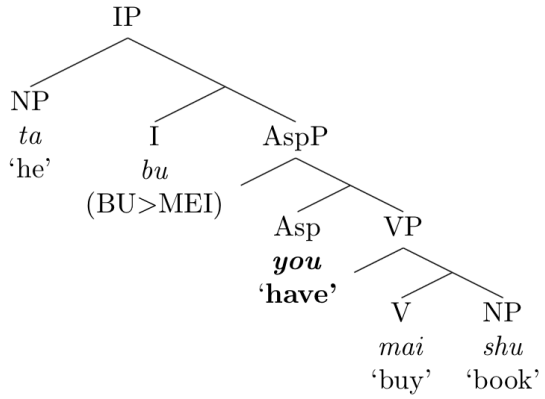
a. 我沒有買書

wo mei-you mai shu

I not-PFV buy book

'I did not buy books.' (Mand.; Wang 1965: 458)

b.



(2) a. 我買書

wo mai shu

I buy book

'I buy books.'

b. 我不買書

wo BU mai shu

I not buy book

'I do not buy books.'

(3) a. 我有買書

wo you mai shu

I PFV buy book

[*-you* > *-le*]

b. 我買了書

wo mai-le shu

I buy-PFV book

'I bought books.'

(4) a. 我不有買書

wo BU-you mai shu

I not-PFV buy book

[*bu > mei*]

b. 我沒有買書

wo mei-you mai shu

I not-PFV buy book

'I did not buy books.'

(5) a. 我有過買書

wo you-guo mai shu

I EXP buy book

[delete -*you*]

[lower -*guo*]

b. 我買過書

wo mai-guo shu

I buy-EXP book

'I have bought books.'

(6) a. 我不有過買書

wo BU you-guo mai shu

I not EXP buy book

[*bu > mei*]

[lower -*guo*]

b. 我沒有買過書

wo mei-you mai-guo shu

I not-EXP buy-EXP book

'I haven't bought books.'

The morphological alternation account seems to make the right predictions about the distribution of the two Mandarin negators in sentences marked as perfective or experiential, but it also runs into some problems. First, if negation is spelt out as *méi* when *bù* is followed by *yǒu,* which in Wang's analysis include the perfective and experiential aspects, then the prediction follows that whenever *méi(yǒu)* is the appropriate negator, the sentence must be marked by one of these two aspects. However, *méi(yǒu)* can sometimes negate imperfective sentences such as the following:

(7) *Méi(yǒu)* and *zai*

a. 他在說話

ta zai shuohua

he PROG say.speech

'He is talking.' (Mand.)

b. %/*他**不**在說話

%/* *ta* ***bu*** *zai shuohua*

he **not** PROG say.speech

'He isn't talking.' (Mand.; Ernst 1995: 693)

c. % 他**沒有**在說話

% *ta* ***meiyou*** *zai* *shuohua*

he **not-have** PROG say.speech

'He wasn't talking.' (Mand.; Ernst 1995)

(8) *Méi(yǒu)* and *zhe*

a. 他閉著眼睛

ta *bi-zhe* *yanjing*

he close-CONT eyes

'He has his eyes closed.' (Mand.; Teng 1973: 21)

b. * 他**不**閉著眼睛

* *ta* ***bu*** *bi-zhe* *yanjing*

he **not** close-CONT eyes

Intended: 'He does not have his eyes closed.' (Mand.)

c. 他**沒有**閉著眼睛

ta ***meiyou*** *bi-zhe* *yanjing*

he **not-have** close-CONT eyes

'He did not have his eyes closed.' (Mand.; Teng 1973: 21)

This may appear to contradict the conclusions drawn in Chapter 3 that imperfective aspects are incompatible with both *méiyǒu* and *bù,* but it is important to recapitulate that the overall acceptability of aspect-marked negative sentences is potentially attributed to three factors – (i) situation type-viewpoint compatibility, (ii) negation-viewpoint compatibility and (iii) negation-situation type compatibility, particularly the first two. In the case of imperfective-marked negative sentences, the findings in sections 3.5 and 3.6 have shown that their acceptability tends to vary considerably depending on the situation type of the predicate, especially when the negation involves *méi(yǒu)* (and Hong Kong Cantonese *mou5* or Gaozhou Cantonese *mau5*), but the fact that negation systematically worsens the acceptability of the sentence indicates an incompatibility between negation and imperfective aspect. In examples (7-8), the sentences involve an activity predicate, which is the source of frequent exceptions in terms of negation-aspect compatibility, in the sense that activity sentences are most well-

formed when negated and/or aspect-marked. The variation by situation type aside, the examples above still pose a challenge to the *bù-méi* alternation account, as negation by *méi(yǒu)* is sometimes marginally acceptable in imperfective activity sentences, which either shows that imperfective *zai* and *zhe* also contain *yǒu* underlyingly, or that negation can be realised as *méi* — in Wang's terms, the *bù > méi* alternation applies — even if it is not followed by *yǒu* (or perfective aspect in general). The first explanation is not plausible, since *yǒu* is argued to be a perfective marker, and an aspect cannot be both perfective and imperfective simultaneously. Furthermore, an attempt to remedy the analysis by suggesting that *bù > méi* applies when followed *yǒu* or by an imperfective aspect would render the morphological alternation account vacuous in explaining the distribution of *bù* and *méi* in Mandarin. Therefore, a more fine-grained account is called for in order to capture the intricate relationship between negation and aspect as well as the contrastive distribution of the negators.

The second issue with Wang's analysis is the morphological alternation proposed for *yǒu* and *le*. Li & Thompson (1981: 434-438) and Li (2007) have argued that, if this alternation is valid, then it would predict that all sentences negated by *méi(yǒu)* have an affirmative counterpart where perfective *le* is present, but this is certainly false. Take the negative sentence in (8c) as an example. If *le* is present in the affirmative sentence where *méi(yǒu)* is present in the negative, then the affirmative counterpart of (8c) would be (9), but the sentence is ill-formed.

(9) *他閉著了眼睛

** ta*	*bi-zhe-le*	*yanjing*
he	close-CONT-PFV	eyes

Intended: 'He has his eyes closed.' (Mand.)

In fact, the most critical issue is that *yǒu* 'have' and *le* are not allomorphs, as *yǒu* 'have' does not express perfectivity but existence of the situation; the evidence for this claim was discussed in detail in Chapter 4. Therefore, notwithstanding the neatness of the morphological account in Wang (1965), further empirical examination finds its fundamental claims contestable.

5.2.2 Principle P approach

The second approach analyses the incompatibility between *bù* and perfective and experiential viewpoints from a semantic angle. Huang (1988) proposed that *bù* always attaches to the first verbal element that follows it, and hence takes narrow scope over the verb. This is known as Principle P (Huang 1988:284):

(10) Principle P: The negative morpheme *bù* forms an immediate construction with the first V^0 element following it.

Principle P makes two important predictions. First, it predicts that any co-occurrences of *bù* with perfective *le,* experiential *guo,* or resultative (or manner-modifying) *de*-phrases will be ill-formed because of semantic anomaly. According to Huang, where both *bù* and *le* are present in the structure (i.e. *bù V le*), the negation scope would be [[*bù*-V]-*le*], because *bù* and V form an immediate constituent, so negation happens prior to the attachment of the perfective suffix. As a result, by the time *le* attaches to the verb, the negated verb already denotes a non-event — an event that does not exist — and since *le* and *guo* must modify a realised event, the semantic anomaly and apparent incompatibility are produced, (11). The same semantic anomaly is produced when a *de*-phrase modifies a negated event, (12).

(11) *Bù* and perfective

a. *我**不**買**了**書

*	*wo*	[[***bu*** *mai*]-***le***]	*shu*
	I	[[**not** buy]-**PFV**]	book

Intended: 'I didn't buy books.' (Mand.)

b. *我**不**買**過**書

*	*wo*	[***bu*** *mai*]-***guo***]	*shu*
	I	[**not** buy]-**EXP**]	book

Intended: 'I haven't bought books before.' (Mand.)

(12) *Bù* and complex predication

a. 他跑得**不**快

ta [*pao* *de* [***bu*** *kuai*]]

he [run DE [**not** fast]]

'He doesn't/didn't run fast.' (Mand.; Huang 1988: 278)

b. *他**不**跑得快

* *ta* [[***bu*** *pao*] *de* *kuai*]

he [[**not** run] DE fast]

Intended: 'He doesn't/didn't run fast.' (Mand.; ibid.)

Second, Principle P explains any exception where *bù* can appear with perfective *le,* or experiential *guo,* or the *de*-phrases by the presence of an auxiliary (overt or empty) which *bù* is attached to. This is illustrated in the following examples which involve negation by *méi(yǒu)* 'not have' (13), negation by *bú-shì* 'not-be' (14) and negation by *bù* and the modal *huì* 'will' (15).

(13) 他**沒有**跑得很快

ta ***mei-you*** *pao-de hen* *kuai*

he **not-have** run-DE very fast

'He didn't run very fast.' (Mand.; Huang 1988: 285)

(14) 他**不是**跑得很快

ta ***bu-shi*** *pao-de hen* *kuai*

he **not-be** run-DE very fast

'He doesn't run very fast/ it is not the case that he runs very fast.' (Mand.; ibid.)

(15) 他**不會**跑得很快

ta ***bu*** ***hui*** *pao-de hen* *kuai*

he **not** **will** run-DE very fast

'He will not run very fast.' (Mand.; ibid.)

Huang's analysis of *méi(yǒu)* is directly adopted from Wang (1965). He takes *méi(yǒu)* as *bù*-AUX where *méi* is the alternant form for *bù,* and *yǒu* is the perfective auxiliary in complementary distribution with *le.* In structural terms, Huang suggests that *méi(yǒu)* is base-generated higher than *bù* in INFL since *yǒu* is an aspectual auxiliary. (16-17) are the structures proposed for negation with *méi(yǒu)* and *bú-shì* 'not be' respectively, both indicating that the postverbal aspect marker is adjoined to the verb in V^0. Thus, a negative sentence with *méi(yǒu)* and experiential *guo* co-occurring would also have the structure in (18).

(16) 他們沒有騙李四

[$_S$ *tamen* [$_{INFL}$ *mei you*] [$_{VP}$ *pian Lisi*]
they not have cheat Lisi
'They didn't cheat Lisi.' (Mand.; Huang 1988: 284)

(17) 他們不是騙李四

[$_S$ *tamen* [$_{INFL}$ *bu-shi*] [$_{VP}$ *pian-le Lisi*]
they not-be cheat-PFV Lisi
'It is not the case that they cheated Lisi.' (Mand.; Huang 1988: 285)

(18) 他們沒有騙過李四

[$_{IP}$ *tamen* [$_{INFL}$ *mei you*] [$_{VP}$ [$_V$ *pian-guo*] *Lisi*]]
they not have cheat-EXP Lisi
'They never cheated Lisi.' (Mand.; Huang 1988)

Huang (1988) considers irrealis sentences to be on a par with modal sentences like (15). The only difference is that in (15) the modal is overtly realised, while sentences like (19) contain a null or silent modal which *bù* attaches to. Huang does not specify the exact nature of the modal; presumably that changes with the semantics of sentence. Following this line of argumentation, the negative sentence in (20) is acceptable if the intended reading is a modal one (20b).

(19) 如果你**不**跑得快，你就得不到獎品

ruguo	*ni*	***bu***	*pao-de kuai,*	*ni*	*jiu*	*de-bu-dao*	*jiangpin*
if	you	**not**	run-DE fast	you	then	get-not-COMPL	prize

'If you don't run fast, then you won't get the prize' (Huang 1988: 289)

(20) 他**不**跑得快

ta	***bu***	*pao-de kuai*
he	**not**	run-DE fast

a. * 'He does not run fast.'

b. 'He will not run fast.' (Mand.; Huang 1988: 290)

The analysis maintains that in those apparent counterexamples where *bù* can appear with V1 in *de*-sentences and whenever *bù*-negatives generate a volitional reading, *bù* is in I^0, attached to an empty modal which licenses its volitional reading as seen in (20); (21) presents the structure Huang proposed.

(21) 他們不喜歡李四

[$_{IP}$ *tamen* [$_{I'}$ [$_{INFL}$ *bu-Ø*		*xihuan*$_i$][$_{VP}$ [$_{V}$ t_i] *Lisi*]]]			
they	not-MOD	like	Lisi		

'They do not like Lisi.' (Mand.; Huang 1988: 287)[45]

The Principle P approach has made crucial discoveries about the distribution of *bù* and *méi(yǒu).* First, the position of *bù* is changeable while *méi(yǒu)* has a fixed position. The reason is straightforward: *bù* can attach to V or to an auxiliary or even to an empty modal, but since *yǒu* 'have' in *méi(yǒu)* is a perfective auxiliary, *méi(yǒu)* must be generated in the aspect projection where *yǒu* is. A related observation is that *bù* can be generated very low in the

[45] Since this example is taken from an early work by Huang, the structure still involved verb movement to INFL, which contradicts the current standard view that verb movement in Chinese is confined to the VP-shell (cf. Huang 1991, 1992, 1994, and more recent works). The structure given in example (21) is only there to illustrate the proposal made in Huang (1988), while the rest of the thesis follows the current view that Chinese verb movement only takes place within the VP-shell.

structure — immediately preceding V^0 — especially when there is no overt auxiliary in the sentence. In these cases, the interpretation of the sentence is ambiguous between negation of the situation and negation of the volition to realise the situation; the ambiguity in bare negatives was discussed at length in section 2.3.

The Principle P approach is not without limitations. Above all, Huang (1988) did not provide any independent evidence for the [[*bù*-V]-*le*] structure which is argued to produce semantic anomaly, apart from a few examples where new negators are formed by the compounding of negation and an auxiliary, such as, *bú-yòng* 'not-need' to *béng* 'needn't' and *bú-yào* to *bié* 'don't'; *méi(yǒu)* < *bù-yǒu* 'not have' is another example cited by Huang. The first two instances can be supported by principles of phonological change, but the case of *méi(yǒu),* as presented in Chapter 4, is scarcely supported by historical facts — *méi(yǒu)* is derived from *méi* as a negative-existential predicate merging with *yǒu* 'have' the existential predicate as part of Croft's negative cycle. Furthermore, the fact that the [[*bù*-V]-*le*] structure cannot be rescued by *bù* moving to the empty auxiliary head for a volitional reading, shows that [V-*le*] or [V-*guo*] is merged into the structure prior to the insertion of negation, and such combinations rule out negation by *bù.* Furthermore, while Principle P may explain the incompatibility between *bù* and the aspectual viewpoints, it fails to account for the incompatibility between *méi(yǒu)* and imperfective viewpoints. But the greatest challenge to Principle P is that adverbials can appear between *bù* and the verb as in (22).

(22) *Bù* and adverbials

a. 他不**在家大聲地**唱歌

ta	*bu*	***zai***	***jia***	***da***	***sheng***	***de***	*chang-ge*
he	not	**at**	**home**	**big**	**sound**	**DE**	sing-song

'He doesn't sing loudly at home.' (Mand.; Ernst 1995: 675)

b. 這種事他不**偷偷地**做

zhe	*zhong*	*shi*	*ta*	*bu*	***toutou***	***de***	*zuo*
this	kind	matter	he	not	**secret**	**DE**	do

'This sort of thing he doesn't do secretly.' (Mand.; Ernst 1995: 676)

c. 小明不**很快樂地**彈鋼琴

Xiaoming *bu* ***hen*** ***kuaile*** ***de*** *tan* *gangqin*

Xiaoming not **very** **happy** DE play piano

'Xiaoming doesn't play the piano happily.' (Mand.; Ernst 1995: 676)

The fact that *bù*-V can be interrupted by adverbials is a powerful counter-argument to the idea that *bù* and V^0 form an immediate constituent as suggested in Principle P. Ernst (1995) thus argues that *bù* is not a verbal clitic but a proclitic that unselectively attaches to the nearest host. The same line of argument is used to explain why *bù* can negate the predicate within the *de*-phrase but not the matrix predicate (23).

(23) *Bù* and *de*-phrases

a. 他解釋**得(很)清楚**

ta *jieshi* ***de*** ***(hen)*** ***qingchu***

he explain DE **(very)** **clear**

'He explains [it] very clearly.' (Mand.)

b. 他解釋**得不(很)清楚**

ta *jieshi* ***de*** ***bu*** ***(hen)*** ***qingchu***

he explain DE **not** **(very)** **clear**

'He doesn't/didn't explain [it] very clearly.' (Mand.)

c. 他**不**解釋**得(很)清楚**

* *ta* ***bu*** *jieshi* ***de*** ***(hen)*** ***qingchu***

he **not** explain DE **(very)** **clear**

Intended: 'He doesn't/didn't explain [it] very clearly.' (Mand.)

In Lee & Pan (2001) dismiss the whole idea that *bù* cliticizes (or attaches) to either the verb or the nearest host. They suggest that *bù* is not a clitic but a focus-sensitive operator with a tendency to negate the following word ('adjacency tendency' in their paper). In their analysis, the incompatibility between *bù* and perfective *le* or *de*-phrases can be remedied by an appropriate focus in the sentence; examples (24-26) are some cases in point.

(24) 張三故意**不**把所有的爛蘋果都扔**了**，為了惹你生氣

Zhangsan *guyi* ***bu*** *ba* [*suoyou*]^{f} *de* *lan* *pingguo*
Zhangsan deliberately **not** BA [all] DE rotten apple
dou *reng-**le**,* *weile* *re* *ni* *shengqi*
all throw-**PFV** for make you angry
'Zhangsan deliberately did not throw away ALL rotten apples, so as to make you angry.' (Mand.; Lee & Pan 2001: 709)

(25) 昨天要是他**不**跑得那麼快，就會誤了火車

zuotian *yaoshi* *ta* ***bu*** *pao-de name* [*kuai*]^{f}*, jiu* *hui*
yesterday if he **not** run-DE that [fast] then will
wu-le *huoche*
miss-PFV train
'Yesterday, if he had not run that fast, he would have missed the train.' (Mand.; ibid.: 708)

(26) 要是他**不**說得很快，他寫得很快，你要不要他？

yaoshi *ta* ***bu*** [*shuo*]^{f}*-de* *hen* *kuai,* *ta* [*xie*]^{f}*-de* *hen*
if he **not** [speak]-DE very fast he [write]-DE very
kuai, ni *yao-bu-yao* *ta?*
fast you want-not-want him
'If he does not speak very fast but he writes very fast, do you want him?' (Mand.; ibid.: 710)

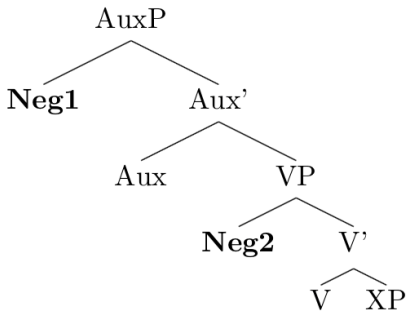
Note, however, that all the exceptional cases cited in Lee & Pan (2001) are either conditionals or interrogatives, and they are almost never mono-clausal. Therefore, the exceptional negation patterns found in those instances may not be comparable cases to the simple negative declaratives which Huang and Ernst are accounting for. Nonetheless, more will be said about these seeming counterexamples later in this chapter. In sum, the data on adverbial distribution has considerably weakened Huang's Principle P analysis, as well as the idea of using semantic anomaly as an explanation for the distribution of *bù* and *méiyǒu* as well as the compatibility

between negation and different aspectual viewpoints. Therefore, a more explanatory and comprehensive account is necessary to account for the empirical observations made in this thesis.

5.2.3 Aspectual selection approach

The third approach which is commonly adopted in contemporary analysis of Chinese negation is the aspectual selection approach. The core argument of this approach is that the distribution of *bù* and *méi(yǒu)* in Mandarin as well as the negation-viewpoint aspect compatibility can be captured by the aspectual requirement of the negators. Different proponents make different suggestions on the precise aspectual feature(s) that the negators select for or require: boundedness for Ernst (1995), stativity for Lin (2003), and Li (2007) offers the most elaborate account involving the agreement of four aspectual features between the aspect markers and the negators. In his 1995 paper, apart from the claim that *bù* is a proclitic instead of a verbal clitic, Ernst proposed that *bù* has an unboundedness requirement on its complement while *méi* selects for the contrary. Ernst argues that *bù*, as a negative adverb, can be generated in two positions: spec-AuxP and spec-VP as in (27).

(27) Positions of negation (Ernst 1995: 700)



To be precise, Aux here is a cover term for functional projections that can host aspect markers or modals; if an aspect marker is present, Aux means Asp; if a modal is present, it either means T or a more specific modal projection. In general, *bù* is base-generated in spec-VP, but Ernst argues for two conditions under which *bù* may be generated in spec-AuxP instead: either that there is an overt aspect marker or modal, or that Aux^0, though empty, hosts an aspectual feature 'strong' enough to be the host of *bù.* The former condition can be fulfilled when there

is a preverbal aspect marker in Asp^0 — perfective *yǒu* and progressive *zai* — or when a modal auxiliary is present. For the latter condition, Ernst adapts the empty modal analysis of Huang (1988) and postulates that the presence of a [+HAB(itual)] feature could also license the use of *bù,* as it cancels out the boundedness effect of *de*-phrases. This [+HAB] is realised by a habitual or future adverbial such as those in (28).

(28) Habitual expression and *bù*

a. 他跑步**從不**跑得快

ta	*paobu*	***cong***	***bu***	*pao*	*de*	*kuai*
he	run	**ever**	**not**	run	DE	fast

'He never runs fast.' (Mand.; Ernst 1995: 698)

b. **通常**他說話不說得很清楚

tongchang	*ta*	*shuohua*	*bu*	*shuo*	*de*	*hen*	*qingchu*
usually	he	speak	not	speak	DE	very	clear

'Usually he doesn't speak very clearly.' (Mand.; ibid.: 699)

Ernst concludes that *bù* cannot occur with perfective *le* or experiential *guo*, since *bù* has an inherent unboundedness requirement, and thus needs to agree in aspectual features with any aspect projection. Following naturally from its inherent aspectual requirement, *bù* cannot co-occur with any Asp head which is "either inherently perfective (i.e. *yǒu* 'have') or hosts a perfective suffix (i.e. *le* or *guo*)" (Ernst 1995: 695).

In the same spirit, Lin (2003) proposed an alternative by suggesting that stativity is the aspectual feature that Chinese negation is sensitive to. Specifically, Lin argues that *bù* selects for stative situations which require no input of energy, and *méi(yǒu)* selects for eventive situations. However, the explanatory power of this account is weakened by the empirical findings in Chapter 2 that the distribution of *bù* and *méi(yǒu)* (or 'not' and 'not have' in Beijing Mandarin, Taiwan Mandarin, and Hong Kong Cantonese) in bare negative sentences does not follow a strict [±stative] divide. In fact, both negators are acceptable with most situation types, except with non-psych states and achievements, which can be accounted for by the classification of predicates into individual-level and stage-level ones as presented in Chen

(2007). In light of these facts, in the analysis proposed in Chapter 4, I argued that it is the distinction between individual-level and stage-level predicates that is relevant to the distribution of NegA (*méiyǒu* and *mou5*) and NegB (*bù* and *m4*): for predicates carrying a habituality feature, [Hab] — which includes individual-level statives and predicates which allow for a habitual reading — NegB is the legitimate negator since it realises both negation and the Generic operator; only predicates which do not carry the [Hab] feature can be compatible with NegA and the reading is systematically one expressing non-existence of the situation.

Finally, Li (1999) puts forward a highly systematic and comprehensive account involving feature checking between the negators and the aspect markers. Li has, first, identified three types of adverbs or adjuncts, all in 'adjunct' position in X-bar theory, but different in the structural position they are generated in: Type I is in TopP, Type II is in TP, and Type III is in PrP (predicate phrase, largely corresponding to *v*P). The class of Type III adjuncts includes manner adjuncts and frequency adverbs, and Li suggests that *bù* is flexibly distributed with reference to adjuncts of this class, as illustrated in (29). Based on their flexible distribution, Li suggests that *bù* and Type III adverbs are of the same class, and are generated in the same position in the clause; the details of her analysis of adverbials were covered in Chapter 4 section 4.3.

(29) Type III adjuncts and *bù* (Li 1999/2007: 104-105)

a. 李凡**不**小聲說話

Lifan ***bu*** *xiaosheng* *shuohua*

Lifan **not** in.a.low.voice speak

'Lifan does not speak in a low voice.' (Mand.; Li 1999/2007: 104)

b. 李凡小聲**不**說話

Lifan *xiaosheng* ***bu*** *shuohua*

Lifan in.a.low.voice **not** speak

'If he has to use low voice, Lifan does not speak.' (Mand.; ibid.)

c. 我**不**經常去

wo ***bu*** *jingchang* *qu*

I **not** often go

'I do not go (there) often.' (Mand.; ibid.)

d. 我經常**不**去

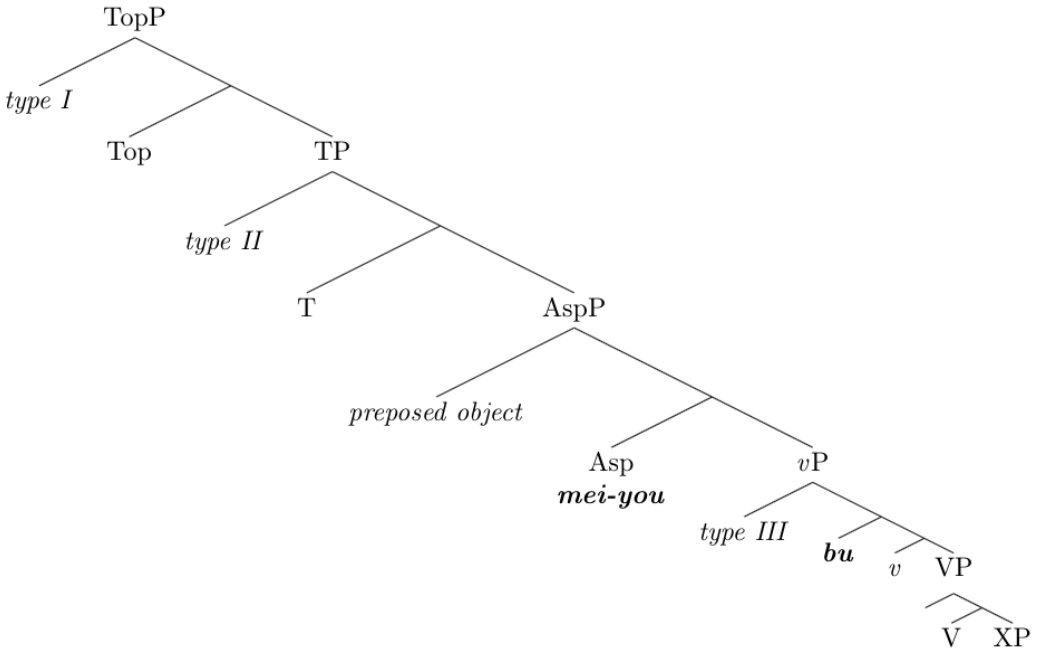
wo *jingchang* ***bu*** *qu*

I often **not** go

'I often do not go (there).' (Mand.; ibid.: 105)

Méi, on the other hand, is analysed as a prefix realising negation on the aspect auxiliary *yǒu* 'have', similar to the earlier accounts discussed. Therefore, the structure in (30) is proposed to capture the positions of the two Mandarin negators.

(30) Positions of Chinese adverbs (Li 1999/2007: 112-114)



To account for the negation-aspect compatibility constraints, Li postulates four aspectual features which the negators and the aspect markers are argued to inherently possess: [telic], [stative], [progressive], and [resultative]. Crucially, different negators and different aspect markers have different values specified for these four features; the values can be positive [+], negative [–], or neutral [o]. The feature compatibility tables are quoted below to summarise her predictions (Li 2007: 269-270); the presentation is slightly modified to facilitate the discussion.

Table 5.1. *Bù*-viewpoint feature compatibility.

BÙ / ASP	Telic	Stative	Progressive	Resultative	*Prediction*
LE	– +	– –	O –	– –	*
GUO	– +	– +	O –	– –	*
ZAI	– – (+)	– O	O +	– O	OK
ZHE	– O	– +	O O	– +	*

Table 5.2. *Méi(yǒu)*-viewpoint feature compatibility.

MÉI / ASP	Telic	Stative	Progressive	Resultative	*Prediction*
LE	+ +	+ –	O –	O –	*
GUO	+ +	+ +	O –	O –	OK
ZAI	+ – (+)	+ O	O +	O O	OK
ZHE	+ O	+ +	O O	O +	OK

Li's feature checking model postulates that the aspectual viewpoints are compatible with the negator that contains no conflicting feature specifications; for ease of comprehension, the features in conflict are shaded in grey in Tables 5.1 and 5.2. As a result, *bù* is expected to be only compatible with *zai,* while *méi(yǒu)* is compatible with all viewpoints except perfective *le* – note, however, that *méi(yǒu)* and *zai* are compatible only if the sentence has a derived [+telic] reading as in (31) as *méi* is argued to have changed the [–telic] activity into a situation with a derived [+telic] feature.

(31) *ta* *mei* *you* *zai* *da* *dianhua*
3.SGNEG ASP PROG call telephone
'She was not making telephone calls.' (Mand.; Li 2007: 264)

Li's aspectual feature checking approach seems to offer a neat explanation for the distribution of *bù* and *méi(yǒu)* in Mandarin aspect-marked structures, but this model also runs into both empirical and technical problems. Empirically, although Li (2007) has followed Smith's (1997) two-component theory of aspect in taking both the compatibility of negation with different situation type and the compatibility of negation with aspectual viewpoints into consideration, she did not factor out the impact of situation type-viewpoint compatibility in her analysis of negative aspect-marked sentences. The findings reported in Chapters 2 and 3 show that the overall acceptability of these negative aspect-marked sentences may not always be determined by the compatibility between negation and viewpoint aspect; the relationship between situation type and the viewpoints can sometimes be more important, particularly where imperfective viewpoints and *méi(yǒu)* (or negation by 'not have' cross-linguistically) are concerned. Therefore, the generalisations put forward in Li (2007) are only a partly accurate description of the relationship between negation and aspectual viewpoints. For instance, Li concluded that *bù* and *zai* are compatible, but the data in this thesis show that the result is ambiguous and easily confused by the impact of situation type-viewpoint compatibility. As recapitulated in Table 5.3 below, in Beijing Mandarin, *bù* is marginally acceptable (4.0/5.0) when negating *zai*-sentences that denote activities, but is regarded as very marked or unacceptable elsewhere; the result in Taiwan Mandarin is even worse.

Table 5.3. (=3.25) Cross-linguistic negation-viewpoint compatibility.

	BM		TM		HKC		GZC
	bù 'not'	*méi(yǒu)* 'not have'	*bù* 'not'	*méi(yǒu)* 'not have'	*m4* 'not'	*mou5* 'not.have'	*mau5* 'not'
PFV	*	*	*	*	*	*	*
EXP	*	✓	*	✓	*	✓	✓
IMPFV (be.loc)	* [S-V]	O [S-V]	*	O [S-V]	* [S-V]	* [S-V]	* [S-V]
IMPFV	*	* [S-V]	*	* [S-V]	*	* (S-V)	* (S-V)

Another example concerns *méi(yǒu)* and *zhe,* which Li predicts to be compatible with each other. The findings in the previous chapters show a contrary result: *méi(yǒu)-zhe* sentences are never fully well-formed. The only instances where they are marginally acceptable in Beijing and Taiwan Mandarin is, again, when the sentences denote activities, which shows that situation type has significant impact on the overall acceptability of negative aspect-marked sentences.

There is also a technical issue with this approach. Li (2007) does not provide any independent evidence to justify the features that she claims to exist intrinsically in the negators and the four viewpoint markers. The four aspectual features that Li postulates are: [telic], [stative], [progressive], and [resultative]. For instance, according to Li, perfective *le* presents bounded situations, so when *le* appears with accomplishments, the natural interpretation of the situation is completion. Consequently, viewpoint markers like *le* are assumed to carry a [+telic] feature. However, telicity concerns the presence of a natural final endpoint to the situation, and is often a feature used to classify predicates into different situation types. What perfective *le* does is to set an arbitrary boundary to the situation thus transforming the situation from an atelic situation to a telic situation. In other words, it is the derived situation that is telic not the aspect marker itself. Therefore, it is unclear how the concept of telicity can be applied to aspectual viewpoints or negation. Another problematic feature is [progressive] which is postulated for both aspectual viewpoints and negation. Progressive as an aspectual feature is unproblematic, but it is hard to conceptualise negation that expresses progressive aspect, except for the purpose of explaining the (in)compatibility between negation and progressive viewpoint. Therefore, though the aspectual feature checking approach may be helpful in accounting for negation-aspect compatibility, the justification for the features per se is rather weak.

5.2.4 The position of aspect and aspectual sensitivity in negation

To evaluate the appropriateness of these existing proposals, it is crucial to take a step back and recapitulate the key empirical findings regarding Chinese negation-viewpoint aspect compatibility that demand an account. Some of these findings are well-known in the literature, while others are newly brought to light in this thesis. First, NegB is incompatible with aspectual

viewpoints across the board in standard negation. The literature on Mandarin negation has, almost unanimously, recognized that *bù* is incompatible with perfective *le* and experiential *guo.* This thesis found the same pattern in Hong Kong Cantonese *m4.* Moreover, the compatibility pattern between *bù* (and *m4*) and imperfective aspects, which is relatively understudied, has been clarified. Based on the results reported in previous studies, Mandarin *bù* is compatible with progressive *zai* 'be.at', though there may be regional variation in its degree of acceptability, but *bù* and continuous *zhe* are incompatible, except when *bù* expresses habituality, according to Ernst (1995). The judgment results collected in the present study also found NegB and postverbal imperfective aspect to be strictly incompatible (i.e. *bù* and *zhe* in Mandarin, and *m4* and *gan2* in Hong Kong Cantonese). On the other hand, though NegB and preverbal imperfective 'be.loc' marker are also incompatible, the acceptability ratings show variation according to the situation type of the predicate. Therefore, the overall picture suggests that NegB in Mandarin and Hong Kong Cantonese is incompatible with viewpoint aspects in general, perfective or imperfective.

Second, NegA and Gaozhou Cantonese *mau5* are incompatible with most aspectual viewpoints in standard negation, except experiential aspect. One of highlights in the Chinese puzzle presented at the beginning of this thesis (see Chapter 1, section 1.1), is the incompatibility between negation by *méi(yǒu)* and the perfective aspect *le* in Mandarin. This is a 'puzzle' since the intuitive way of viewing the Mandarin negation system would be that the two standard negators function in different domains; in other words, *bù* and *méi(yǒu)* are presumably in complementary distribution. If that is true, it would follow that *méi(yǒu)* would be the legitimate negator where *bù* is unacceptable. Where aspectual viewpoint is concerned, since *bù* is incompatible with *le* and *guo,* the prediction would be that they are compatible with *méi(yǒu).* But this is plainly not borne out: although *méi(yǒu)* can co-occur with experiential aspect, the co-occurrence of *méi(yǒu)* and *le* is completely unacceptable; hence the considerable attention on the relationship between *méi(yǒu)* and perfectivity, and proposals for their morphological connection.

The three existing approaches sketched out in this section share some fundamental assumptions which heretofore seem neat, but, with the new empirical findings reported in the previous chapters, a review of these assumptions and proposals becomes necessary. First, the

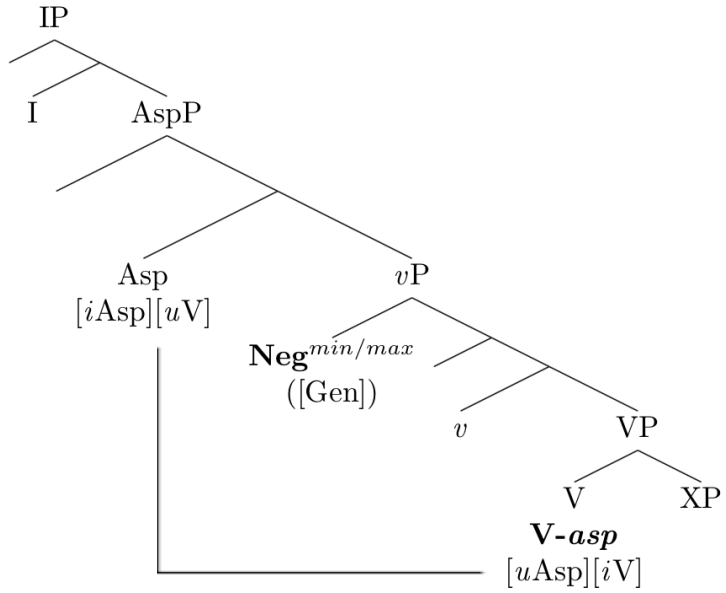
literature has considered *yǒu/jau5* 'have' as an aspectual auxiliary. In fact, all except Li & Thompson (1981) and Li (2007) have taken *yǒu* to be a perfective auxiliary — Li (2007) has rejected the analysis that Mandarin *yǒu* and *le* are allomorphs in complementary distribution, but she still considers *yǒu* 'have' to be an aspect auxiliary and *méi* as a negative prefix attached to it. The discussion in Chapter 4, however, has shown that this is not a valid assumption: corpus data show that *yǒu* in Taiwan Mandarin expresses existence not perfectivity, so does Hong Kong Cantonese *jau5.* Nevertheless, following from the assumption that the auxiliary 'have' is an aspectual auxiliary, the literature attributes the distribution of *bù* and *méi* to the aspectual nature of the negators: *méi* for perfective sentences, and *bù* for all other conditions, since *méi* is assumed to be the negative counterpart to the perfective marker *le.* Hence, the three existing approaches share a common configuration for Chinese negation where *bù* is in spec-*v*P (or spec-VP in earlier works) while *méi* is generated in a higher functional projection — $INFL^0$ in Huang (1988), Aux or Asp in Ernst (1995), and Asp in Li (1999/2007). However, the findings on adverb distribution in Chapter 4 show that the standard negators in the four Chinese varieties are all generated at the edge of *v*P, and the position of NegA is as low as NegB (i.e. spec-*v*P) not in Asp^0. In sum, all empirical evidence points to the same direction that auxiliary *yǒu/jau5* 'have' cannot be an aspect auxiliary, and NegA is not a negative perfective marker. Therefore, accounts based on the aspectual features or inherent aspectual selection of the negators might not be able to explain the negation-aspect compatibilities attested in the four Chinese varieties.

Another common assumption about Chinese negation is that the aspectual (in)compatibilities might stem from the fact that there is more than one standard negator in the system, hence the aspect sensitivity in negation may be a way of division of labour between the negators. Gaozhou Cantonese, however, presents a strong counterexample to that account. The fact that Gaozhou Cantonese standard negator *mau5* is the only standard negator in the language and yet still displays the same constraints in terms of aspectual compatibility as Hong Kong Cantonese *mou5* and Mandarin *méi(yǒu),* not only confirms their diachronic connection following Croft's negative existential cycle, but most importantly, it shows that, even if there is only one standard negator in the variety, negation can still be aspect-sensitive. Therefore, it is evident that the so-called Chinese negation puzzle is not so much about the division of labour between *bù* and *méi(yǒu)* or more generally NegA and NegB in the temporal/aspectual domain,

but it indeed involves more general issues concerning the relationship between negation and aspect. To clarify, the subject of Chinese negation-aspect relation involves two issues: (i) aspectual sensitivity in Chinese negation, and (ii) compatibility between negation and different aspectual viewpoints. I suggest that the answer to the first issue — aspectual sensitivity in Chinese negation — should not be attributed to any inherent aspectual feature in the negators, or to whether a variety has more than one standard negator, but the reason is rooted in the clausal position of aspect in Chinese. I will return to the second issue in the next section.

Based on the configuration for bare negatives proposed in Chapter 4, the following structure can be proposed for negation with overt aspect marking. Taking postverbal aspect as an example, the negative sentence will have the configuration in (32).

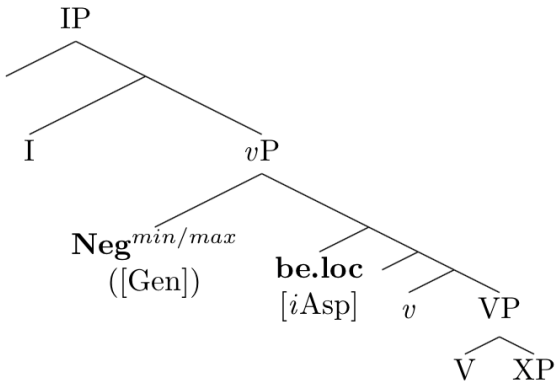
(32) Negation with postverbal aspect



Standard negation is generated in spec-*v*P as Neg$^{min/max}$. The Gen operator is present only if NegB is involved as NegB is the negative form of the Generic operator. Then, following the Agree approach to aspect proposed in Chapter 3, Chinese aspect markers are always generated within the lower phase and to the right of negation. When the aspect marker appears as a verbal suffix, I follow Ernst (1995) in suggesting that it is base-generated in V^0 and lexically attached to the verb when it is first merged into the structure.

The treatment of the preverbal imperfective 'be.loc' marker is slightly different: it is not base-generated in V^0, nor is it lexically inserted with the verb; it is generated in a projection within the *v*P.

(33) Negation with preverbal aspect 'be.loc'



The status of this position is left vague for reasons that will be made apparent shortly. Recall that the 'be.loc' marker is multifunctional — it can be an imperfective marker (a function most relevant to the present discussion) but it is also a locative copula functioning much like the preposition *at*, as in (34).

(34) 'be.loc' as a locative marker

a. 我**在**公園

wo ***zai*** *gongyuan*

I **be.at** park

'I am in the park.' (Mand.)

b. 我**喺**公園

ngo ***hai*** *gungjyun*

I **be.loc** park

'I am in the park.' (HKC)

c. 我**在**公園

ngo ***coi*** *gungjyun*

I **be.at** park

'I am in the park.' (GZC)

A thorough investigation on this marker goes beyond the scope of the dissertation (see Biggs 2014 for a comprehensive account of Chinese prepositions and locative markers; see also Williams 2017 for an alternative analysis which rejects the status of *zai* as an aspect marker). However, broadly speaking, the way to distinguish the two functions of 'be.loc' across the four varieties of Chinese is that, consistently, when it is a locative marker, it takes a location NP as its complement (34), whereas if it is an imperfective marker it selects for a verbal predicate as in (35).

(35) 'be.loc' as an imperfective marker

a. 我**在**唱歌

wo ***zai*** *changge*

I **be.at** sing

'I am singing.' (Mand.)

b. 我**喺度**唱歌

ngo ***haidou*** *coenggo*

I **be.loc** sing

'I am singing.' (HKC)

c. 我**在己**唱歌

ngo ***coi(gei)*** *coenggo*

I **be.here** sing

'I am singing.' (GZC)

Therefore, I suggest that when 'be.loc' is present in the structure, and is followed by the predicate instead of a locative NP, it is merged with an aspectual head low in the *v*P, and the [*¡*Asp] feature on the 'be.loc' marker would provide it with the appropriate aspectual interpretation. This analysis finds support from the Cinque hierarchy. As mentioned in Chapter 4, all standard negators under investigation are generated near the edge of *v*P, and the adverb distribution data shows that the negators must be located between $Asp_{retrospective}$ and $Asp_{frequentative(II)}$. Since (i) negation always precedes 'be.loc'; (ii) the aspect expressed by 'be.loc' is progressive; and (iii) progressive aspect is to the right of $Asp_{retrospective}$ in Cinque's (1999) functional hierarchy, the configuration proposed in (33) is justified by Cinque's hierarchy and

the relevant empirical observations.

I propose that the aspectual sensitivity in Chinese negation comes from the position of aspect being within the scope of negation as seen in the configurations in (32-33).[46] On the other hand, the negation-aspect compatibility attested should be attributed to a more general phenomenon, which I argue to be the presupposition effect. The presupposition effect seen in the negation of sentence with a definite expression is well-established. The proposal here builds on this established idea and, crucially, extends it to the verbal domain. I suggest that definiteness is encoded not just on nominals but also in temporality; to be precise, aspect realises verbal definiteness. The idea will be developed in full in the next section. If aspect encodes definiteness, and since aspect in Chinese is base-generated in the lower phase and under the scope of negation, negation is sensitive to the definiteness feature on the aspect markers. Therefore, parallel to how definite NPs have a presupposition of existence which is not cancellable under negation, predicates marked as definite by aspect markers are also presupposed to exist and this presupposition clashes with the non-existence that NegA and Gaozhou Cantonese *mau5* expresses. In contrast, predicates marked with an indefinite aspect will not have that presupposition of existence and thus there is no clash with negation. In Chinese, I will argue that the (in)definiteness distinction does not follow the perfective-imperfective dichotomy. While, in the Slavic languages, perfective aspect expresses verbal

[46] Attributing aspectual sensitivity in negation cross-linguistically to aspect being c-commanded by negation would be a bold claim that goes beyond the scope of this thesis, but it does explain the empirical facts in the four Chinese varieties examined. The validity of this claim in languages beyond the Chinese family, would await further typological investigation. This claim would hold if languages where negation c-commands the aspect projection indeed show sensitivity to the aspectual specifications to various extent and form; this can be realised as a paradigmatic asymmetry between negation and affirmation where negation is incompatible with certain aspects (cf. Miestamo 2005, Miestamo & van der Auwera 2011). On the contrary, if there are languages where negation c-commands aspect but there is no interaction between negation and aspect observed, then the claim may not be cross-linguistically applicable; some Romance languages, for instance, have high negation which would c-command Asp but they do not show the Chinese-type interaction between negation and aspect. For the interest of this thesis, the link between the position of aspect and the aspectual sensitivity in relation to negation is only suggested to capture the pattern in Chinese, rather than a cross-linguistic claim, but the claim deserves further investigation in future work.

definiteness and imperfective aspect indefiniteness, according to Leiss (2007) and Ramchand (2008), in Chinese, experiential aspect stands out in the class of perfective aspects in being an indefinite aspect. I will also argue that imperfective aspects are also definite. The concept of verbal definiteness and the reason behind my classification will be explicated shortly.

5.3 Aspect and verbal definiteness

Current literature has argued that definiteness exists beyond the nominal domain, and when definiteness is realised verbally, it is encoded in the temporal system, particularly in aspect. To understand the relation that aspect bears to definiteness, a basic understanding of the nature of aspect is in order. Therefore, this section begins with an introduction to the nature of aspect and how it is formally conceptualised in current theories. Then the discussion will move on to examine how the concept of definiteness can be applied to the temporal system, and how aspect can encode definiteness.

5.3.1 Formal understanding of aspect

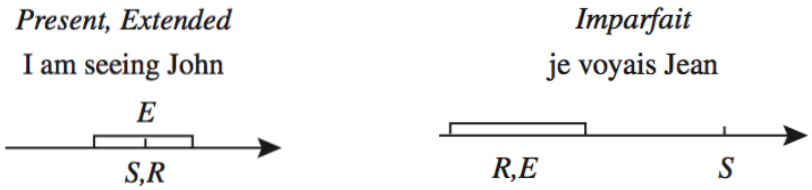
In Chapter 2, I introduced Smith's (1997) theory of aspect, Smith defines aspect as a concept involving two components: situation type and viewpoint. This conceptualisation of aspect has set the foundation for the investigation in this thesis. This section examines the nature of aspect from a formal perspective, in terms of the semantic and syntactic representation of aspect; I follow Stowell (1993), Demirdache & Uribe-Etxebarria (2000) and others in assuming the parallelism between these two representations of aspect.

Traditionally, tense and aspect have been conceptualised as temporal relations between two times. In Reichenbach's (1947) 'Tenses of verbs', temporality is understood in terms of the relation between three time points: point of speech (S), point of the event (E), and point of reference (R). The relation between S and R defines the tenses: past (R/E < S), present (R/E = S), and future (S/R < E). Aspect is represented by the relation between E and R: anterior, a.k.a. perfect, (E < R), simple (E = R), and posterior (R < E). In addition to the nine logical possibilities

('fundamental forms' in Reichenbach's terms) produced by the combination of the three tense relations and three aspect relations, habituality is represented by the 'extended' function as in (36).

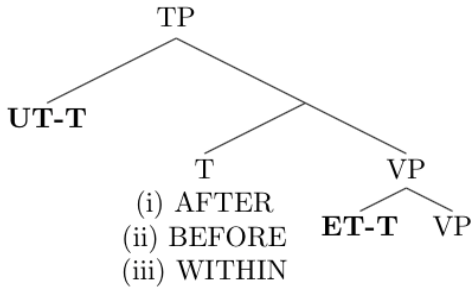
(36) Habituality (Reichenbach 1947: 73)

a. English present participle b. French imparfait



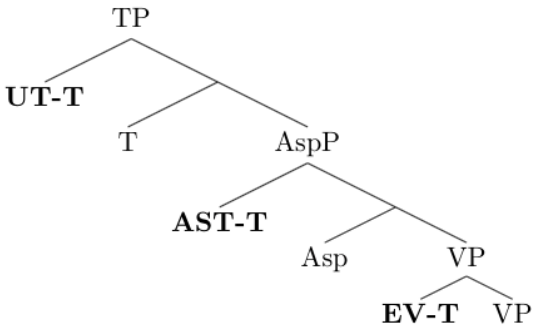
This three-point temporal relation is later re-interpreted in Zagona (1990) and Stowell (1993) and subsequent studies, where the semantic representations given by Reichenbach are syntactically captured based on theories of argument structure and phrase structure in the GB framework. In these later studies, Tense and Aspect are analysed as dyadic predicates which head maximal projections in the clause, i.e. TP and AspP, and they take time-denoting phrases – phrases encoding the different time points in the traditional semantic framework — as arguments. Stowell (1993; 2007a, b) suggests that Tense is a two-place temporal ordering predicate expressing three possible meanings which specify the relation between utterance time (UT-T) — comparable to Reichenbach's reference time, and typically the utterance time is the same as the reference time in a main clause — and the event time (EV-T). The three meanings that Tense expresses are: *after* for past tense*, before* for future tense*,* and *within (*or *at)* for present tense. These meanings are analogous to the spatial relations that those prepositions encode. The two time points, UT-T and EV-T, are analysed as the external and the internal arguments of the spatiotemporal predicate in T^0; (36) shows the structure proposed in Stowell (1993).

(37) Syntactic representation of Tenses (Stowell 1993)



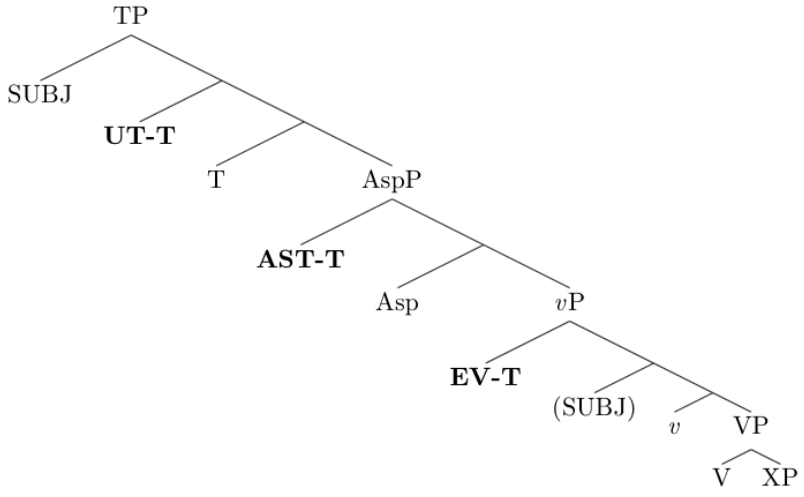
Aspect has been argued to mirror Tense in being a dyadic spatiotemporal predicate and to share a similar syntactic configuration as (37) in which the predicate in Asp^0 projects as AspP and takes two time-denoting constituents as arguments. Klein (1995) defines Aspect as a relation between Event Time and Assertion Time (AST-T). The latter concept is a formalisation of Smith's (1991/1997) idea that aspectual viewpoints put focus on parts of the situation denoted in the predicate, and only the focused part is available to the hearer for semantic interpretation; in other words, only the focused part is asserted; hence Assertion Time. In Klein's theory of temporality, Aspect relates Event Time to Assertion Time, and Tense relates Assertion time to Speech Time; the relation between Speech Time and Event Time is always mediated by Assertion Time, in a way reminiscent of how Reference Time (R) in Reichenbach's theory mediates between Event Time (E) and Speech Time (S). The structure of Tense and Aspect has been later unified by Demirdache & Uribe-Etxebarria (2000). Demirdache & Uribe-Etxebarria follow previous studies in analysing Tense and Aspect as dyadic spatiotemporal predicates. Asp^0 takes VP as its internal argument which denotes Event Time (EV-T), and takes a reference time equivalent to the Assertion Time (AST-T) as its external argument; Tense takes the AST-T as its internal argument, and another reference time which is identical to the Utterance Time (UT-T), a.k.a. Speech Time, as its external argument. Note that although both Tense and Aspect take a 'reference time' as their external argument, what that 'reference time' refers to varies depending on which temporal category it is an argument of. The structure proposed in Demirdache & Uribe-Etxebarria (2000: 163) is presented below.

(38) A unified representation of Tense and Aspect



The analysis in (38) stands on an important assumption that a phrase can have multiple specifiers, each fulfilling different functions of the head (Koizumi 1994, Ura 1994, Chomsky 1995). Specifically, Demirdache & Uribe-Etxebarria argue that "the inner specifier of TP would be the canonical position for the external (temporal) argument of Tense" (2000: 162), while the outer specifier of TP would be the landing site of the subject. Similarly, there are multiple specifier positions in the VP shell, and Stowell (1993) has argued for the EV-T to be the event argument (cf. Kratzer 1991), base-generated in the highest specifier position of the VP shell, i.e. EV-T is the highest and most external argument of the verb. Based on these conclusions, the structure in (38) can be revised as follows.

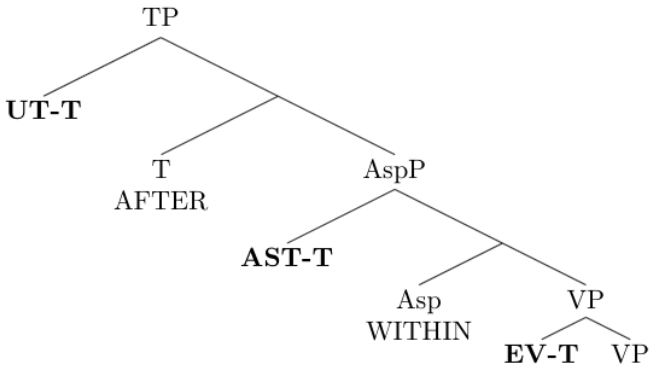
(39) A unified representation of Tense and Aspect (revised)



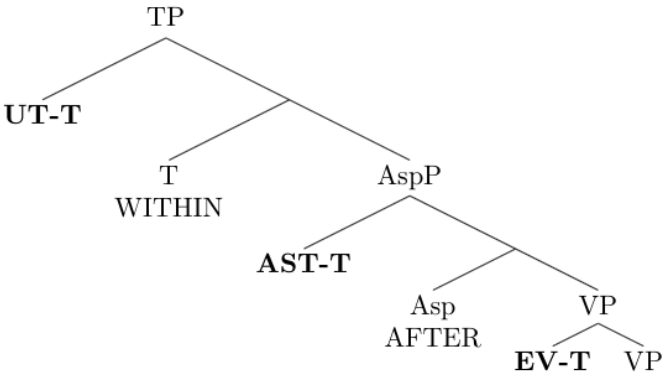
Semantically, the various aspectual viewpoints are defined by the same mechanism introduced in Stowell (1993) for Tense. Demirdache & Uribe-Etxebarria state that Perfect Aspect carries the meaning of AFTER, while Progressive Aspect expresses WITHIN. That is to say, Perfect

Aspect has the Assertion Time after the Event Time, while Progressive Aspect encodes simultaneity — Assertion Time is contained in the Event Time. (40) and (41) illustrate how the system works in the English examples (Demirdache & Uribe-Etxebarria 2000: 166-168).

(40) Henry was building a house. (Past progressive)



(41) Henry has built a house. (Present perfect)



In a way, the structural analysis in Demirdache & Uribe-Etxebarria (2000) bears a clear resemblance to the traditional semantic theory of Tense and Aspect, especially with the concepts of having three different time-denoting phrases for Utterance/Speech Time, Assertion Time (sometimes referred to as reference time) and Event Time, and to postulate their relations by precedence and containment. Ramchand (2008a, b) puts forward an alternative understanding of Aspect. In her theory, the assertion time is always within the 'time line' of the event; different aspectual markers would have different specification (e.g. at the onset of the event, towards the final endpoint of the event, etc.) and different degree of specification (e.g. can be a specific time moment, or any random moment within the run time of the event) concerning the position of the asserted time point along the event time line. With

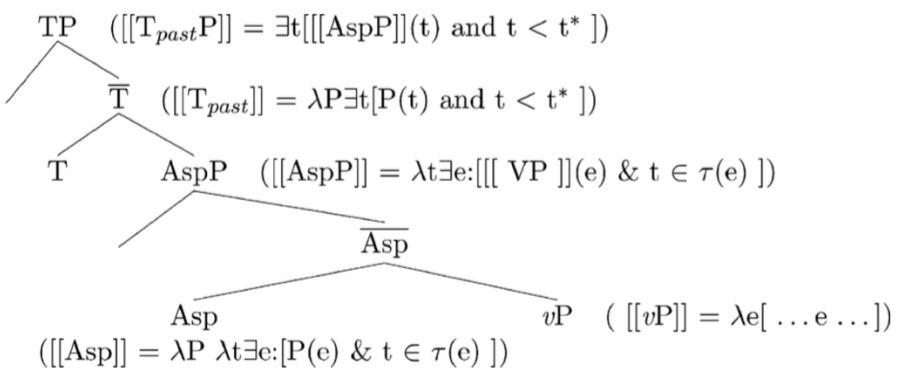
such a departure from the traditional interpretation of the relationship between assertion time/reference time and event time, the characterisation of, for instance, perfective aspect as referring to a time outside (precisely, after) the event time, and imperfective aspect as asserting a time within (or overlapping with) the event time becomes inappropriate. In its stead, Ramchand proposes that the perfectivity-imperfectivity division should be interpreted as whether the aspectual marker expresses a specific time moment in the time line of the event: if it does mark a specific time moment, then it is perfective, otherwise it is imperfective. In actual implementation, Ramchand suggests that Asp^0 is the functional head for assertion time, hence it is the functional category which introduces the time variable (*t*) in its specifier position, binds the event variable (*e*) which is in the highest specifier position in the VP shell, and most importantly, anchors/relates the event variable to the time variable by a temporal trace function τ(e) (cf. Krifka 1992). The precise relationship between the two variables depends on the content of the particular Aspect head, but, in its simplest form, the relation between the time variable *t* and the event variable *e* is as follows (adapted from Ramchand 2008a: 1701):

(42) $t \in \tau(e)$

(read as: the reference time (*t*) of the predication is one of the time moments in the temporal trace function of *e*.)

The structure in (43) illustrates the interaction between the time variable in Asp^0, the event variable in *v*P, and the tense variable *t** in TP, taking past tense and the simplest temporal trace function as an example (Ramchand 2008a: 1701).

(43)



Note that, unlike Giorgi & Pianesi (1997) and Demirdache & Uribe-Etxebarria (2000), Ramchand does not assume that the event denoted by the predicate provides a particular time, the time variable is only introduced by Asp^0. Therefore, in Ramchand's model, the first functional projection that provides temporal anchoring to the event structure in *v*P is the Asp^0 where the time variable is introduced to establish a temporal relation with the internal constituency of the event. The TP (or IP) which embeds the AspP will introduce another time variable and relate the 'constructed reference time' in AspP to the speech time. In some sense, the hierarchical structure proposed in Ramchand (2008a, b) and the configuration in Demirdache & Uribe-Etxebarria (2000) present a constant picture in the interpretation of tense and aspect: aspect anchors the event to a constructed reference time, which in turn is anchored by tense to the time of speech in the discourse. However, the alternative view of the relation between assertion time and event time presented in Ramchand (2008a, b) carries an important implication which is a parallel between temporal reference and nominal reference, precisely, between perfectivity and definiteness; section 5.3.2 will elaborate on this idea and argue that definiteness is indeed encoded in Chinese aspect, which holds the answer to the interaction between negation and aspectual marking.

5.3.2 Definiteness in the verbal domain

As mentioned above, Ramchand (2008a, b) captures the perfective-imperfective dichotomy in terms of whether a specific time point is referred to within the run time of the event; if it is, perfective aspect occurs. In fact, she proposes that "perfective events correspond to a *definite* assertion time/reference time AspP, whereas imperfective events correspond to an *indefinite* assertion time" (Ramchand 2008a: 1703). In other words, if an aspectual marker anchors the event to a specific time point in the event time line (*event temporal trace* in Ramchand's terminology), it is not only perfective but definite. The result is an impression of some "discrete" temporal relationship. An indefinite aspect, on the other hand, does not anchor the event to any specific time point, so the assertion time can be any time point arbitrarily within the event time frame.

The idea that aspect encodes definiteness is not completely novel. Empirically, evidence from historical change supports the claim that aspect and definiteness are related. Osawa (2007)

has suggested that languages with a strong aspect system — for instance, languages which make systematic formal distinction between perfective and imperfective aspects — tend not to have articles in their nominal system. Historically, once a language loses its aspectual system, articles and the determiner system may emerge. The link there, Osawa suggests, is that both aspect and articles (and determiners in general) can determine the referentiality of nouns. When articles are absent in the system, morphological case distinctions and sometimes word order can function to make referentiality distinctions on the nouns when certain aspectual and/or Aktionsart conditions are met (Osawa 2007). Typologically, no language can do without either a D-system or a morphological case system. Chinese has been cited as an apparent exception,[47] and Osawa postulates word order and aspectual information as possible remedies for Chinese.

Consider the case of Chinese, a reasonable doubt concerning this aspect-as-verbal definiteness proposal is: could a language without nominal definiteness marking formalise definiteness in its verbal domain? The short answer is yes. Osawa (2007) points out that Chinese, Slavic languages, Indic languages, Gothic and Old High German are good examples for the kind of typological tendency she describes. Russian, for instance, does not have articles but it is a well-established example where verbal aspect and nominal determination display close interaction; Leiss (2007) and Ramchand (2008a) both postulate that perfective aspect in Russian is definite. In Russian, the combination of case and aspect marking creates definiteness effects on the object NP: on the one hand, NPs marked with accusative case in Russian receive an indefinite reading if the predicate is imperfective, but would be read as definite if the predicate is perfective; on the other hand, a genitive case-marked NP with perfective aspect, would produce a partitive effect on the NP. When negated, the scope of negation is strongly

[47] Bošković (2005a, b, 2008, 2013) has suggested a connection between the absence of D-system and the absence of TP. Osawa (2007) here has noted that Chinese is the only exception in her language samples which lacks both an article system and case morphology, hence an apparent absence of D-system. In what follows in this chapter, I will illustrate and argue that Chinese does have a TP layer for temporal anchoring only that this function is mainly performed by Aspect Phrase, which itself encodes definiteness of the reference time of the event denoted by the predicate; a thorough discussion on the issue of the presence/absence of T^0 in Chinese, however, would go beyond the scope of this thesis.

connected to the aspectual specification and the case morphology on the object as illustrated in (44) (Basilico 2008: 1718-1719).

(44) Russian aspect-definiteness interaction under negation

a. *Saša* *ne* *vypil* *čaju.*
Sasha NEG drink.PFV tea.GEN
'Sasha didn't drink up the tea.'

b. *Saša* *ne* *vypil* *čaj.*
Sasha NEG drink.PFV tea.ACC
'Sasha didn't drink up the tea.'

c. *Saša* *ne* *pil* *čaju.*
Sasha NEG drink.IMPFV tea.GEN
'Sasha didn't drink the tea.'

d. *Saša* *ne* *pil* *čaj.*
Sasha NEG drink.IMPFV tea.ACC
'Sasha doesn't drink (the) tea.'

Basilico suggests that with a genitive object, negation always denies that the event has taken place regardless of whether the verb is marked as perfective (44a) or imperfective (44c). However, with an accusative object, there is an asymmetry in meaning sensitive to the aspectual specification on the verb: negation of a perfective predicate would only deny the perfectivity of the clause but not the event itself (44b), whereas, negation of an imperfective verb, (44d), would mean that the event does not take place on any occasion, i.e. a quasi-habitual reading.

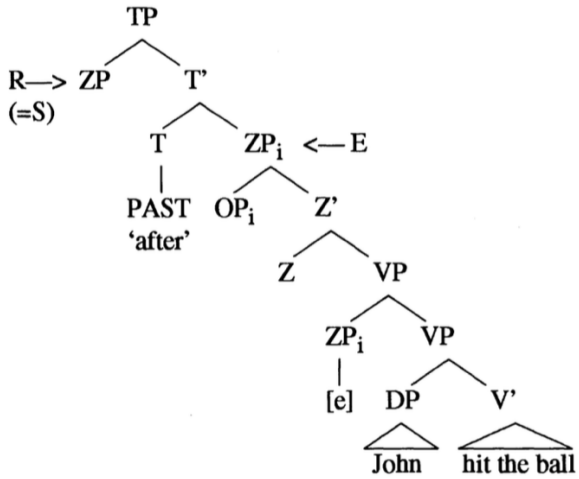
Apart from case marking, word order can also create definiteness effects — termed as 'iconic marking' in Leiss (2007); Old Icelandic is a case in point. The topic position is found to be the base for definiteness effects on nominals and perfectivity effects on verbs, so that verbs in V1-position are perfectivized. Therefore, in terms of case marking and word order, perfectivity and definiteness seem to be closely connected in languages without an article system. The claim is that perfectivity is definiteness in the verbal domain and based on the examples from Russian and Old Icelandic, verbal definiteness is plausible even in article-less languages.

I argue that Chinese presents a third type of system for marking definiteness. The first type of system marks definiteness in the nominal domain by an article system; English is a clear example of this type of languages. The second type of system lacks an article system but still marks definiteness on nouns by case morphology; Russian is a case in point where definiteness is indirectly expressed by the interaction of case and aspect morphology. The third type of system does not mark definiteness on nouns overtly (demonstratives aside) – both directly as by articles or indirectly by case – but express it only on the clausal level, either by word order as in Old Icelandic or by temporal categories such as aspect, as we shall see in Chinese varieties (section 5.3.3 will illustrate the point in detail).

In fact, a possible nominal-clausal parallel, i.e. that between DP and TP, has been discussed since Abney's (1987) seminal thesis, in which he postulated a functional layer, DP, embedding the NP that mirrors the Infl-VP phrase structure of the clause. Stowell (1996) has posited a functional category, Zeit Phrase (ZP), between TP and VP, which he suggests is analogous to DP in the sense that DP anchors the NP referentially, while ZP contains an operator in its specifier position which establishes temporal relations. The structure in (45) shows a simple English declarative sentence 'John hit the ball' in the past tense.

(45) Zeit Phrase (Stowell 1996: 281)

John hit the ball.



The structure contains three ZPs: the lowest ZP in spec-VP hosts the event variable, *e* — this corresponds to Kratzer's (1988, 1995) external event argument[48] and the Davidsonian event variable; the event variable is bound by the operator in a higher ZP (the one immediately embedding the VP), which denotes the Event Time; finally, a third ZP is the external (temporal) argument of $T_{[PAST]}$ which denotes the Reference Time. In a monoclausal structure such as (45), the Reference Time that the highest ZP denotes would correspond to the Speech Time; if the structure is biclausal, the Reference Time of the subordinate clause would be the Event Time of the main clause. The ordering of the Event Time denoted by the second ZP (internal argument of $T_{[PAST]}$) and the Reference Time denoted by the highest ZP (external argument of $T_{[PAST]}$) depends on the specification in T. Stowell argues that Tenses are predicates expressing 'after' (i.e. RT > ET) for Past, 'before' (i.e. RT < ET) for Future, and 'overlap or simultaneity' (i.e. RT=ET) for Present. In (45), T expresses 'after', thus the sentence is in the past tense.

The crucial point in Stowell's analysis lies in the analogy he draws between the semantics of ZP and the definiteness of DPs:

> "The semantics of the Event Time ZP, the internal argument of TENSE, is analogous to that of a definite or indefinite DP. With a stative predicate, the Event Time ZP is generally understood to have *definite* reference; in other words, it is typically understood as referring to a time already mentioned. With an eventive predicate, the Event Time ZP can have *either definite or indefinite* reference: it can either refer to a time already mentioned, or it can introduce a new time" (Stowell 1996: 281; emphasis added).

Ramchand (2008a, b) has reinterpreted Stowell's Event Time ZP as AspP; it is this reinterpretation that draws the connection between Aspect and definiteness in her analysis.

[48] Kratzer's event argument follows the Davidsonian event variable in spirit. In Davidson's (1967) original proposal, this event variable only appears in eventive sentences. In Kratzer's (1988, 1995) formulation, the presence/absence of the event argument is what distinguishes stage-level and individual-level predicates. Alternative views include Parsons (1990) and Chierchia (1995) which suggest that all predicates have an event argument.

Strictly speaking, Stowell's ZP is not AspP since it denotes the Event Time, not the Assertion Time or Reference Time (Reference Time ZP is an external argument of T). However, there are a few interesting resemblances between the two accounts. First, neither assumes that the thematic predicate encodes the Event Time (or any particular time) directly: Stowell (1996) postulates an Event Time ZP which embeds the VP, while Ramchand argues that Asp^0 is the first functional projection to encode a time variable *t.* Second, both accounts employ some binding operation to bind the Davidsonian event variable *e*: Stowell suggests that there is an operator *Op* in the specifier of Event Time ZP which is co-indexed (or binds) the event variable in spec-VP; Ramchand (2008a, b), on the other hand, suggests that the event variable in *v*P and the time variable in Asp are related by the temporal trace function τ(e).

The core difference between the two proposals lies in the fundamental understanding of the relationship between Assertion Time and Event Time. As discussed in the last section, Ramchand (2008a, b) departs from earlier accounts by arguing that these two times are not related in relative ordering (i.e. precedence or overlap), but that Assertion Time is always within the run time of the event, hence there is no functional projection which represents Event Time; the event variable in *v*P denotes the event but without temporal specification, the structure is not temporally anchored until the time variable is introduced by Asp and the relation is established between *t* and *e* by the temporal trace function. Therefore, what Stowell (1996) proposes as a variable binding relationship between the event variable in spec-VP and the Event Time ZP, Ramchand (2008a, b) has reinterpreted as the temporal anchoring of the event variable by the Assertion Time in Asp.

Crucially, Ramchand's interpretation of Assertion Time and the consequent characterisation of the perfective-imperfective division as specificity of the time point referred to within the event time frame has substantiated Stowell's proposal of a clausal-nominal parallel (i.e. ZP as analogous of DP). Following Ramchand's account, the referential function of DP to NP is echoed in the relationship between AspP and *v*P in two ways: first, bare NPs are generally understood to be predicative and hence require the DP projection to be type-shifted as an argument; analogously, *v*P denotes some predicate over events and the event variable per se does not give a particular Event Time directly, so Asp is the first functional head to merge with *v*P to bind the event variable and provide temporal anchoring to the event so as to create a predicate

over times so that the time can be further anchored to the discourse (Speech Time). Second, the reference of nouns and the temporal anchoring provided by Asp (i.e. the relation between *t* and *e*) can come in various degrees of specificity. Stowell (1996) understands definite reference by Event Time ZP as reference to a time already mentioned in the discourse while indefinite reference as introducing a new time; this is largely reminiscent of the familiarity property of definiteness in nominals. Ramchand (2008a, b), on the other hand, defines definite aspect as asserting one specific, unique time point in the event time line; hence definiteness is uniqueness in Ramchand's account.

In the literature on nominal determination, four conditions have been suggested to define definiteness (Lyons 1999), namely:

(i) the uniqueness condition: the definite noun phrase refers to the only entity which satisfies the description (relative to the particular context) (Russell 1905);

(ii) the familiarity condition: there is a mutual understanding between the speaker and the hearer, and the definite noun phrase "calls up in the hearer's mind the exact image of the individual that the speaker is thinking of" (Christophersen 1939: 28);

(iii) the identifiability condition: a noun phrase is definite if the referent is locatable by the speaker and the hearer (Givón 1978); and

(iv) the inclusiveness condition: a definite noun phrase refers to the totality of the object or mass in the context that satisfy the description (Hawkins 1978).

These conditions share certain connections, for instance, following Lyons (1999), familiarity can be a reason for the referent to be identifiable. Uniqueness, on the other hand, can be a special case for identifiability and inclusiveness; inclusiveness states that definite noun phrases refer to the totality of the set of entities that satisfy the description, and the uniqueness condition is fulfilled when that set is a singleton set, and since there is only one entity, in the given context, that fits the description, the entity referred to by the definite noun phrase should be identifiable by the speaker and the hearer. In other words, the uniqueness condition is satisfied then the reference is undoubtedly definite; note that, logically, this does not exclude non-unique references from being definite, if they fulfil some of the other conditions for

instance.[49] For the purpose of this study, I adopt the uniqueness approach to definiteness and based on such an understanding of definiteness, I follow Frege (1893/1903) in representing uniqueness with the iota operator (ι) which "combines with an open sentence to give an entity-denoting expression, denoting the unique satisfier of that open sentence if there is just one, and failing to denote otherwise" (Partee 1987: 154).[50] To illustrate, (46a) and (46b) show the logical form for the definite nominal description *the student* in isolation, and when appearing in a sentence respectively.

(46) Iota operator

a. The student

= ι*x* [student(x)]

b. **The student** is happy.

= ι*x* [student(x) & H(x)]

[49] There have been critiques concerning the effectiveness of using uniqueness as the definition of definiteness in the literature. Some of the challenges include, non-unique definite descriptions as in (i) where 'the arm' referred to is apparently non-unique as people are generally understood to have two arms.

(i) John was hit on **the arm.** (Ojeda 1993, Abbott 2008)

Also, since uniqueness is not absolute but relative to a particular context, definite descriptions often appear as 'incomplete descriptions' that require further specification from the context in order for it to be 'unique'. In (ii), for example, there is certainly more than one *headmaster* in the world, so 'the headmaster' in the sentence is only a unique reference with the restriction provided from the context, hence 'the headmaster' here strictly means 'the headmaster of this institute'.

(ii) **The headmaster** doesn't have much control over the pupils. (Peacocke 1975: 209)
(context: two school inspectors visiting an institution for the first time and one of them made this comment)

These may be valid concerns about the 'definiteness as uniqueness' analysis, but what I suggest here is not that *only* unique references are definite, but that unique references are definite references, and the second issue relates more to pragmatics and presumably the definition of boundary between semantics and pragmatics. As far as the formal syntactic analysis I propose in this dissertation is concerned, the 'incompleteness' of the definite descriptions can be set aside.

[50] The open 'sentence' mentioned in Partee's quotation can be read as open 'description', so it does not have to be a full clause, but a phrase (e.g. an NP).

Extending this semantic analysis of definite descriptions to definite reference in temporal relations, as we have extended the idea of definiteness in nominals to the verbal domain, then definite assertion time (or definite aspect) would mean an iota operator binding the time variable introduced by Asp, adopting Ramchand's model, as in (47); without the iota operator, the time variable in Asp is anchored to the event time line without specifying any particular time point, but just an arbitrary time moment.

(47) Definite assertion time/definite aspect

$\iota t \in \tau(e)$[51]

(read as: 'there is a unique *t* which is a member of the temporal trace function of the event *e*')

5.3.3 Verbal definiteness in Chinese

The discussion on aspect and definiteness has established three facts, namely, (i) the notion of definiteness exists beyond the nominal domain, (ii) verbal definiteness is encoded in the aspectual system, and most importantly, (iii) verbal definiteness can be found in languages which do not have an article system for marking nominal determination. The last finding offers the possibility that verbal definiteness can be found in the Chinese varieties at hand and I will argue that this is indeed the case; the various aspectual markers in the Chinese varieties encode verbal definiteness as in Russian. Crucially, the importance of drawing connection between Chinese aspect and definiteness is not the mere discovery of definiteness encoding

[51] Russell (1905) proposed another interpretation of definite descriptions: while Frege takes definite descriptions to be analogous of proper names, Russell finds them comparable to a quantifier phrase, such as, 'everyone'. Hence, instead of postulating an iota operator, Russell represented definiteness with the general quantifiers and an identity operation as in (i):

(i) The student is happy.

= $\exists y\ (Sy \wedge \forall x\ (Sx \rightarrow x = y)) \wedge Hy$

Read as: 'There is a y which is an S, and for all x, x is an S, and x is identical to y. And y is also an H.'

So, for definite assertion time, a Russellian approach would be: $\exists t\ (Tt \wedge \forall x\ (Tx \rightarrow x = t))$; where T is time and t is the time variable.

in the verbal domain of an article-less system, but that the definiteness that Chinese aspectual markers encode holds the key to the negation-aspect compatibility discussed in length in Chapter 3, which has long been a controversial puzzle in Chinese syntax. The rest of this section will be devoted to illustrating how verbal definiteness is encoded in Chinese aspect, and section 5.4 will show how verbal definiteness can provide a new perspective and a new answer to the Chinese negation puzzle.

In Leiss (2007) and Ramchand (2008a, b), perfectivity is definiteness, but the four Chinese varieties examined present some complication. As presented in Chapter 2, four aspect markers have been studied for each variety; this is summarised in Table 5.4 below.

Table 5.4 (=Table 2.4). Viewpoint aspect markers in Chinese varieties.

	Perfective (PFV)	Experiential (EXP)	BE.LOC	Imperfective (IMPFV)
BM & TM	*-le*	*-guo*	*zai* 'be.at'	*-zhe* Durative (DUR)
HKC	*-zo2*	*-gwo3*	*hai2dou6* 'be.loc'	*-gan2* Progressive (PROG)
GZC	*-de6*	*-gwo3*	*coi5gei2* 'be.here'	*-gan2* Progressive (PROG)

I suggest that the perfective markers (Mandarin *le,* Hong Kong Cantonese *zo2,* and Gaozhou Cantonese *de6*) are definite, while the experiential markers are indefinite although it has been generally regarded as a type of perfect marker (Comrie 1976). The imperfective markers are tricky: they are indefinite but can be coerced by the discourse to a definite reading. I will illustrate how the aspectual markers come to be understood as definite or indefinite in turn.

First, perfective aspect is definite, and it is the only aspect that express definite assertion time inherently and unambiguously. In Chinese, as in Russian, perfective aspect anchors the event denoted by the predicate to one specific, unique time point within the event time line. Since the perfective event is understood to be realised and terminated, it is plausible to assume that the time point specified to be the final endpoint of the event time line (if the event is instantaneous, where the initial and final endpoints are virtually overlapping, then so would the time point specified by the perfective aspect, i.e. the initial endpoint and final endpoint as well as the assertion time are the same). For clarity, it is important to note that although perfective events are understood to be realised/finished, it may not be a past event; the event

can take place in the future as well as in the past, as in (48-49) (adapted from Li & Thompson 1981), since perfective aspect only specifies the time point asserted in the event time frame but not the relationship between that asserted time and the speech time (that is the function of tense marking which is absent in Chinese in general).

(48) 我吃**了**飯再回家

wo	*chi-**le***	*fan*	*zai*	*hui*	*jia*
I	eat-**PFV**	rice	then	return	home

'I will finish dinner before going home.' (Mand.)

(49) **聽日**我就炒**咗**佢

tingjat	*ngo*	*zau*	*caau-**zo***	*keoi*
tomorrow	I	then	fire-**PFV**	3.SG

'I will fire him tomorrow.' (HKC)

Experiential aspect, on the other hand, is indefinite. The indefiniteness of experiential aspect has been mentioned in Comrie (1976) and Iljić (1987) in the sense that though experiential aspect is a type of perfect aspect, it indicates the event concerned to have taken place at least once up to the moment of speech. Therefore, experiential aspect denotes an event that (i) might not be completed or finished but has been realised as in (50), and (ii) is not a unique event but one instance of a class of occurrences (Iljić 1987: 71) as in (51) — the event of going to Tokyo has happened three times, but when the frequency is not overtly marked, the experiential sentence would state that the event of 'going to Tokyo' has taken place at least once, and in reality that could be one of the three occurrences of the 'same' event.

(50) 我看**過**這部戲但是沒看完

wo	*kan-**guo***	*zhe*	*bu*	*xi*	*danshi*	*mei*	*kan-wan*
I	watch-**EXP**	this	CL	movie	but	not	watch-finish

'I have watched this movie but didn't finish it.' (Mand.)

(51) 我去**過**東京**(三次)**

*ngo hui-**gwo** Dungging **(saam ci)***

I go-**EXP** Tokyo **three times**

'I have been to Tokyo three times.' (HKC)

Therefore, while perfective aspect is definite and the logical form is as represented in (47), experiential aspect is indefinite. Experiential aspect denotes some time moment within the event time frame (it can be the final endpoint if the event is finished but not necessarily) and this reference time is before the speech time (i.e. a past time). The semantic representation in (52) summarises the properties of experiential aspect as being an assertion time marker denoting an event to be realized at least once in the past.

(52) Experiential aspect: $\exists t \in \tau(e) \wedge t < t_s$

(read as: there is a reference time (t) of the predication such that it is one of the time moments in the temporal trace function of e, and it is prior to the time of speech, t_s)

Indeed, Comrie (1976) has noted in passing that experiential aspect (a.k.a. experiential perfect) has been termed and interpreted as indefinite perfect or existential perfect. The latter analysis pinpoints the special property of experiential aspect as referring to events that are members of a kind rather than unique instances. In fact, the meaning in (51) can be expressed by the perfective marker *zo2* in Hong Kong Cantonese as in (53) with basically no change in meaning if the frequency adverb 'three times' is present, but when the frequency adverb is absent, the interpretation that the event is one of a class of occurrences will be lost in (53). Therefore, in short, experiential aspect marks the existence of at least one event that fulfills the description of the predicate while perfective aspect denotes a unique event that fulfills the description of the predicate.

(53) 我去**咗**東京(三次)

*ngo hui-**zo** Dungging **(saam ci)***

I go-**PFV** Tokyo **three times**

'I went to Tokyo three times.' (HKC)

Crucially, the fact that experiential aspect, as a kind of perfect aspect, is indefinite shows that the generally assumed parallel between the perfective-imperfective division and the definite-indefinite dichotomy may not be that straightforward typologically. It is also noteworthy that there seems to be a deep connection between existentiality and indefiniteness, as, on the one hand, the discussion so far shows that experiential aspect which expresses existentiality is indefinite, and on the other hand, existential sentences always involve indefinite nominals (e.g. there is a book|*the book on the table). The connection between the two would deserve further examination.

Chinese imperfectives present another case where the parallel between perfectivity and definiteness can be blurry. There are two imperfective markers in each of the four varieties of Chinese examined in this study, one preverbal marker meaning 'be.loc' which can also be a locative predicate as self-explanatory in its lexical meaning, the other is postverbal. In the Mandarin varieties this postverbal imperfective marker, *zhe,* is a marked durative marker which is known to also express stativity; examples (54a) and (54b) form a clear pair of contrast between preverbal imperfective *zai* 'be.at' and postverbal durative marker *zhe.* Both sentences involve the same predicate *chuān yǔyī* 'wear raincoat', with *zai* the event denotes an ongoing process of putting on a raincoat (i.e. the transition from not wearing to wearing a raincoat within minutes or seconds), *zhe* in contrast, denotes the result of the event of putting on a raincoat, which is that the little brother has already put on the raincoat such that he is wearing it and it is the result state of wearing a raincoat that is ongoing (i.e. the little brother has not taken it off). Li & Thompson (1981) have noted that in certain varieties the two imperfective markers can co-occur and produce a progressive reading as in (54c).

(54) Imperfective aspect in Mandarin varieties

a. 弟弟**在**穿雨衣

didi ***zai*** *chuan* *yuyi*

little.brother **be.at** wear raincoat

'Little brother is **putting on** a raincoat.' (Mand.; Li & Thompson 1981: 221)

b. 弟弟穿**着**雨衣

didi *chuan-**zhe*** *yuyi*

little.brother wear-**DUR** raincoat

'Little brother is **wearing** a raincoat.' (Mand.; ibid.: 221)

c. % 張三**在**打**着**李四呢

% *Zhangsan* ***zai*** *da-**zhe*** *Lisi* *ne*

Zhangsan **be.at** hit-**DUR** Lisi SFP

'Zhangsan is hitting Lisi.' (Mand.; ibid.: 219)

In the Cantonese varieties, the postverbal imperfective marker *gan2* is a progressive marker, similar in meaning to the English progressive *-ing.*[52] Since the preverbal and postverbal imperfective markers both express progressive aspect, in Hong Kong and Gaozhou Cantonese, the two markers can co-occur with either of them being optional (55) — there is a slight preference for keeping the preverbal marker optional.

(55) Imperfective aspect in Cantonese varieties

a. 我**(喺度)**跑**緊**步

ngo ***(haidou)*** *paau-gan-bou*

I **be.loc** run-PROG-step

'I am running.' (HKC)

b. 我**(在己)**跑**緊**步

ngo ***(coigei)*** *paau-**gan**-bou*

I **be.here** run-**PROG**-step

'I am running.' (GZC)

I suggest that all the imperfective markers discussed share the same logical form that Ramchand (2008a, b) has proposed for imperfective aspect: $\exists t \in \tau(e)$, which is translated as 'there is a reference time (t) of the predication such that it is one of the time moments in the

[52] Hong Kong Cantonese has another postverbal marker *zyu6* which corresponds to *zhe* in Mandarin, but since Gaozhou Cantonese lacks a similar marker, I will exclude the discussion on *zyu6* in this thesis.

temporal trace function of *e*' and it can be any time moment within the event time frame.[53] For Mandarin continuous *zhe,* I suggest that the difference that sets it apart from the other imperfective markers (or from progressive markers) is not reflected in the logical form, but in the relationship between the assertion time established by the temporal trace function and the higher time variable in the structure. The identity of this 'higher time variable' is left vague for good reasons: it has been known in the literature that *zhe* sentences are incomplete when they stand alone, they seem to require the presence of another event to relate to as in (56).

(56) 我聽着歌?(跑步)

wo *ting-zhe* *ge* *?(paobu)*

I listen-CONT song run

'I listen to music while running.' (Mand.)

Recall from earlier discussion that Stowell (1996) has suggested that in complex sentences, the operator in the Event Time ZP of the main clause would bind the time variable in the Reference Time ZP of the subordinate clause. I suggest that there is a similar dependency between the reference/assertion time variable introduced by *zhe* and the event time of another event, hence the stative and resultative reading produced by *zhe* as seen in (54) and (56). What has been described so far is the default, standard representation of imperfective aspects in the Chinese varieties, but the fact that Chinese is tenseless makes it possible for the imperfective aspects to be coerced to a definite reading. This is especially significant for explaining the negation-aspect compatibility pattern which I will turn to in the next section, when we apply the generalisations concluded here to the negation data of the four Chinese varieties. Ramchand (2008a) proposes that since imperfective Asp is indefinite, it is "free to choose any

[53] There have been suggestions that the preverbal 'be.loc' marker is not an aspectual marker but a locative marker (cf. Williams 2017). However, as briefly discussed in section 2.2.3, I find no absolute conflict between the locative function and the aspectual function of 'be.loc', since it has been widely attested that imperfective aspect can be grammaticalized from locative markers. A thorough discussion on this issue would nevertheless go beyond the scope of this thesis, but for the present discussion, the logical form proposed for the preverbal 'be.loc' marker of the four Chinese varieties should apply when it acts as an imperfective marker, not when it is a locative marker.

time moment within the run time of the event to be the [internal] argument of [the] tense predicate" so that tense can be interpreted as stating the relation (or relative order) between the time variable introduced by Asp and the speech time. The suggestion is not novel given the survey of various theoretical accounts of formalising tense and aspect with syntactic frameworks in section 5.3.2, but what if the language does not have tense predicates as such? Certainly, past, present and future can be indicated by time adverbials, such as, *today, last week* and so on, yet Ramchand offers an alternative which can solve the tenselessness issue in the absence of time adverbials: the discourse can bind the time variable in Asp just as the tense variables do. I quote Ramchand's analysis of imperfective aspect as follows: "given that the root is combining with the null aspectual head here, I leave it open that AspP could actually get a definite interpretation by being discourse bound in a particular context, as is possible for tense variables in general" (2008a: 1710). Adapting the idea from Ramchand, I suggest that the licensing 'context' for a discourse binder is immediacy. Consider the simple example in (57):

(57) Q: 媽，有電話找你！

Ma, you dianhua zhao ni!
Mom, have telephone find you
'Mom, there's someone for you on the phone!'

A: 不行啦，**我在煮飯**

buxing la, ***wo*** ***zai*** ***zhu*** ***fan***
nookay SFP, I be.at cook rice
'I can't, I am cooking.' (Mand.)

Cooking is an activity which lasts for a period of time, so the progressive aspect would denote the event of cooking as on-going normally, especially when the sentence stands in isolation. However, in the conversation above, the progressive sentence is an answer to a spontaneous request (that of answering the phone), so while normally imperfective aspect would refer to any arbitrary moment on the event time line, the context stipulates a restriction for the interpretation of the assertion time which is the immediate present (i.e. right now). In such a case, the time variable introduced in Asp is no longer unspecific in terms of which time moment it is anchored to in the temporal trace function, rather, a unique time moment is provided by

the discourse, hence I argue that the normally indefinite aspect is coerced to a definite reading. The consequence of the coercion is obscure in bare affirmatives as in (57), but its impact will become significant in the negative data in section 5.4 and will account for the incompatibility between negation and imperfective aspect in Chinese, which is unexpected under Ramchand's (2008a, b) framework where imperfective aspects are indefinite. Nonetheless, in creoles and many other languages without tense-marking, unmarked imperfective clauses are understood as present in time reference and perfective ones as past. Such default present interpretation could be another motivation for imperfectives to be treated as definite, since the default interpretation provides a unique reference time for the event denoted, i.e. the present time of speech.

5.4 Definiteness and Chinese negation-aspect compatibilities

In the last section, I provided empirical and theoretical evidence in support of the proposal that verbal definiteness is present in Chinese varieties and is encoded in the various aspectual markers. This section will take this further by arguing that the definiteness of the aspectual markers is what determines their compatibility with standard negation: only indefinite aspect is compatible with negation, and none is compatible with NegB. The discussion will begin by presenting how definiteness is related to negation by the presupposition effect it creates in section 5.4.1, then sections 5.4.2 and 5.4.3 will illustrate how the generalisations about verbal definiteness and presupposition can account for the negation pattern in Chinese aspect-marked negative declarative sentences involving NegA (Mandarin *méiyǒu* and Hong Kong Cantonese *mou5*) and Gaozhou Cantonese *mau5* on the one hand, and NegB (Mandarin *bù* and Hong Kong Cantonese *m4*) on the other, respectively.

5.4.1 Definiteness and presupposition

The discussion of the link between the definiteness-indefiniteness contrast and the concept of presupposition began in a passing note in Frege's (1892) *On Sense and Reference.* In his seminal work, Frege suggested that a definite expression is presupposed to bear reference in an

assertion, and that if the entity that the definite expression describes does not exist, the proposition which contains this definite expression is not false but does not have a truth value; as seen in the quote: "If anything is asserted there is always an obvious presupposition that the simple or compound proper names used have reference" (Frege 1892: 69). The idea is illustrated with the example in (58).

(58) Kepler died in misery.

The proper name (i.e. a definite expression) *Kepler* is deemed to bear reference to a particular individual — in this case, the person who discovered the law of planetary motion. Frege noted that the existence of this individual is just as presupposed in the affirmative assertion as in the negative counterpart in (59).

(59) Kepler did **not** die in misery.

Following Frege's argumentation, this is true because the semantics of the negative sentence in (59) does not mean that "Kepler did not die in misery, or the name 'Kepler' has no reference"; the interpretation in the second clause is not present in ordinary use of English. This means that the presupposition that 'Kepler' has reference is not part of the assertion in (58) but some background assumption that applies equally to both the affirmative assertion and its contrary assertion. Frege's observation on presupposition has been more elaborately discussed in Strawson's (1950) *On Referring* — although the term *presupposition* is only introduced in Strawson (1952) — when he re-examined Russell's understanding of the nature of definite descriptions. In Russell's (1905) *On Denoting,* indefinite expressions with *a/an* are understood to involve an existential quantification over the entity as in (60), while definite expressions with *the* state the existence of one and no more than one thing which is the entity denoted in the NP as in the classical *King of France* example in (61) (adapted from Abbott 2006: 126).

(60) A man arrived.

a. $\exists x$ [man(x) ^ arrived(x)]

b. There exists something which is both a man and arrived.

(61) The King of France is bald.

a. $\underline{\exists x[\text{King-of-France}(x) \wedge \forall y[\text{King-of-France}(y) \rightarrow y = x]}$ ^ Bald(x)]

b. <u>There is one and only one entity who is King of France</u> and he is bald.

Strawson noticed that in a sentence involving a definite expression, the part of the logical form (underlined) which states the existence and uniqueness of the entity that meets the descriptive content of the nominal bears a different status from the rest of the logical form. The difference is that the underlined part is a presupposition that stands regardless of the truth value of the asserted proposition *p;* in other words, the presupposition can survive under negation and it is the prerequisite of the assertion but not part of the assertion per se (cf. Frege 1892).

The fact that the existence or reference of the denoted definite entity is presupposed carries broader implications than simply the nature of definite NPs. Frege also discussed that in subordination, the meaning of the subordinate clause is dependent on the fact that the definite expression bears reference in the main clause. (62) is a case in point.

(62) After the separation of Schleswig-Holstein from Denmark, Prussia and Austria quarrelled.

Frege explained that in (62), the event of Schleswig-Holstein being separated from Denmark is a necessary prerequisite for the evaluation of the subordinate clause 'Prussia and Austria quarrelled'. Therefore, to the mind of someone who believes 'the separation of Schleswig-Holstein from Denmark' to be non-existent, the event in the second clause is absent of any ground of reference, and thus is neither true or false. In other words, if the presupposition is false, it entails that the sentence with that presupposition lacks any truth value. Atlas (2006) has captured the observation formally, in the sense that the first clause, 'after the separation of the Schleswig-Holstein from Denmark' provides a time relative to which the second event 'Prussia and Austria quarrelled' took place, as in (63).

(63) $\exists t\text{Q}(p, a, t)$

$t \in \text{T}$

where $\text{T} = \{t: t > t_s\}$

The logical form reads: there exists some time or time interval at which Prussia and Austria quarrelled, this time (or time interval) *t* is a member of the set T which is the domain of quantification, and T is specified as *t* being greater than (i.e. after) the time of the separation of Schleswig-Holstein from Denmark, t_s. It thus follows that if the event of Schleswig-Holstein separating from Denmark is false, then t_s bears no reference either, and the domain of quantification T would be ill-defined, resulting in the lack of truth value for the proposition 'Prussia and Austria quarrelled'. The situation would not change even if the proposition is negated — Prussia and Austria did not quarrel, as in ¬∃*t*Q(*p, a, t*) — since T is still ill-defined.

The findings concerning definite expressions and their presupposed existence or reference apply to Chinese just as well as in the English examples above. Definite NPs in Mandarin and Cantonese are presupposed to exist or bear a reference and the presupposition stands under standard negation as in (64).

(64) Definite NPs and presupposition

a. (i) 張先生喜歡小明

Zhang-xiansheng	*xihuan*	*Xiaoming*
Mr. Zhang	like	Xiaoming

'Mr. Zhang likes Xiaoming.' (Mand.)

(ii) 張先生不喜歡小明

Zhang-xiansheng	*bu*	*xihuan*	*Xiaoming*
Mr. Zhang	not	like	Xiaoming

'Mr. Zhang does not like Xiaoming.' (Mand.)

b. (i) 小明寫咗呢封信

Siuming	*se-zo*	*li*	*fung*	*seon*
Siuming	write-PFV	this	CL	letter

'Siuming wrote this letter.' (HKC)

(ii) 小明冇寫呢封信

Siuming	*mou*	*se*	*li*	*fung*	*seon*
Siuming	not	write	this	CL	letter

'Siuming did not write this letter.' (HKC)

Note that Chinese does not have articles. Therefore, the unambiguous forms for definite NP are proper names and demonstrative NPs as in (64). In the Mandarin sentences in (64a), both the subject NP *Mr. Zhang* and the object *Xiaoming* are definite NPs, and their existence is presupposed: whether Mr Zhang likes Xiaoming or not, the existence of Mr Zhang and Xiaoming is not denied, as seen in the interpretation of the negative sentence that only the validity of 'liking' is rejected. The same applies to the Cantonese example. Both the subject *Siuming* and the object 'this letter' are presupposed to exist in the affirmative and the negative. Even though the sentence is negated in (63bii) the negation only denies the proposition that Siuming wrote this letter (perhaps someone else did), but the letter still exists.

5.4.2 Non-existence and definiteness in aspect: *méiyǒu, mou5* and *mau5*

Recall from Chapter 3 that NegB (i.e. Mandarin *bù* and Hong Kong Cantonese *m4*) are incompatible with aspectual viewpoints across-the-board — the general incompatibility between aspectual marking and NegB will be accounted for in section 5.4.3. NegA (i.e. Mandarin *méiyǒu,* Hong Kong Cantonese *mou5*) and Gaozhou Cantonese *mau5*, on the other hand, are incompatible with most aspectual viewpoints except experiential aspect; and across the four Chinese varieties, the incompatibility between imperfective aspects and *méi(yǒu), mou5* or *mau5* is much weaker than perfective aspect, in the sense that though the negative sentences are systematically worse than the affirmative ones, the acceptability of the negative sentences with imperfective aspect seems to be greatly affected by the situation type-viewpoint aspect compatibility.

Based on the relationship between definiteness and presupposition presented in the last section and the fact that aspect can encode definiteness as established in section 5.3.2, I propose that the definite aspects are not compatible with standard negation in Chinese due to the presupposition effect they produce on the predicate. More precisely, since aspect temporally binds the event variable, if a definite aspect is present, the presupposition it carries would be that the situation denoted by the predicate exists. Then, when the sentence is negated, there will be a clash between the presupposed existence of the situation brought by the definite aspect and the denial of its existence by the standard negation. Moreover, the characterization of the four aspectual markers in the Chinese varieties presented in section

5.3.3 seems to correctly predict the negation-aspect compatibility pattern in Chinese (especially for negation with *méiyǒu, mou5* or *mau5*) as shown in Table 5.4. These three negators have historically developed from the negative existential predicate following Croft's Negative-Existential Cycle (see Chapter 4 for details), hence they all produce a non-existence reading as standard negators.

First, negation is systematically ill-formed when the sentence is marked with the perfective marker; this is attested in all four varieties of Chinese (65-67). Indeed, perfective aspect — realized as Mandarin *le,* Hong Kong Cantonese *zo2,* and Gaozhou Cantonese *de6* — is shown to be a definite aspect in Chinese in section 5.3.3 and in Germanic and Slavic languages in the literature.

(65) 我 (*不｜??沒) 跑**了**步 (BM)

*wo (*bu |??mei) pao-**le**-bu*

我 (*不｜*沒) 跑**了**步 (TM)

*wo (*bu |*mei) pao-**le**-bu*

I not |not.have run-**PFV**-steps

Affirmative: 'I ran.'

(66) 我 (*唔｜*冇) 跑**咗**步

*ngo (*m |*mou) paau-**zo**-bou*

I not |not.have run-**PFV**-steps

Affirmative: 'I ran.' (HKC)

(67) 我 (??冇) 跑**嗲**步

*ngo (??mau) paau-**de**-bou*

I not run-**PFV**-steps

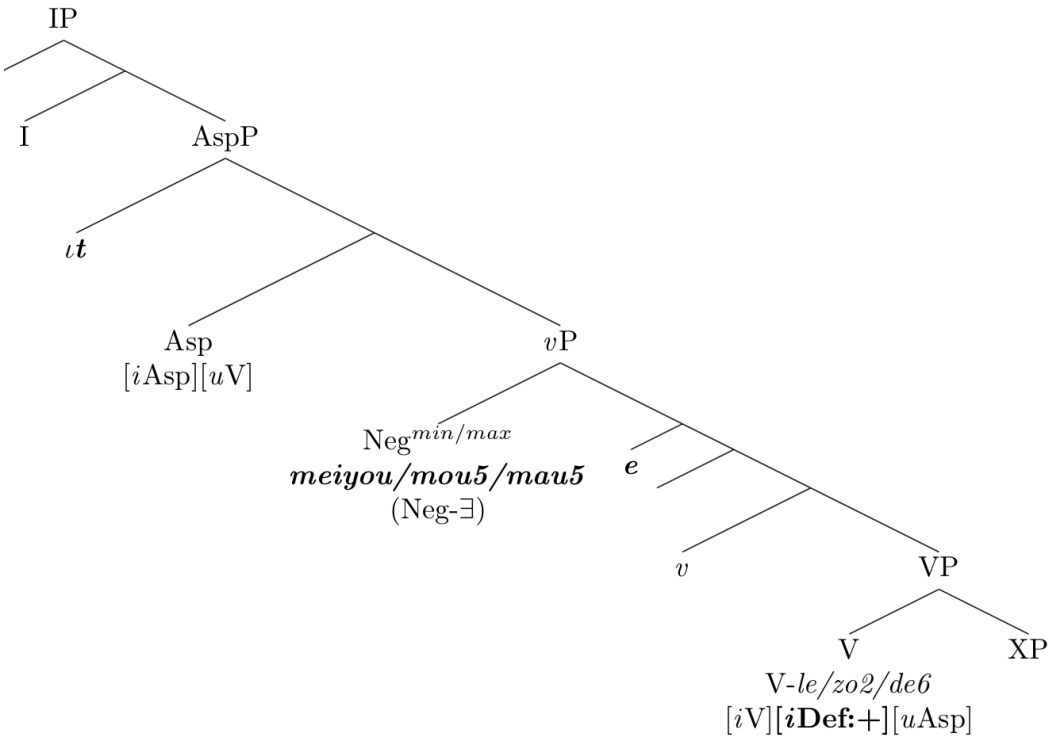
Affirmative: 'I ran.' (GZC)

As the entities denoted by definite NPs are presupposed to exist, I suggest that when perfective Asp is present in the structure, the definiteness it encodes imposes a presupposed existence

over the event variable it binds, which cannot be cancelled under negation, resulting in a failure in negating the proposition and clash between negation and the definite aspect.

Take the event of 'running' as an example, on the one hand, the presence of a perfective marker asserts a specific, unique time point within the event time frame and by such assertion the 'running' event is presupposed to exist; negation with Mandarin *méiyǒu,* Hong Kong Cantonese *mou5* or Gaozhou Cantonese *mau5* on the other hand, denies the very existence of the 'running' event, i.e. no running has taken place. So, when a perfective sentence is negated by these negators, its literal meaning would be: there is a unique reference time for the event of 'running' (presumably the final endpoint of the event) which is one of the time moments in the temporal trace function of the event, but the event does not exist. The sentence is evidently anomalous, and hence the structure where negation and perfective aspect (and definite aspect in general) co-occur is necessarily ill-formed. I suggest that perfective aspect markers come with an interpretable definiteness feature which is specified as [+], meaning definite. The [ᵢDef:+] feature in the aspect marker in V means that the time variable *t* introduced by Asp is bound by an iota operator (ι) and thus will anchor the event to a unique reference time.

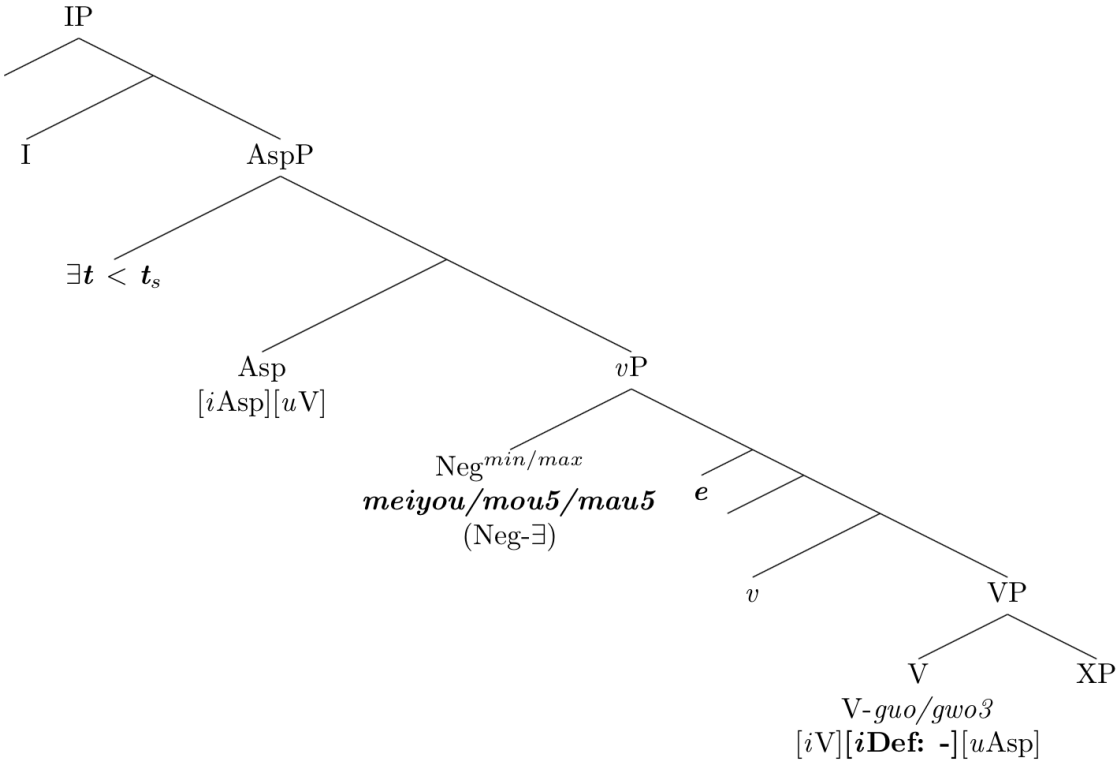
(68) Chinese negation and perfective aspect



Note, however, that the configuration in (68) is formally well-formed: there is no uninterpreatable feature left unchecked or any variable left unbound. Indeed, the only motivation to rule out such a structure is the semantic anomaly it produces by expressing that the event which is presupposed to exist by the aspectual marking is denied of its existence by negation. The fact that the negative perfective sentences are structurally well-formed may account for a subtle observation made in Chapter 3 section 3.3 that negative perfective sentences appears to be slightly better when negated by Mandarin *méiyǒu,* Hong Kong Cantonese *mou5* or Gaozhou Cantonese *mau5* — those sentences are considered very marginal (??) — than when they are negated by Mandarin *bù* or Hong Kong Cantonese *m4* (these sentences are generally rated as completely unacceptable (*)). Such a contrast in judgements for NegA and *mau5* versus NegB*,* though seemingly subtle, can be attributed to the fact that the examples with NegA and *mau5* are grammatically well-formed but semantically anomalous, while those with NegB are grammatically ill-formed.

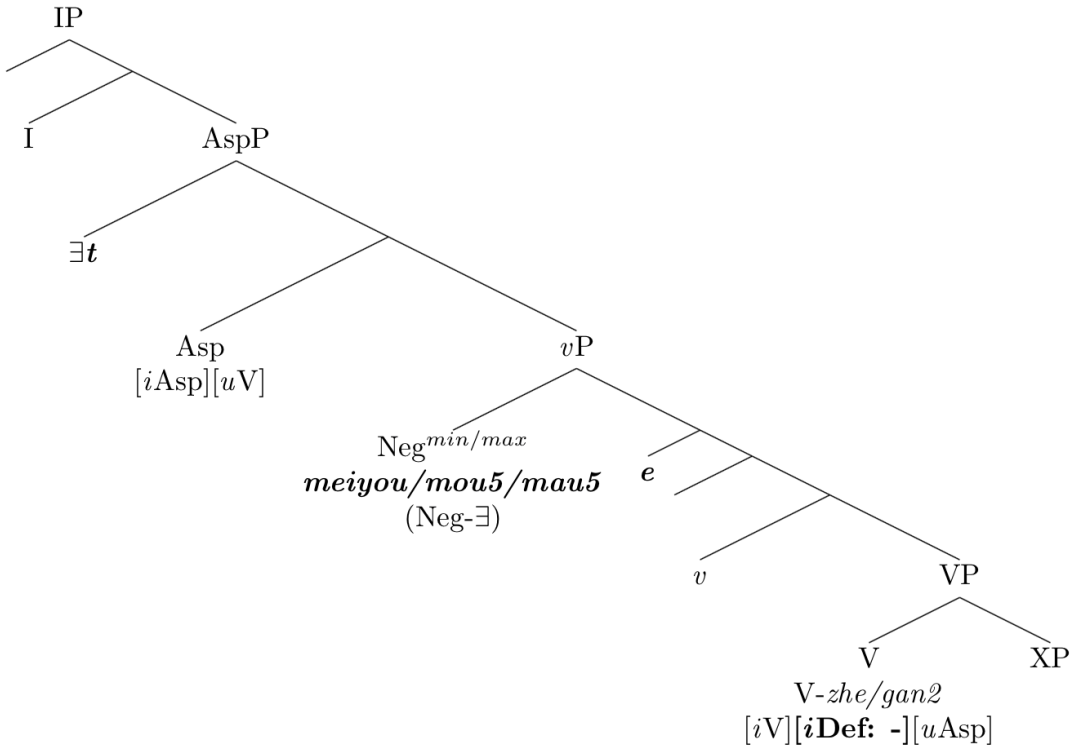
Experiential aspect presents the opposite case to the one we saw for perfective aspect, as it is the only aspectual marker fully compatible with negation by *méiyǒu, mou5* and *mau5.* I have argued in section 5.3.3 that experiential aspect is indefinite, which means that it does not generate any presupposition effect on the event/predicate that it temporally anchors, and hence there is no clash between experiential aspect and negation. The proposed structure in (69) shows Mandarin *guo* and Cantonese *gwo3* specified as indefinite by the feature [¡Def: –], and the time variable introduced by Asp is existentially quantified, indicating that the time variable anchors the event variable to a time moment within the event time frame but the time moment is arbitrary, unspecified, except that whichever time moment it may be, it must be prior to the speech time (note that this is not the same as having a past tense predicate).

(69) Chinese negation and experiential aspect



A similar configuration applies to imperfective aspects, except that for imperfectives the assertion time does not have to be past time, presumably it can be completely arbitrary. (70) and (71) show the structures for how postverbal and preverbal imperfective aspect in the Chinese varieties would normally behave, that is when they are indefinite. However, as discussed in section 5.3.3 imperfective aspects can be coerced by the discourse to give a definite reading. This, I suggest, is the reason behind the incompatibility between negation and imperfective aspect observed in the data.

(70) Chinese negation and postverbal imperfective aspect



(71) Chinese negation and the preverbal imperfective 'be.loc' marker

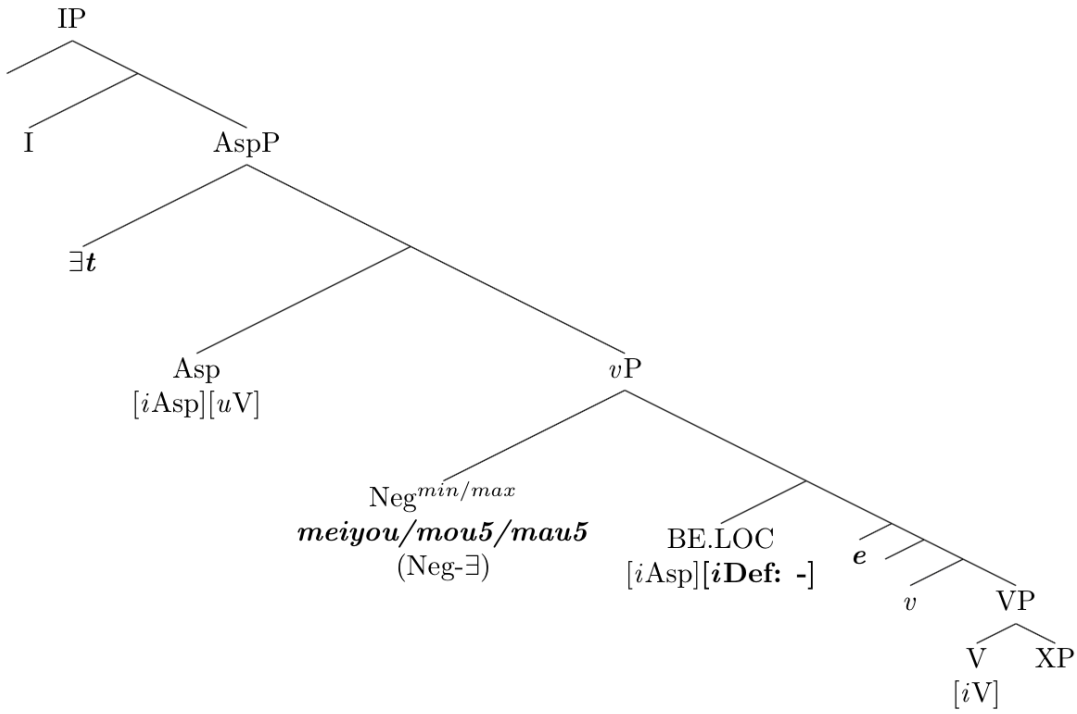


Table 5.4 showed that the acceptability of both imperfective markers varies according to the situation type of the predicate. On the one hand, stative predicates and achievements are

generally ill-formed when marked as imperfect independent of negation; the incompatibility between situation type and imperfective aspect provides one reason for the unacceptability of some negative imperfective sentences. On the other hand, activities, achievements and semelfactives can sometimes accommodate an imperfective aspect even under negation. The reason is that activities and achievements are durative events, and the immediacy effect from the discourse can coerce them to provide a definite reading by forcing the assertion time to the immediate present, hence unique and definite. Semelfactives appear to work the same way as activities and achievements, while in fact the 'semelfactive' predicates that allow imperfective aspect have been coerced to an iterative reading, and as iteratives, they become durative rather than instantaneous. The verb 'to hiccup', discussed in section 3.2.5, is a case in point where 'to hiccup' modified by an imperfective marker (the preverbal be.loc marker or the postverbal imperfective) produces an iterative reading (i.e. the speaker is making hiccups continuously) and in all four varieties, the sentence is well-formed, as illustrated below:

(72) 我(在) 打 (着) 嗝 (BM)

wo (zai) da (-zhe) ge

我(在) 打 (着) 嗝 (TM)

wo (zai) da (-zhe) ge

I be.at make CONT hiccup

'I am hiccuping.'

(73) 我 (喺度) 打 (緊) 思嗆

ngo (haidou) daa (-gan) siik

I be.loc make PROG hiccup

'I am hiccuping.' (HKC)

(74) 我 (在己) 打 (緊) 嗝

ngo (coigei) daa (-gan) gaak

I be.here make PROG hiccup

'I am hiccuping.' (GZC)

As a result, imperfective sentences containing activity, achievement or semelfactive/iterative predicates degrade from being completely acceptable in affirmative to marginally acceptable under negation. The effect here is not as strong as with perfective aspect since the definiteness is due to a discourse-driven coercion, but it is still strong enough to make the negative imperfectives less well-formed than their affirmative counterparts.

5.4.3 Genericity and aspect: *bù* and *m4*

So far, the proposal that definite aspects are incompatible with negation due to the presupposition of existence works fine with NegA and Gaozhou Cantonese *mau5*. However, if experiential aspect is indefinite, and negation is compatible with indefinite aspect, then it would predict that NegB is also compatible with experiential aspect, which is clearly false. The empirical data in Chapter 3 have shown that NegB (Mandarin *bù* and Hong Kong Cantonese *m4*) are incompatible with aspectual viewpoints in general, experiential aspect included. In section 4.4, I argued based on Croft's Negative-Existential Cycle that NegAs are standard negators developed from the negative existential predicate, hence the systematic interpretation of non-existence produced by negation with NegA. NegBs, on the other hand, being negative forms of the Generic operator proposed in Chierchia (1995), encode a modalised negation. If this line of argument is on the right track, the across-the-board incompatibility between NegB and aspect can be explained as follows. The generic operator realised by NegB probes for a modality feature, but the presence of aspect-marking on the verb produces an existential reading, which necessitates the event variable to be existentially bounded. The existential quantification on the event variable rules out the possibility that the verb can carry a habituality feature, [Hab], a habituality-marked verb would produce a generic reading (universal quantification) which clashes with the existentiality generated by ∃e. In the absence of a [Hab] feature on V, the generic operator, Gen, in NegB lacks a licensing Goal in the structure.[54] Therefore, when aspect-marking is present, standard negation by NegB is generally ill-formed.

[54] As mentioned in section 4.5.2, there is a theoretically possible alternative to interpret [Hab] as a variable to be bound by Gen. Following this line of analysis, the incompatibility between NegB and aspectual marking

However, looking beyond standard negation, there are apparent 'exceptions' where NegB and aspect can co-occur in the same clause. Huang (1988) has noted that in conditionals, Mandarin *bù* can negate the primary predicate (V1) in *de*-constructions, as in (75). Moreover, if the intended reading is a modal one, then *bù* can negate V1 even if it is not in a conditional sentence, as in (76).

(75) (=19) 如果你**不**跑得快，你就得不到獎品

ruguo	*ni*	***bu***	*pao-de kuai,*	*ni*	*jiu*	*de-bu-dao*	*jiangpin*
if	you	**not**	run-DE fast	you	then	get-not-COMPL	prize

'If you don't run fast, then you won't get the prize' (Mand.; Huang 1988: 289)

would be explained by violation of the Bijection Principle (Koopman & Sportiche 1982, see also Partee 1988; Kratzer 1991; Webelhuth 1992; de Swart 1993; Lee & Pan 2001):

(i) The Bijection Principle (Koopman & Sportiche 1982)
   a. Every variable must be uniquely bound by a quantifier/a syntactic operator;
   b. Every quantifier/syntactic operator must bind exactly one variable.

The presence of aspect-marking on the verb necessitates the presence of an existential quantifier that scopes over the proposition. Since the existential quantifier in the aspect marker needs to bind an event variable, and so does the generic operator which is essentially a modalised universal quantifier, they would end up binding the same event/situation variable, i.e. vacuous quantification, which violates the Bijection Principle. Nevertheless, this account, though theoretically elegant, would be gravely challenged by the 'exceptional' cases in (78-79) where *bù* can co-occurs with aspectual marking. Since no additional event variable is present in those sentences, it would be inexplicable how the competition between Gen and the existential quantification introduced by aspect-marking over the same event variable in spec-vP can be resolved and hence allowing these structures to be well-formed. Therefore, having considered a wider set of empirical data, it is more favourable and appropriate to analyse the relationship between Gen and [Hab] (and indeed all modal elements in the structure) as a Probe-Goal relation, rather than a binder-variable relation.

(76) (=20) 他**不**跑得快

ta ***bu*** *pao-de kuai*

he **not** run-DE fast

a. * 'He does not run fast.'

b. 'He will not run fast.' (Mand.; Huang 1988: 290)

Huang postulated that in such cases, *bù* is attached to an empty modal, and that empty modal not only provides a host for *bù* to fulfil its morphological requirement as a verbal clitic, but also produces the modality reading: irrealis mood in (75) and habituality (or volition) in (76). A similar observation is made in Lee & Pan (2001). The most striking finding reported in their paper is that *bù* and *le* can co-occur in the same sentence as in (77).

(77) (=24) 張三故意**不**把所有的爛蘋果都扔**了**，為了惹你生氣

Zhangsan	*guyi*	***bu***	*ba*	[*suoyou*]^{f}	*de*	*lan*	*pingguo*
Zhangsan	deliberately	**not**	BA	[all]	DE	rotten	apple
dou	*reng-**le**,*	*weile*	*re*	*ni*	*shengqi*		
all	throw-**PFV**	for	make	you	angry		

'Zhangsan deliberately did not throw away ALL rotten apples, so as to make you angry.' (Lee & Pan 2001: 709)

Their core argument follows that *le* is a selective binder that must bind an eventive predicate, while *bù* is an unselective binder (though it has tendency to bind the constituent to its immediate right). In the case of (77), *bù* takes a wider scope than *le,* so *le* can bind the event of 'throwing the rotten apples' but not the universal quantifier encoded by *suóyǒu* 'all'. *Bù,* therefore, binds *suóyǒu* and so there is no vacuous quantification despite the co-occurrence of *bù* and *le.*

In fact, the analysis proposed in this chapter offers a new solution which not only accounts for co-occurrences of *bù* and perfective *le,* but the co-occurrence of *bù* and all aspect markers. Crucially, such 'exceptions' happen under two specific conditions: conditionals as in (78) and the presence of an overt modal (79).

(78) NegB and conditionals

a. 你**不**吃**過**榴槤，怎知道它不好吃

ni	***bu***	*chi-**guo***	*liulian,*	*zen*	*zhidao*	*ta*	*bu*	*haochi*
you	**not**	eat-**EXP**	durian	how	know	it	not	tasty

'If you haven't eaten durian before, how could you know it's not tasty.' (Mand.)

b. 你**不**吃**了**這碗飯，我就不帶你去公園玩了

ni	***bu***	*chi-**le***		*zhe*	*wan*	*fan,*		
you	**not**	eat-**PFV**		this	bowl	rice		
wo	*jiu*	*bu*	*dai*	*ni*	*qu*	*gungyuan*	*wan*	*le*
I	then	not	bring	you	go	park	play	SFP

'If you don't finish this bowl of rice, I would not take you to the playground.' (Mand.)

c. 你**不**穿**著**校服，我真的認不出你呀

ni	***bu***	*chuan-**zhe***	*xiaofu,*			
you	**not**	wear-**CONT**	school.uniform			
wo	*zhende*	*ren*	*bu*	*chu*	*ni*	*ya*
I	really	recognise	not	out	you	SFP

'(If/when) you're not wearing school uniform, I really can't recognise you.' (Mand.)

d. 這個時候，他**不在**開會，就肯定是病了

zhe	*ge*	*shihou, ta*	***bu***	***zai***	*kaihui,*	
this	CL	time he	**not**	**be.at**	have.meeting	
jiu	*kending*	*shi*	*bing*	*le*		
then	surely	be	sick	SFP		

'At this hour, (if) he is not having a meeting, (he) must be sick.' (Mand.)

In the sentences in (78), the conditional construction entails the projection of $\text{Mood}_{\text{irrealis}}$, and rather than claiming that *bù* is attached to the Mood head, I suggest that in those cases, $\text{Mood}_{\text{irrealis}}$ and Gen enter into an Agree relation which licenses NegB. The problem with having overt aspect in the structure is that the habituality feature on the verb is impossible. Since NegB is the negative form of the Generic operator which probes for a modality feature, such as the habituality feature [Hab] on individual-level predicates, the absence of [Hab] would

mean the absence of a licenser for Gen (hence NegB). However, the Mood projection rescued the structure by offering another modality licenser for NegB. The presence of an overt modal works the same way: the possibility modal *kěnéng* 'possible' in (79a), permission modal *kéyǐ* 'can' in (79b), necessity modal *yào* 'must' in (79c) and an epistemic modal *huì* 'will' in (79d) provide another licenser for NegB. Therefore, in a way, Huang (1988) is right in suggesting that it is the presence of a modal reading that licenses *bù* in both types of constructions, but the proposed analysis suggests that it is the modal nature of Gen which NegB realises that requires and enables such an Agree relation between Gen and the modal features to be present in the structure.

(79) NegB and modals

a. 他**不可能**說**過**什麼都不記得

ta	***bu***	***keneng***	*shuo-**guo***	*shenme*
he	**not**	**possible**	say-**EXP**	what
dou	*bu*	*jide*		
all	not	remember		

'It is impossible that he does not remember what he said.' (Mand.)

b. 你**不可以**借**了**書不還

ni	***bu***	***keyi***	*jie-**le***	*shu*	*bu*	*huan*
you	**not**	**can**	borrow-**PFV**	book	not	return

'You cannot keep borrowed books' (lit. You cannot borrow books and not return them') (Mand.)

c. 你**不要**穿**著**校服四處逛

ni	***bu***	***yao***	*chuan-**zhe***	*xiaofu*	*sichu*	*guang*
you	**not**	**must**	wear-**CONT**	school.uniform	around	wander

'You mustn't wander around with your school uniform on.' (Mand.)

d. 這個時候，他**不會在**開會

zhe	*ge*	*shihou, ta*	***bu***	***hui***	***zai***	*kaihui*
this	CL	time	he	**not**	**will**	**be.at**	have.meeting

'At this hour, he won't be in a meeting.' (Mand.)

In sum, in simple declaratives with aspect-marking, NegB is ill-formed due to the absence of any modal licenser. However, when other modal elements are present in the structure, they replace the licensing function of [Hab] which is normally borne by individual-level predicates, and makes it possible for NegB to co-occur with aspect.

5.5 Conclusion

To conclude, this chapter has reviewed and argued against existing proposals for negation-aspect compatibility built on the assumption that *méi(yǒu)* in Mandarin (and presumably *mou5* in Hong Kong Cantonese) are negative perfective markers (or negative aspectual auxiliaries). The rejection is founded on the empirical evidence presented in Chapter 4. In lieu of the existing approaches, this chapter has presented a new solution to the empirical puzzle that Chinese negation is largely incompatible with aspectual viewpoints. More precisely, NegB is incompatible with aspect-marking in general, while NegA and Gaozhou Cantonese *mau5* are only fully compatible with experiential aspect. The proposal is fundamentally an extension of the classic idea of presupposition, where definite expressions come with the presupposition for existence which can survive under negation. The originality of the proposal lies in its application of the presupposition effect in the verbal domain. In this case, the definite 'expression' is the predicate itself which is marked by a definite aspect. Again, the idea that aspect encodes verbal definiteness is drawn from the theory established in Stowell (1993) and his subsequent work, and the Slavic case studies in Leiss (2007) and Ramchand (2008a, b). In Chinese, I proposed that all aspects, except experiential aspect, can be definite – perfective aspect is always definite, imperfective aspects can be coerced to give a definite reading. This correctly predicts for Mandarin *méi(yǒu),* Hong Kong Cantonese *mou5* and Gaozhou Cantonese *mau5* that they are not compatible with definite aspects but can appear with indefinite aspect, since definite aspect would impose an existential presupposition on the predicate which these three negators are trying to negate by denying its existence; hence the inevitable clash between definite aspects and NegA as well as Gaozhou Cantonese *mau5*. NegB, on the other hand, is incompatible with any aspect marker in standard negation, since the presence of

aspect-marking on the verb prohibits the verb from carrying the [Hab] feature which would be the licenser for Gen (and NegB).

By establishing the connection between NegA and non-existence, and that between NegB and the generic operator, the negation-aspect relation in Chinese is also accounted for. The advantages of this analysis are three-fold. First, it takes into account the contemporary and historical data which indicate that *yǒu/jau5* 'have' expresses existence and NegA expresses non-existence of an entity or a situation. In that way, it resolves that puzzle regarding the semantic contrast between NegA and NegB observed in bare negatives. Second, it presents a structural analysis well-supported by adverb distribution data. Finally, the answer for negation-aspect relation does not involve postulation of any ad hoc or stipulative features which are idiosyncratic to Chinese varieties, which greatly increases the explanatory power of the proposal cross-linguistically, since the presupposition effect (in nominals) is deemed to be universal.

Chapter 6

Conclusion and future prospects

6.1 Summary of the main findings of this thesis

This dissertation has set out to solve the Chinese negation puzzle which centres upon the interaction between negation and aspect. The latter consists of both situation type as denoted by the predicate and viewpoint aspect marked explicitly by different aspectual markers. One of the empirical contributions of this study is the inclusion of a Chinese variety, Gaozhou Cantonese, that differs from the familiar Mandarin system of *bù* 'not' and *méi(yǒu)* 'not have' in having only one standard negator. The fact that Gaozhou Cantonese displays the same aspectual sensitivity in negation and shares an identical aspectual compatibility pattern with Mandarin *méi(yǒu)* makes evident that the sensitivity towards aspectual marking in Chinese negation cannot simply be a matter of division of labour between the standard negators in the system; the tie between negation and aspect goes deeper than previously assumed. This dissertation has introduced and examined original data from four Chinese varieties — Beijing and Taiwan Mandarin, Hong Kong Cantonese and Gaozhou Cantonese — under two conditions: standard negation without overt aspectual marking (bare negatives) (Chapters 2 and 4) and standard negation with overt aspectual marking (Chapters 3 and 5). Based on synchronic and diachronic evidence, the following generalisations have been made for all the standard negators and aspectual markers under investigation:

(i) the standard negators are all base-generated in the outermost specifier of *v*P as $Neg^{min/max}$ c-commanding the event variable in the VP shell (Davidson 1967; Kratzer 1988, 1995);

(ii) the aspectual sensitivity in Chinese negation stems from the low position of the aspectual markers, all of which are base-generated within the c-commanding domain of Neg — the postverbal aspect markers are lexically merged with the verb and

inserted into the structure in V; the preverbal imperfective marker is generated within the *v*P — hence negation is sensitive to the featural composition of the aspectual markers in V;

(iii) aspect in Chinese encodes definiteness (cf. Ramchand 2008a, b): perfective aspect is definite, while experiential aspect and the imperfective aspects are indefinite, though the imperfective aspects can be coerced to give a definite reading by a discourse binder.

Within such a shared framework, the standard negators under study are classified into three groups, each with distinct properties which determine their distribution and interpretation; the three groups are: (i) NegA, which consists of Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5*; (ii) Gaozhou Cantonese *mau5*; and (iii) NegB, which includes Mandarin *bù* and Hong Kong Cantonese *m4.*

First, Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5* have been argued to be the realisation of negation and the existential quantifier over the event variable. The analysis is based on Croft's (1991) Negative-Existential Cycle which postulates a cyclical development of forms from expressing lexical negative existential predication to functional encoding of verbal negation both typologically and diachronically. The historical data from Old Chinese to Modern Chinese (Chapter 4) demonstrates that such a development is attested in Chinese, particularly with negators such as Mandarin *méi(yǒu),* Hong Kong Cantonese *mou5* and Gaozhou Cantonese *mau5.* These negators are found to be at different stages of the Cycle: *méi(yǒu)* and *mou5* belong to Type B~C, where the special form developed to encode negative existentials has evolved to be used as a negator for other verbs besides the positive existential predicate. It has thus developed into a verbal negator, but is still limited to certain domains of the grammatical system. Gaozhou Cantonese *mau5* is of Type C~A, at which stage the original negative existential predicate has not only developed into a verbal negator but has gradually lost its existential meaning to become a 'pure' negator for the entire grammatical system. The historical background and Croft's Cycle provide empirical and theoretical support for the argument that *méi(yǒu)* and *mou5* are standard negators that realise both Neg and the existential quantifier (rather than Neg-Asp or Neg-PFV as suggested in previous studies). This successfully accounts for several facts: first, in bare negatives, *méi(yǒu)* and *mou5*

systematically deny the proposition by stating that the situation denoted does not exist, i.e. the non-existence reading; second, these negators are incompatible with individual-level predicates, which are argued to contain a habituality feature, [Hab], that clashes with the existentiality encoded in *méi(yǒu)* and *mou5.* Moreover, when the negative declarative sentence is aspectually-marked, *méi(yǒu)* and *mou5* are compatible only with indefinite aspects, because the presupposition of existence that definite aspects (perfective aspect and the coerced imperfective aspects) impose on the event would conflict with the Neg-∃ that *méi(yǒu)* and *mou5* realise.

Gaozhou Cantonese *mau5* shares the same historical origin as Mandarin *méi(yǒu)* and Hong Kong Cantonese *mou5*; thus its behaviour bears significant resemblance to that of *méi(yǒu)* and *mou5*, especially where negation-aspect compatibility is concerned. Nevertheless, since *mau5* has already developed into a general verbal negator that can apply to the entire grammatical system, its distribution and interpretation differs slightly from *méi(yǒu)* and *mou5* in bare negatives. *Mau5* is compatible with all situation types and the meaning of bare negatives is ambiguous between an existential reading and a modality reading (habitual or volitional). Consequently, this dissertation has proposed that *mau5* is a 'pure' propositional negator which optionally realises the existential quantifier only when it appears in negative existential constructions, but not in general verbal negation.

Finally, Mandarin *bù* and Hong Kong Cantonese *m4* are analysed as the negative realisations of the generic operator, Gen (cf. Chierchia 1995); this analysis contrasts with previous conceptions of *bù* as a neutral, general negator, and possibly one of the components forming *méi(yǒu)*. Empirical findings show that, where a variety has more than one standard negator, their distribution often does not create any grammaticality effect; instead, their contrast is mostly a semantic one. In bare negatives, while Mandarin *méiyǒu* and Hong Kong Cantonese *mou5* express non-existence of the situation, *bù* and *m4* consistently falsify the proposition by conveying a lack of habituality or volition for the realisation of the situation; this contrast is most prominent among eventive predicates. Consequently, the proposed analysis argues that *bù* and *m4* realise Neg and the generic operator (Gen) which is a modalised universal quantifier is licensed by the [Hab] feature on the verb in bare negatives; the [Hab] feature is in individual-level predicates and stage-level predicates that allow for a generic reading. Since *bù* and *m4*

are in fact Neg-Gen, they are incompatible with all aspectual marking as aspectually marked predicates necessarily receive an existential reading and excludes the possibility of having the [Hab] feature on the verb, leaving *bù* and *m4* without a licenser.

6.2 Directions for future research

One of the major empirical contributions of this thesis is the discovery of that Chinese does not necessarily involve a 'split' system of negation where there is more than one productive standard negator. Existing studies have predominantly focused on (standard) Mandarin on the mainland or in Taiwan, and these varieties have two productive standard negators, *bù* and *méi(yǒu)* in Beijing Mandarin and Taiwan Mandarin, as discussed in length in this dissertation. What this thesis has concluded is that, while the two-negator system is attested in a range of Chinese varieties — Hong Kong Cantonese and standard Mandarin varieties included (cf. Zhang 2002 discussed in Chapter 4) — Gaozhou Cantonese alerts us to the possibility of alternative negation systems within the family of Sinitic languages. Moreover, the fact that Gaozhou Cantonese standard negation behaves differently from either of the negators in Mandarin (or Hong Kong Cantonese) especially in bare negatives highlights the need to investigate the diversity of negation systems in Chinese varieties and its impact on other domains of the grammar, the temporal system in particular. The diversity found within Chinese can shed light on a broader scale typologically when we compare the various Chinese varieties with other languages; possible parameters for cross-linguistic similarity or variation include tenselessness and morphological analyticity (Huang 2006, 2015). This is highly plausible given that Croft's Negative-Existential Cycle has been identified in a number of Chinese varieties (Chapter 4; Zhang 2002; Xu 2017) as well as a typologically diverse sample of languages (cf. Croft 1991; Veselinova 2013, 2014, 2016), and that different stages in the NEC implicitly indicate the need for one or more than one standard negator in the system: Type A languages, for instance, can have only one standard negator as this is a system where negation of the positive existential predicate is treated on a par with general verbal negation. Conversely, Type B languages have developed a special form of negative existential by phonologically fusing the standard negator with the positive existential predicate, requiring the emergence of another negative marker

for the negation of 'ordinary' verbs. Therefore, the comparative study in this thesis has showcased how languages (even varieties within the same subfamily of languages) can have different systems of negation due to their stage of development in the NEC, and the findings here provide new insights for further cross-linguistic study along these lines.

Theoretically, the fact that aspect can encode definiteness has contributed substantially to the proposed account of negation-aspect compatibility. The idea itself is built on the link between definiteness and perfectivity, which accounts for the relation between aspect and case marking in Slavic languages (Leiss 2007; Ramchand 2008a, b), Finnish (Kiparsky 1999) and older stages of Germanic languages (Leiss 2007; Osawa 2007). The connection between case marking and aspect can be explained by case morphology and articles being strategies for marking referentiality on nominals. Osawa (2007) has shown that, typologically and historically, languages at least have an article system (D-system) or a morphological case system to turn an NP into an argument. Some, like Modern Greek, have both, but Modern Chinese is an exceptional case where neither is present in the grammatical system. This dissertation has presented a novel case of how definiteness can be encoded in the verbal domain despite its absence in the nominal domain, and how verbal definiteness as realised in aspectual marking interacts with other domains of the grammar such as negation. This presumably is one way for definiteness to be formalised in an article-less and tenseless language. It would require further cross-linguistic research — presumably on languages (i) with a D-system/article system; (ii) with morphological case; and (iii) without any overt marking of nominal referentiality — to identify the extent of similarity in the effect of verbal definiteness on nominal referentiality. Krifka (1992) has already discussed it in terms of definiteness in nominals and Aktionsart, but the link between nominal referentiality and aspectual definiteness in terms of viewpoint aspectual marking has yet to be investigated.

In addition, the Chinese findings also challenge the neat parallel between definiteness and perfectivity suggested in the literature, where linguistic sampling is mostly Eurocentric. Chapter 5 has demonstrated that perfective aspects such as experiential aspect can be indefinite, while imperfective aspects can also be coerced to give a definite interpretation. Therefore, without undermining the fundamental proposal that definiteness and aspect are connected, the findings in this thesis call for a finer-grained mapping between definiteness and

various aspects, since evidently aspect, cross-linguistically, is a more heterogeneous and diverse category than implied by the perfective-imperfective dichotomy. On the other hand, as proposed in Ramchand (2008a) and as evidenced in the Chinese varieties, discourse can play a significant role in coercing the imperfective aspects to give a definite reading. Nevertheless, this thesis has concentrated on accounting for the interaction between negation and the definiteness of aspectual markers, leaving the formalisation of possible syntax-discourse interface effects still open for future research.

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Appendices

Appendix A: control sentences and scores

A1 Well-formed control sentences

(1) a. 我喜歡小明

[BM]	5.0/5/0	*wo*	*xihuan*	*Xiaoming*
[TM]	5.0/5.0	*wo*	*xihuan*	*Xiaoming*
		I	like	Xiaoming

'I like Xiaoming'

b. 我鍾意小明

[HKC]	4.7/5.0	*ngo*	*zungji*	*Siuming*
[GZC]	4.4/5.0	*ngo*	*zungji*	*Siuming*
		I	like	Siuming

'I like Siuming'

(2) a. 我知道這件事

[BM]	5.0/5/0	*wo*	*zhidao*	*zhe*	*jian*	*shi*
[TM]	5.0/5/0	*wo*	*zhidao*	*zhe*	*jian*	*shi*
		I	know	this	CL	event

'I know about this event'

b. 我知道呢件事

[HKC]	4.9/5/0	*ngo*	*zidou*	*li*	*gin*	*si*
		I	know	this	CL	event

'I know about this event'

c. 我知道己件事

[GZC] 4.4/5/0 *ngo* *deidou* *gei* *gin* *si*

I know this CL event

'I know about this event'

(3) a. 小明總是看電視

[BM] 5.0/5.0 *Xiaoming* *zongshi* *kan* *dianshi*

[TM] 4.5/5.0 *Xiaoming* *zongshi* *kan* *dianshi*

Xiaoming always watch TV

'Xiaoming always watches TV' (or 'Xiaoming watches TV all the time')

b. 我成日睇電視

[HKC] 4.9/5.0 *ngo* *singjat* *tai* *dinsi*

[GZC] 4.4/5.0 *ngo* *singjat* *tai* *dinsi*

I always watch TV

'I always watch TV' (or I watch TV all the time)

(4) a. 小明哭得很大聲

[BM] 4.7/5.0 *Xiaoming* *ku-de* *hen* *dasheng*

[TM] 5.0/5.0 *Xiaoming* *ku-de* *hen* *dasheng*

Xiaoming cry-DAK very loud

'Xiaoming cried very loudly'

b. 我喊得好大聲

[HKC] 4.8/5.0 *ngo* *haam-dak* *hou* *daaiseng*

I cry-DAK very loud

'I cried very loudly'

c. 我哭得好大聲

[GZC] 4.7/5.0 *ngo* *huk-dak* *hou* *daaising*

I cry-DAK very loud

'I cried very loudly'

(5) a. 小明彈得很好聽

[BM]	4.7/5.0	*Xiaoming*	*tan-de*	*hen*	*haoting*
[TM]	5.0/5.0	*Xiaoming*	*tan-de*	*hen*	*haoting*
		Xiaoming	play-DAK	very	pleasant.to.hear

'Xiaoming played very well'

b. 我彈得好好聽

[HKC]	4.4/5.0	*ngo*	*taan-dak*	*hou*	*houteng*
[GZC]	4.7/5.0	*ngo*	*taan-dak*	*hou*	*houteng*
		I	play-DAK	very	pleasant.to.hear

'I played very well'

A2 Ill-formed control sentences

(6) a. 我聰明著

[BM]	1.3/5.0	*wo*	*congming-zhe*
[TM]	1.5/5.0	*wo*	*congming-zhe*
		I	clever-CONT

lit. 'I am clevering'

b. 我喺度聰明

[HKC]	1.5/5.0	*ngo*	*haidou cungming*
		I	be.loc clever

lit. 'I am clevering'

c. 我在己聰明

[GZC]	1.4/5.0	*ngo*	*coigei*	*cungming*
		I	be.here	clever

lit. 'I am clevering'

(7) a. 認真地小明思考

[BM]	1.2/5.0	*renzhe-de*	*Xiaoming*	*sikao*
[TM]	1.4/5.0	*renzhe-de*	*Xiaoming*	*sikao*
		serious-ly	Xiaoming	think

Intended: 'Xiaoming is seriously thinking'

b. 認真咁小明考慮

[HKC]	1.2/5.0	*jingzan-gam*	*Siuming*	*haauleoi*
		serious-ly	Siuming	consider

Intended: 'Siuming is seriously considering'

c. 認真咁小明思考

[GZC]	1.9/5.0	*jingzan-gam*	*Siuming*	*sihaau*
		serious-ly	Siuming	think

Intended: 'Siuming is seriously thinking'

(8) a. 我端得不是起這箱書

[BM]	1.1/5.0	*wo*	*duan-de*	*bu*	*shi*	*qi*	*zhe*	*xiang*	*shu*
[TM]	1.1/5.0	*wo*	*duan-de*	*bu*	*shi*	*qi*	*zhe*	*xiang*	*shu*
		I	lift-DAK	not	be	up	this	box	book

Intended: 'I am not able to lift up this box of books'

b. 我攞得唔係起呢箱書

[HKC]	1.2/5.0	*ngo*	*lo-dak*	*m*	*hai*	*hei*	*li*	*soeng*	*syu*
		I	take-DAK	not	be	up	this	box	book

Intended: 'I am not able to lift up this box of books'

c. 我捧得冇係起己箱書

[GZC]	1.6/5.0	*ngo*	*pung-dak*	*mau*	*hai*	*hei*	*gei*	*soeng*	*syu*
		I	lift-DAK	not	be	up	this	box	book

Intended: 'I am not able to lift up this box of books'

(9) a. 我吞得不是下這個饅頭

[BM]	1.2/5.0	*wo*	*tun-de*	*bu*	*shi*	*xia*	*zhe*	*ge*	*mantou*
[TM]	1.1/5.0	*wo*	*tun-de*	*bu*	*shi*	*xia*	*zhe*	*ge*	*mantou*
		I	swallow-DAK	not	be	down	this	CL	bun

Intended: 'I am not able to swallow this bun'

b. 我吞得唔係落個饅頭

[HKC]	1.1/5.0	*ngo*	*tan-dak*	*m*	*hai*	*lok*	*li*	*go*	*maantau*
		I	swallow-DAK	not	be	down	this	CL	bun

Intended: 'I am not able to swallow this bun'

c. 我吞得冇係開己隻饅頭

[GZC]	1.3/5.0	*ngo*	*tan-dak*	*mau*	*hai*	*hoi*	*gei*	*zik*	*maantau*
		I	swallow-DAK	not	be	open	this	CL	bun

Intended: 'I am not able to swallow this bun'

Appendix B: negative sentences with overt aspect marking

B1 Negation and perfective

B1.1 Beijing & Taiwan Mandarin

(1) 我 (不｜沒有) 害怕**了**老鼠

[BM]	*wo*	*(*bu*	|**mei-you)*	*haipa-**le***	*laoshu*
[TM]	*wo*	*(??bu*	|**mei-you)*	*haipa-**le***	*laoshu*
	I	not	|not-have	fear-**PFV**	rats

Affirmative: 'I feared rats.'

(2) 我 (不｜沒) 喜歡**了**小明

[BM]	*wo*	*(??bu*	|*??mei)*	*xihuan-**le***	*Xiaoming*
[TM]	*wo*	*(*bu*	|*??mei)*	*xihuan-**le***	*Xiaoming*
	I	not	|not.have	like-**PFV**	Xiaoming

Affirmative: 'I liked Xiaoming.'

(3) 我 (不｜沒有) 知道**了**這件事

[BM]	*wo*	*(*bu*	|**mei-you)*	*zhidao-**le***	*zhe*	*jian*	*shi*
[TM]	*wo*	*(*bu*	|**mei-you)*	*zhidao-**le***	*zhe*	*jian*	*shi*
	I	not	|not-have	know-**PFV**	this	CL	event

Affirmative: 'I knew about this event.'

(4) 我 (不｜沒有) 認識**了**陳先生

[BM]	*wo*	*(??bu*	|*??mei-you)*	*renshi-**le***	*Chen*	*xiansheng*
[TM]	*wo*	*(*bu*	|*??mei-you)*	*renshi-**le***	*Chen*	*xiansheng*
	I	not	|not-have	know-**PFV**	Chan	Mr

Affirmative: 'I knew Mr Chan.'

(5) 我 (不｜沒有) 散**了**步

[BM] *wo* *(??bu* |*??mei-you)* *san-**le**-bu*

[TM] *wo* *(*bu* |*??mei-you)* *san-**le**-bu*

I not |not-have stroll-**PFV**-steps

Affirmative: 'I strolled.'

(6) 我 (不｜沒) 唱**了**歌

[BM] *wo* *(??bu* |*??mei)* *chang-**le**-ge*

[TM] *wo* *(*bu* |**mei)* *chang-**le**-ge*

I not |not.have sing-**PFV**-song

Affirmative: 'I sang.'

(7) 我 (不｜沒有) 看**了**書

[BM] *wo* *(??bu* |*??mei-you)* *kan-**le*** *shu*

[TM] *wo* *(*bu* |*??mei-you)* *kan-**le*** *shu*

I not |not-have read-**PFV** book

Affirmative: 'I read books.'

(8) 我 (不｜沒) 跑**了**步

[BM] *wo* *(*bu* |*??mei)* *pao-**le**-bu*

[TM] *wo* *(*bu* |**mei)* *pao-**le**-bu*

I not |not.have run-**PFV**-steps

Affirmative: 'I ran.'

(9) 我 (不｜沒有) 吃**了**這塊蛋糕

[BM] *wo* *(??bu* |*??mei-you)* *chi-**le*** *zhe* *kuai* *dangao*

[TM] *wo* *(*bu* |*??mei-you)* *chi-**le*** *zhe* *kuai* *dangao*

I not |not-have eat-**PFV** this piece cake

Affirmative: 'I ate this piece of cake.'

(10) 我 (不｜沒) 寫**了**這封信

[BM] *wo*	*(??bu*	|??*mei)*	*xie-**le***	*zhe*	*feng*	*xin*
[TM] *wo*	*(*bu*	|??*mei)*	*xie-**le***	*zhe*	*feng*	*xin*
I	not	|not.have	write-**PFV**	this	CL	letter

Affirmative: 'I wrote this letter.'

(11) 我 (不｜沒有) 贏**了**比賽

[BM] *wo*	*(*bu*	|?*mei-you)*	*ying-**le***	*bisai*
[TM] *wo*	*(*bu*	|?*mei-you)*	*ying-**le***	*bisai*
I	not	|not-have	win-**PFV**	race

Affirmative: 'I won the race.'

(12) 我 (不｜沒) 認出**了**陳先生

[BM] *wo*	*(*bu*	|??*mei)*	*renchu-**le***	*Chen*	*xiansheng*
[TM] *wo*	*(*bu*	|??*mei)*	*renchu-**le***	*Chen*	*xiansheng*
I	not	|not.have	recognise-**PFV**	Chan	Mr

Affirmative: 'I recognised Mr Chan.'

(13) 我 (不｜沒有) 敲**了**門

[BM] *wo*	*(*bu*	|??*mei-you)*	*qiao-**le***	*men*
[TM] *wo*	*(*bu*	|**mei-you)*	*qiao-**le***	*men*
I	not	|not-have	knock-**PFV**	door

Affirmative: 'I knocked on the door.'

(14) 我 (不｜沒)打**了**嗝

[BM] *wo*	*(??bu*	|??*mei)*	*da-**le**-ge*	
[TM] *wo*	*(*bu*	|??*mei)*	*da-**le**-ge*	
I	not	|not.have	make-**PFV**-hiccup	

Affirmative: 'I hiccupped.'

B1.2 Hong Kong Cantonese

(15) 我 (唔｜冇) 驚咗老鼠

ngo	*(*m*	*|??mou)*	*geng-**zo***	*lousyu*
I	not	|not.have	fear-**PFV**	rats

Affirmative: 'I feared rats.'

(16) 我 (唔｜冇) 鍾意咗小明

ngo	*(??m*	*|??mou)*	*zungji-**zo***	*Siuming*
I	not	|not.have	like-**PFV**	Siuming

Affirmative: 'I liked Siuming.'

(17) 我 (唔｜冇) 知道咗呢件事

ngo	*(*m*	*|??mou)*	*zidou-**zo***	*li*	*gin*	*si*
I	not	|not.have	know-**PFV**	this	CL	event

Affirmative: 'I knew about this event.'

(18) 我 (唔｜冇) 識咗陳生

ngo	*(*m*	*|*mou)*	*sik-**zo***	*Can*	*Saang*
I	not	|not.have	know-**PFV**	Chan	Mr

Affirmative: 'I knew Mr Chan.'

(19) 我 (唔｜冇) 散咗步

ngo	*(*m*	*|*mou)*	*saan-**zo**-bou*
I	not	|not.have	stroll-**PFV**-steps

Affirmative: 'I strolled.'

(20) 我 (唔｜冇) 唱咗歌

ngo	*(*m*	*|*mou)*	*coeng-**zo**-go*
I	not	|not.have	sing-**PFV**-song

Affirmative: 'I sang.'

(21) 我 (唔｜冇) 睇咗書

ngo	*(*m*	|**mou)*	*tai-**zo***	*syu*
I	not	|not.have	read-**PFV**	book

Affirmative: 'I read books.'

(22) 我 (唔｜冇) 跑咗步

ngo	*(*m*	|**mou)*	*paau-**zo**-bou*	
I	not	|not.have	run-**PFV**-steps	

Affirmative: 'I ran.'

(23) 我 (唔｜冇) 食咗呢舊蛋糕

ngo	*(*m*	|*[?]mou)*	*sik-**zo***	*li*	*gau*	*daangou*
I	not	|not-have	eat-**PFV**	this	piece	cake

Affirmative: 'I ate this piece of cake.'

(24) 我 (唔｜冇) 寫咗呢封信

ngo	*(*m*	|*[??]mou)*	*se-**zo***	*li*	*fung*	*seon*
I	not	|not.have	write-**PFV**	this	CL	letter

Affirmative: 'I wrote this letter.'

(25) 我 (唔｜冇) 贏咗比賽

ngo	*(m*	|*[??]mou)*	*jeng-**zo***	*beicoi*
I	not	|not.have	win-**PFV**	race

Affirmative: 'I won the race.'

(26) 我 (唔｜冇) 打爛咗隻杯

ngo	*(*m*	|*[??]mou)*	*daalaan-**zo***	*zek*	*bui*
I	not	|not.have	shatter-**PFV**	CL	mug

Affirmative: 'I shattered the mug.'

(27) 我 (唔｜冇) 敲咗門

*ngo (*m |*mou) haau-**zo** mun*

I not |not.have knock-**PFV** door

Affirmative: 'I knocked on the door.'

(28) 我 (唔｜冇) 打咗思嚏

*ngo (*m |[??]mou) daa-**zo**-siik*

I not |not.have make-**PFV**-hiccup

Affirmative: 'I hiccupped.'

B1.3 Gaozhou Cantonese

(29) 我 (冇｜冇有) 狂嗲老鼠

*ngo ([??]mau |[??]mau jau) kwong-**de** lousyu*

I not |not have fear-**PFV** rats

Affirmative: 'I feared rats.'

(30) 我 (冇｜冇有) 鍾意嗲小明

*ngo ([??]mau |[??]mau jau) zungji-**de** Siuming*

I not |not have like-**PFV** Siuming

Affirmative: 'I liked Siuming.'

(31) 我 (冇｜冇有) 知道嗲己件事

*ngo ([??]mau |[??]mau jau) deidou-**de** gei gin si*

I not |not have know-**PFV** this CL event

Affirmative: 'I knew about this event.'

(32) 我 (冇｜冇有) 識得嗲陳先生

ngo ([??]mau |[??]mau jau) sikdak-de Can Sinsaang

I not |not have know-**PFV** Chan Mr

Affirmative: 'I knew Mr Chan.'

(33) 我 (冇｜冇有) 散嗲步

*ngo (??mau |??mau jau) saan-**de**-bou*

I not |not have stroll-**PFV**-steps

Affirmative: 'I strolled.'

(34) 我 (冇｜冇有) 唱嗲歌

*ngo (??mau |??mau jau) coeng-**de**-go*

I not |not have sing-**PFV**-song

Affirmative: 'I sang.'

(35) 我 (冇｜冇有) 睇嗲書

*ngo (??mau |??mau jau) tai-**de** syu*

I not |not have read-**PFV** book

Affirmative: 'I read books.'

(36) 我 (冇｜冇有) 跑嗲步

*ngo (??mau |??mau jau) paau-**de**-bou*

I not |not have run-**PFV**-steps

Affirmative: 'I ran.'

(37) 我 (冇｜冇有) 食嗲己舊蛋糕

ngo (?mau |??mau jau) sik-de gei gau daangou

I not |not have eat-**PFV** this piece cake

Affirmative: 'I ate this piece of cake.'

(38) 我 (冇｜冇有) 寫嗲己封信

*ngo (??mau |??mau jau) se-**de** gei fung seon*

I not |not have write-**PFV** this CL letter

Affirmative: 'I wrote this letter.'

(39) 我 (冇｜冇有) 贏嗲比賽

ngo *(*[??]*mau* |[??]*mau jau)* *jing-**de*** *beicoi*

I not |not have win-**PFV** race

Affirmative: 'I won the race.'

(40) 我 (冇｜冇有) 打爛嗲隻杯

ngo *(*[??]*mau* |[??]*mau jau)* *daalaan-**de*** *zik* *bui*

I not |not have shatter-**PFV** CL mug

Affirmative: 'I shattered the mug.'

(41) 我 (冇｜冇有) 敲嗲門

ngo *(*[??]*mau* |[??]*mau jau)* *haau-**de*** *mun*

I not |not have knock-**PFV** door

Affirmative: 'I knocked on the door.'

(42) 我 (冇｜冇有) 打嗲嗝

ngo *(*[??]*mau* |[??]*mau jau)* *daa-**de**-gaak*

I not |not have make-**PFV**-hiccup

Affirmative: 'I hiccupped.'

B2 Negation and experiential

B2.1 Beijing and Taiwan Mandarin

(43) 我 (不｜沒有) 害怕**過**老鼠

[BM]	*wo*	*(*bu*	*|[?]mei-you)*	*haipa-**guo***	*laoshu*
[TM]	*wo*	*(*bu*	*|mei-you)*	*haipa-**guo***	*laoshu*
	I	not	|not-have	fear-**EXP**	rats

Affirmative: 'I have feared rats before.'

(44) 我 (不｜沒) 喜歡**過**小明

[BM]	*wo*	*([??]bu*	*|mei)*	*xihuan-**guo***	*Xiaoming*
[TM]	*wo*	*([??]bu*	*|mei)*	*xihuan-**guo***	*Xiaoming*
	I	not	|not.have	like-**EXP**	Xiaoming

Affirmative: 'I have liked Xiaoming before.'

(45) 我 (不｜沒有) 知道**過**這件事

[BM]	*wo*	*([??]bu*	*|[??]mei-you)*	*zhidao-**guo***	*zhe*	*jian*	*shi*
[TM]	*wo*	*([??]bu*	*|[??]mei-you)*	*zhidao-**guo***	*zhe*	*jian*	*shi*
	I	not	|not-have	know-**EXP**	this	CL	event

Affirmative: 'I have known about this event before.'

(46) 我 (不｜沒有) 認識**過**陳先生

[BM]	*wo*	*(*bu*	*|[?]mei-you)*	*renshi-**guo***	*Chen*	*xiansheng*
[TM]	*wo*	*(*bu*	*|[?]mei-you)*	*renshi-**guo***	*Chen*	*xiansheng*
	I	not	|not-have	know-**EXP**	Chan	Mr

Affirmative: 'I have known Mr Chan before.'

(47) 我 (不｜沒有) 散**過**步

[BM] *wo* *(*bu* |*ʔmei-you)* *san-**guo**-bu*
[TM] *wo* *(*bu* |*ʔmei-you)* *san-**guo**-bu*
I not |not-have stroll-**EXP**-steps
Affirmative: 'I have strolled before.'

(48) 我 (不｜沒) 唱**過**歌

[BM] *wo* *(*bu* |*ʔmei)* *chang-**guo**-ge*
[TM] *wo* *(*bu* |*ʔmei)* *chang-**guo**-ge*
I not |not.have sing-**EXP**-song
Affirmative: 'I have sung before.'

(49) 我 (不｜沒有) 看**過**書

[BM] *wo* *(*bu* |*ʔmei-you)* *kan-**guo*** *shu*
[TM] *wo* *(*bu* |*mei-you)* *kan-**guo*** *shu*
I not |not-have read-**EXP** book
Affirmative: 'I have read books before.'

(50) 我 (不｜沒) 跑**過**步

[BM] *wo* *(*bu* |*ʔmei)* *pao-**guo**-bu*
[TM] *wo* *(*bu* |*mei)* *pao-**guo**-bu*
I not |not.have run-**EXP**-steps
Affirmative: 'I have run before.'

(51) 我 (不｜沒有) 吃**過**這塊蛋糕

[BM] *wo* *(*bu* |*ʔmei-you)* *chi-**guo*** *zhe* *kuai* *dangao*
[TM] *wo* *(*bu* |*mei-you)* *chi-**guo*** *zhe* *kuai* *dangao*
I not |not-have eat-**EXP** this CL cake
Affirmative: 'I have eaten this piece of cake before.'

(52) 我 (不｜沒) 寫**過**這封信

[BM] *wo*	*(*bu*	*|ʔmei)*	*xie-**guo***	*zhe*	*feng*	*xin*
[TM] *wo*	*(*bu*	*|mei)*	*xie-**guo***	*zhe*	*feng*	*xin*
I	not	|not.have	write-**EXP**	this	CL	letter

Affirmative: 'I have written this letter before.'

(53) 我 (不｜沒有) 贏**過**比賽

[BM] *wo*	*(*bu*	*|ʔmei-you)*	*ying-**guo***	*bisai*
[TM] *wo*	*(*bu*	*|mei-you)*	*ying-**guo***	*bisai*
I	not	|not-have	win-**EXP**	race

Affirmative: 'I have won in a race before'

(54) 我 (不｜沒) 認出**過**陳先生

[BM] *wo*	*(ʔʔbu*	*|ʔmei)*	*renchu-**guo***	*Chen*	*xiansheng*
[TM] *wo*	*(*bu*	*|ʔmei)*	*renchu-**guo***	*Chen*	*xiansheng*
I	not	|not.have	recognise-**EXP**	Chan	Mr

Affirmative: 'I have recognised Mr Chan before.'

(55) 我 (不｜沒有) 敲**過**門

[BM] *wo*	*(ʔʔbu*	*|ʔmei-you)*	*qiao-**guo***	*men*
[TM] *wo*	*(*bu*	*|mei-you)*	*qiao-**guo***	*men*
I	not	|not-have	knock-**EXP**	door

Affirmative: 'I have knocked on the door before.'

(56) 我 (不｜沒) 打**過**嗝

[BM] *wo*	*(*bu*	*|ʔmei)*	*da-**guo**-ge*	
[TM] *wo*	*(*bu*	*|mei)*	*da-**guo**-ge*	
I	not	|not-have	make-**EXP**-hiccup	

Affirmative: 'I have hiccupped before.'

B2.2 Hong Kong Cantonese

(57) 我 (唔｜冇) 驚**過**老鼠

ngo	*(*m*	*|ˀmou)*	*geng-**gwo***	*lousyu*
I	not	|not.have	fear-**EXP**	rats

Affirmative: 'I have feared rats.'

(58) 我 (唔｜冇) 鍾意**過**小明

ngo	*(ˀˀm*	*|mou)*	*zungji-**gwo***	*Siuming*
I	not	|not.have	like-**EXP**	Siuming

Affirmative: 'I have liked Siuming before.'

(59) 我 (唔｜冇) 知道**過**呢件事

ngo	*(ˀˀm*	*|ˀmou)*	*zidou-**gwo***	*li*	*gin*	*si*
I	not	|not.have	know-**EXP**	this	CL	event

Affirmative: 'I have known about this event before.'

(60) 我 (唔｜冇) 識**過**陳生

ngo	*(*m*	*|ˀmou)*	*sik-**gwo***	*Can*	*saang*
I	not	|not.have	know-**EXP**	Chan	Mr

Affirmative: 'I have known Mr Chan before.'

(61) 我 (唔｜冇) 散**過**步

ngo	*(*m*	*|mou)*	*saan-**gwo**-bou*
I	not	|not.have	stroll-**EXP**-steps

Affirmative: 'I have strolled before.'

(62) 我 (唔｜冇) 唱**過**歌

ngo	*(ˀˀm*	*|mou)*	*coeng-**gwo**-go*
I	not	|not.have	sing-**EXP**-song

Affirmative: 'I have sung before.'

(63) 我 (唔｜冇) 睇**過**書

ngo	*(*m*	*|mou)*	*tai-**gwo***	*syu*
I	not	|not.have	read-**EXP**	book

Affirmative: 'I have read books before.'

(64) 我 (唔｜冇) 跑**過**步

ngo	*(*m*	*|mou)*	*paau-**gwo**-bou*
I	not	|not.have	run-**EXP**-steps

Affirmative: 'I have run before.'

(65) 我 (唔｜冇) 食**過**呢舊蛋糕

ngo	*(*m*	*|mou)*	*sik-**gwo***	*li*	*gau*	*daangou*
I	not	|not.have	eat-**EXP**	this	CL	cake

Affirmative: 'I have eaten this piece of cake before.'

(66) 我 (唔｜冇) 寫**過**呢封信

ngo	*(*m*	*|mou)*	*se-**gwo***	*li*	*fung*	*seon*
I	not	|not.have	write-**EXP**	this	CL	letter

Affirmative: 'I have written this letter before.'

(67) 我 (唔｜冇) 贏**過**比賽

ngo	*(*m*	*|mou)*	*jeng-**gwo***	*beicoi*
I	not	|not.have	win-**EXP**	race

Affirmative: 'I have won in a race before.'

(68) 我 (唔｜冇) 打爛**過**隻杯

ngo	*(*m*	*|mou)*	*daalaan-**gwo***	*zek*	*bui*
I	not	|not.have	shatter-**EXP**	CL	mug

Affirmative: 'I have shattered the mug.'

(69) 我 (唔｜冇) 敲**過**門

ngo ([??]*m |*[?]*mou) haau-**gwo** mun*

I not |not.have knock-**EXP** door

Affirmative: 'I have knocked on the door before.'

(70) 我 (唔｜冇) 打**過**思嚏

*ngo (*m |mou) daa-**gwo**-siik*

I not |not.have make-**EXP**-hiccup

Affirmative: 'I have hiccupped before.'

B2.3 Gaozhou Cantonese

(71) 我 (冇｜冇有) 狂**過**老鼠

ngo (mau |[?]*mau jau) kwong-**gwo** lousyu*

I not |not have fear-**EXP** rats

Affirmative: 'I have feared rats.'

(72) 我 (冇｜冇有) 鍾意**過**小明

ngo (mau |[?]*mau jau) zungji-**gwo** Siuming*

I not |not have like-**EXP** Siuming

Affirmative: 'I have liked Siuming before.'

(73) 我 (冇｜冇有) 知道**過**己件事

ngo (mau |[?]*mau jau) deidou-**gwo** gei gin si*

I not |not have know-**EXP** this CL event

Affirmative: 'I have known about this event before.'

(74) 我 (冇｜冇有) 識得**過**陳先生

ngo ([?]*mau |*[??]*mau jau) sikdak-**gwo** Can sinsaang*

I not |not have know-**EXP** Chan Mr

Affirmative: 'I have known Mr Chan before.'

(75) 我 (冇｜冇有) 散**過**步

*ngo (mau |ʔmau jau) saan-**gwo**-bou*

I not |not have stroll-**EXP**-steps

Affirmative: 'I have strolled before.'

(76) 我 (冇｜冇有) 唱**過**歌

*ngo (mau |ʔmau jau) coeng-**gwo**-go*

I not |not have sing-**EXP**-song

Affirmative: 'I have sung before.'

(77) 我 (冇｜冇有) 睇**過**書

*ngo (mau |ʔmau jau) tai-**gwo** syu*

I not |not have read-**EXP** book

Affirmative: 'I have read books before.'

(78) 我 (冇｜冇有) 跑**過**步

*ngo (mau |ʔmau jau) paau-**gwo**-bou*

I not |not have run-**EXP**-steps

Affirmative: 'I have run before.'

(79) 我 (冇｜冇有) 食**過**己舊蛋糕

*ngo (mau |ʔmau jau) sik-**gwo** gei gau daangou*

I not |not have eat-**EXP** this CL cake

Affirmative: 'I have eaten this piece of cake before.'

(80) 我 (冇｜冇有) 寫**過**己封信

*ngo (mau |ʔmau jau) se-**gwo** gei fung seon*

I not |not have write-**EXP** this CL letter

Affirmative: 'I have written this letter before.'

(81) 我 (冇｜冇有) 贏**過**比賽

*ngo (ˀmau |ˀmau jau) jing-**gwo** beicoi*

I not |not have win-**EXP** race

Affirmative: 'I have won in a race before.'

(82) 我 (冇｜冇有) 打爛**過**隻杯

*ngo (ˀmau |ˀmau jau) daalaan-**gwo** zik bui*

I not |not have shatter-**EXP** CL mug

Affirmative: 'I have shattered the mug.'

(83) 我 (冇｜冇有) 敲**過**門

*ngo (mau |ˀmau jau) haau-**gwo** mun*

I not |not have knock-**EXP** door

Affirmative: 'I have knocked on the door before.'

(84) 我 (冇｜冇有) 打**過**嗝

*ngo (mau |ˀmau jau) daa-**gwo**-gaak*

I not |not have make-**EXP**-hiccup

Affirmative: 'I have hiccupped before.'

B3 Negation and preverbal imperfective be.at

B3.1 Beijing and Taiwan Mandarin

(85) 我 (不｜沒有) **在**害怕老鼠

[BM]	*wo*	*(??bu*	|*?mei-you)*	***zai***	*haipa*	*laoshu*
[TM]	*wo*	*(*bu*	|*?mei-you)*	***zai***	*haipa*	*laoshu*
	I	not	|not-have	PROG	fear	rats

Affirmative: *‘I am fearing rats.’

(86) 我 (不｜沒) **在**喜歡小明

[BM]	*wo*	*(??bu*	|*?mei)*	***zai***	*xihuan*	*Xiaoming*
[TM]	*wo*	*(*bu*	|*?mei)*	***zai***	*xihuan*	*Xiaoming*
	I	not	|not.have	PROG	like	Xiaoming

Affirmative: *‘I am liking Xiaoming.’

(87) 我 (不｜沒有) **在**知道這件事

[BM]	*wo*	*(*bu*	|**mei-you)*	***zai***	*zhidao*	*zhe*	*jian*	*shi*
[TM]	*wo*	*(*bu*	|**mei-you)*	***zai***	*zhidao*	*zhe*	*jian*	*shi*
	I	not	|not-have	PROG	know	this	CL	event

Affirmative: *‘I am knowing about this event.’

(88) 我 (不｜沒有) **在**認識陳先生

[BM]	*wo*	*(*bu*	|*??mei-you)*	***zai***	*renshi*	*Chen*	*xiansheng*
[TM]	*wo*	*(*bu*	|*??mei-you)*	***zai***	*renshi*	*Chen*	*xiansheng*
	I	not	|not-have	PROG	know	Chan	Mr

Affirmative: *‘I am knowing Mr Chan.’

(89) 我 (不｜沒有) **在**散步

[BM] *wo* *(ʔ bu* |*ʔmei-you)* ***zai*** *sanbu*

[TM] *wo* *(ʔʔbu* |*mei-you)* ***zai*** *sanbu*

I not |not-have PROG stroll

Affirmative: 'I am strolling.'

(90) 我 (不｜沒) **在**唱歌

[BM] *wo* *(ʔbu* |*ʔmei)* ***zai*** *chang-ge*

[TM] *wo* *(ʔʔbu* |*mei)* ***zai*** *chang-ge*

I not |not.have PROG sing-song

Affirmative: 'I am singing.'

(91) 我 (不｜沒有) **在**看書

[BM] *wo* *(ʔbu* |*ʔmei-you)* ***zai*** *kan-shu*

[TM] *wo* *(*bu* |*mei-you)* ***zai*** *kan-shu*

I not |not-have PROG read-book

Affirmative: 'I am reading.'

(92) 我 (不｜沒) **在**跑步

[BM] *wo* *(ʔbu* |*ʔmei)* ***zai*** *paobu*

[TM] *wo* *(ʔʔbu* |*mei)* ***zai*** *paobu*

I not |not.have PROG run

Affirmative: 'I am running.'

(93) 我 (不｜沒有) **在**吃這塊蛋糕

[BM] *wo* *(ʔʔbu* |*ʔmei-you)* ***zai*** *chi* *zhe* *kuai* *dangao*

[TM] *wo* *(*bu* |*ʔmei-you)* ***zai*** *chi* *zhe* *kuai* *dangao*

I not |not-have PROG eat this CL cake

Affirmative: 'I am eating this piece of cake.'

(94) 我 (不｜沒) **在**寫這封信

[BM] *wo*	*(??bu*	|?*mei)*	***zai***	*xie*	*zhe*	*feng*	*xin*
[TM] *wo*	*(*bu*	|?*mei)*	***zai***	*xie*	*zhe*	*feng*	*xin*
I	not	|not.have	PROG	write	this	CL	letter

Affirmative: 'I am writing this letter.'

(95) 我 (不｜沒有) **在**贏比賽

[BM] *wo*	*(*bu*	|??*mei-you)*	***zai***	*ying*	*bisai*
[TM] *wo*	*(*bu*	|??*mei-you)*	***zai***	*ying*	*bisai*
I	not	|not-have	PROG	win	race

Affirmative: 'I am winning races.'

(96) 我 (不｜沒) **在**認出陳先生

[BM] *wo*	*(*bu*	|??*mei)*	***zai***	*renchu*	*Chen*	*xiansheng*
[TM] *wo*	*(*bu*	|**mei)*	***zai***	*renchu*	*Chen*	*xiansheng*
I	not	|not.have	PROG	recognise	Chan	Mr

Affirmative: *'I am recognising Mr Chan.'

(97) 我 (不｜沒有) **在**敲門

[BM] *wo*	*(?bu*	|?*mei-you)*	***zai***	*qiao-men*
[TM] *wo*	*(??bu*	|*mei-you)*	***zai***	*qiao-men*
I	not	|not-have	PROG	knock-door

Affirmative: 'I am knocking on the door.'

(98) 我 (不｜沒) **在**打嗝

[BM] *wo*	*(??bu*	|?*mei)*	***zai***	*dage*
[TM] *wo*	*(*bu*	|*mei)*	***zai***	*dage*
I	not	|not.have	PROG	hiccup

Affirmative: ?'I am hiccupping.'

B3.2 Hong Kong Cantonese

(99) 我 (唔｜冇) **喺度**驚老鼠

*ngo (*m |[??]mou) **haidou** geng lousyu*

I not |not.have **be.loc** fear rats

Affirmative: *‘I am fearing rats.’

(100) 我 (唔｜冇) **喺度**鍾意小明

*ngo ([??]m |[??]mou) **haidou** zungji Siuming*

I not |not.have **be.loc** like Siuming

Affirmative: *‘I am liking Siuming.’

(101) 我 (唔｜冇) **喺度**知道呢件事

*ngo ([??]m |[??]mou) **haidou** zidou li gin si*

I not |not.have **be.loc** know this CL event

Affirmative: *‘I am knowing about this event.’

(102) 我 (唔｜冇) **喺度**識陳生

*ngo ([?]m |[??]mou) **haidou** sik Can saang*

I not |not.have **be.loc** know Chan Mr

Affirmative: *‘I am knowing Mr Chan.’

(103) 我 (唔｜冇) **喺度**散步

*ngo ([?]m |[?]mou) **haidou** saanbou*

I not |not.have **be.loc** stroll

Affirmative: ‘I am strolling.’

(104) 我 (唔｜冇) **喺度**唱歌

*ngo ([?]m |mou) **haidou** coeng-go*

I not |not.have **be.loc** sing-song

Affirmative: ‘I am singing.’

(105) 我 (唔｜冇) **喺度**睇書

ngo (ˀm |ˀmou) ***haidou*** *tai-syu*

I not |not.have **be.loc** read-book

Affirmative: 'I am reading.'

(106) 我 (唔｜冇) **喺度**跑步

ngo (ˀm |ˀmou) ***haidou*** *paaubou*

I not |not.have **be.loc** run

Affirmative: 'I am running.'

(107) 我 (唔｜冇) **喺度**食呢舊蛋糕

ngo (ˀm |ˀmou) ***haidou*** *sik li gau daangou*

I not |not.have **be.loc** eat this CL cake

Affirmative: 'I am eating this piece of cake.'

(108) 我 (唔｜冇) **喺度**寫呢封信

ngo (ˀm |ˀmou) ***haidou*** *se li fung seon*

I not |not.have **be.loc** write this CL letter

Affirmative: 'I am writing this letter.'

(109) 我 (唔｜冇) **喺度**贏比賽

ngo (ˀm |ˀˀmou) ***haidou*** *jeng beicoi*

I not |not.have **be.loc** win race

Affirmative: 'I am winning races.'

(110) 我 (唔｜冇) **喺度**打爛隻杯

ngo (ˀˀm |ˀˀmou) ***haidou*** *daalaan zek bui*

I not |not.have **be.loc** shatter CL mug

Affirmative: 'I am shattering the mug.'

(111) 我 (唔｜冇) **喺度**敲門

ngo (??m |?mou) ***haidou*** *haau-mun*

I not |not.have **be.loc** knock-door

Affirmative: 'I am knocking on the door.'

(112) 我 (唔｜冇) **喺度**打思嚏

ngo (??m |?mou) ***haidou*** *daasiik*

I not |not.have **be.loc** hiccup

Affirmative: ?'I am hiccupping.'

B3.3 Gaozhou Cantonese

(113) 我 (冇｜冇有) **在己**狂老鼠

ngo (??mau |??mau jau) ***coigei*** *kwong lousyu*

I not |not have **be.here** fear rats

Affirmative: *'I am fearing rats.'

(114) 我 (冇｜冇有) **在己**鍾意小明

ngo (??mau |??mau jau) ***coigei*** *zungji Siuming*

I not |not have **be.here** like Siuming

Affirmative: *'I am liking Siuming.'

(115) 我 (冇｜冇有) **在己**知道己件事

ngo (??mau |??mau jau) ***coigei*** *deidou gei gin si*

I not |not have **be.here** know this CL event

Affirmative: *'I am knowing about this event.'

(116) 我 (冇｜冇有) **在己**識得陳先生

ngo (?mau |??mau jau) ***coigei*** *sikdak Can sinsaang*

I not |not have **be.here** know Chan Mr

Affirmative: *'I am knowing Mr Chan.'

(117) 我 (冇｜冇有) **在己**散步

*ngo (mau |[??]mau jau) **coigei** saanbou*

I not |not have **be.here** stroll

Affirmative: 'I am strolling.'

(118) 我 (冇｜冇有) **在己**唱歌

*ngo (mau |[?]mau jau) **coigei** coeng-go*

I not |not have **be.here** sing-song

Affirmative: 'I am singing.'

(119) 我 (冇｜冇有) **在己**睇書

*ngo (mau |[??]mau jau) **coigei** tai-syu*

I not |not have **be.here** read-book

Affirmative: 'I am reading.'

(120) 我 (冇｜冇有) **在己**跑步

*ngo (mau |[??]mau jau) **coigei** paaubou*

I not |not have **be.here** run

Affirmative: 'I am running.'

(121) 我 (冇｜冇有) **在己**食己舊蛋糕

*ngo ([?]mau |[??]mau jau) **coigei** sik gei gau daangou*

I not |not have **be.here** eat this CL cake

Affirmative: 'I am eating this piece of cake.'

(122) 我 (冇｜冇有) **在己**寫己封信

*ngo ([?]mau |[??]mau jau) **coigei** se gei fung seon*

I not |not have **be.here** write this CL letter

Affirmative: 'I am writing this letter.'

(123) 我 (冇｜冇有) **在己**贏比賽

ngo	*(??mau*	*|??mau*	*jau)*	***coigei***	*jing*	*beicoi*
I	not	|not	have	**be.here**	win	race

Affirmative: 'I am winning races.'

(124) 我 (冇｜冇有) **在己**打爛隻杯

ngo	*(??mau*	*|??mau*	*jau)*	***coigei***	*daalaan*	*zik*	*bui*
I	not	|not	have	**be.here**	shatter	CL	mug

Affirmative: 'I am shattering the mug.'

(125) 我 (冇｜冇有) **在己**敲門

ngo	*(?mau*	*|?mau*	*jau)*	***coigei***	*haau-mun*
I	not	|not	have	**be.here**	knock-door

Affirmative: 'I am knocking on the door.'

(126) 我 (冇｜冇有) **在己**打嗝

ngo	*(?mau*	*|?mau*	*jau)*	***coigei***	*daagaak*
I	not	|not	have	**be.here**	hiccup

Affirmative: ?'I am hiccupping.'

B4 Negation and postverbal imperfective

B4.1 Beijing and Taiwan Mandarin

(127) 我 (不｜沒有) 害怕**着**老鼠

[BM]	*wo*	*(*bu*	*|??mei-you)*	*haipa-**zhe***	*laoshu*
[TM]	*wo*	*(*bu*	*|*mei-you)*	*haipa-**zhe***	*laoshu*
	I	not	|not-have	fear-CONT	rats

Affirmative: *‘I am fearing rats.’

(128) 我 (不｜沒) 喜歡**着**小明

[BM]	*wo*	*(??bu*	*|??mei)*	*xihuan-**zhe***	*Xiaoming*
[TM]	*wo*	*(*bu*	*|?mei)*	*xihuan-**zhe***	*Xiaoming*
	I	not	|not.have	like-CONT	Xiaoming

Affirmative: *‘I am liking Xiaoming.’

(129) 我 (不｜沒有) 知道**着**這件事

[BM]	*wo*	*(*bu*	*|*mei-you)*	*zhidao-**zhe***	*zhe*	*jian*	*shi*
[TM]	*wo*	*(??bu*	*|*mei-you)*	*zhidao-**zhe***	*zhe*	*jian*	*shi*
	I	not	|not-have	know-CONT	this	CL	event

Affirmative: *‘I am knowing about this event.’

(130) 我 (不｜沒有) 認識**着**陳先生

[BM]	*wo*	*(*bu*	*|??mei-you)*	*renshi-**zhe***	*Chen*	*xiansheng*
[TM]	*wo*	*(*bu*	*|*mei-you)*	*renshi-**zhe***	*Chen*	*xiansheng*
	I	not	|not-have	know-CONT	Chan	Mr

Affirmative: *‘I am knowing Mr Chan.’

(131) 我 (不｜沒有) 散**着**步

[BM] *wo* *(??bu* |??*mei-you)* *san-**zhe**-bu*

[TM] *wo* *(*bu* |?*mei-you)* *san-**zhe**-bu*

I not |not-have stroll-CONT-steps

Affirmative: 'I am strolling.'

(132) 我 (不｜沒) 唱**着**歌

[BM] *wo* *(??bu* |?*mei)* *chang-**zhe**-ge*

[TM] *wo* *(??bu* |?*mei)* *chang-**zhe**-ge*

I not |not.have sing-CONT-song

Affirmative: 'I am singing.'

(133) 我 (不｜沒有) 看**着**書

[BM] *wo* *(??bu* |?*mei-you)* *kan-**zhe*** *shu*

[TM] *wo* *(*bu* |?*mei-you)* *kan-**zhe*** *shu*

I not |not-have read-CONT book

Affirmative: 'I am reading books.'

(134) 我 (不｜沒) 跑**着**步

[BM] *wo* *(??bu* |?*mei)* *pao-**zhe**-bu*

[TM] *wo* *(*bu* |??*mei)* *pao-**zhe**-bu*

I not |not.have run-CONT-steps

Affirmative: 'I am running.'

(135) 我 (不｜沒有) 吃**着**這塊蛋糕

[BM] *wo* *(*bu* |??*mei-you)* *chi-**zhe*** *zhe* *kuai* *dangao*

[TM] *wo* *(*bu* |??*mei-you)* *chi-**zhe*** *zhe* *kuai* *dangao*

I not |not-have eat-CONT this piece cake

Affirmative: 'I am eating this piece of cake.'

(136) 我 (不｜沒) 寫**着**這封信

[BM]	*wo*	*(??bu*	|*??mei)*	*xie-**zhe***	*zhe*	*feng*	*xin*
[TM]	*wo*	*(*bu*	|*??mei)*	*xie-**zhe***	*zhe*	*feng*	*xin*
	I	not	|not.have	write-CONT	this	CL	letter

Affirmative: 'I am writing this letter.'

(137) 我 (不｜沒有) 贏**着**比賽

[BM]	*wo*	*(*bu*	|*??mei-you)*	*ying-**zhe***	*bisai*
[TM]	*wo*	*(*bu*	|*??mei-you)*	*ying-**zhe***	*bisai*
	I	not	|not-have	win-CONT	race

Affirmative: 'I am winning the race.'

(138) 我 (不｜沒) 認出**着**陳先生

[BM]	*wo*	*(*bu*	|*??mei)*	*renchu-**zhe***	*Chen*	*xiansheng*
[TM]	*wo*	*(*bu*	|*??mei)*	*renchu-**zhe***	*Chen*	*xiansheng*
	I	not	|not.have	recognise-CONT	Chan	Mr

Affirmative: *'I am recognising Mr Chan.'

(139) 我 (不｜沒有) 敲**着**門

[BM]	*wo*	*(*bu*	|*??mei-you)*	*qiao-**zhe***	*men*
[TM]	*wo*	*(*bu*	|*?mei-you)*	*qiao-**zhe***	*men*
	I	not	|not-have	knock-CONT	door

Affirmative: 'I am knocking on the door.'

(140) 我 (不｜沒) 打**着**嗝

[BM]	*wo*	*(??bu*	|*??mei)*	*da-**zhe**-ge*
[TM]	*wo*	*(*bu*	|*?mei)*	*da-**zhe**-ge*
	I	not	|not.have	make-CONT-hiccup

Affirmative: ?'I am hiccupping.'

B4.2 Hong Kong Cantonese

(141) 我 (唔｜冇) 驚**緊**老鼠

ngo	*(*m*	*|*mou)*	*geng-**gan***	*lousyu*
I	not	|not.have	fear-**PROG**	rats

Affirmative: *'I am fearing rats.'

(142) 我 (唔｜冇) 鍾意**緊**小明

ngo	*(??m*	*|??mou)*	*zungji-**gan***	*Siuming*
I	not	|not.have	like-**PROG**	Siuming

Affirmative: *'I am liking Siuming.'

(143) 我(唔｜冇) 知道**緊**呢件事

ngo	*(*m*	*|*mou)*	*zidou-**gan***	*li*	*gin*	*si*
I	not	|not.have	know-**PROG**	this	CL	event

Affirmative: *'I am knowing about this event.'

(144) 我 (唔｜冇) 識**緊**陳生

ngo	*(*m*	*|*mou)*	*sik-**gan***	*Can*	*saang*
I	not	|not.have	know-**PROG**	Chan	Mr

Affirmative: *'I am knowing Mr Chan.'

(145) 我 (唔｜冇) 散**緊**步

ngo	*(*m*	*|??mou)*	*saan-**gan**-bou*
I	not	|not.have	stroll-**PROG**-steps

Affirmative: 'I am strolling.'

(146) 我 (唔｜冇) 唱**緊**歌

ngo	*(*m*	*|?mou)*	*coeng-**gan**-go*
I	not	|not.have	sing-**PROG**-song

Affirmative: 'I am singing.'

(147) 我 (唔｜冇) 睇**緊**書

ngo	*(ˀˀm*	*|ˀmou)*	*tai-**gan***	*syu*
I	not	|not.have	read-PROG	book

Affirmative: 'I am reading books.'

(148) 我 (唔｜冇) 跑**緊**步

ngo	*(*m*	*|ˀmou)*	*paau-**gan**-bou*
I	not	|not.have	run-PROG-steps

Affirmative: 'I am running.'

(149) 我 (唔｜冇) 食**緊**呢舊蛋糕

ngo	*(*m*	*|ˀˀmou)*	*sik-**gan***	*li*	*gau*	*daangou*
I	not	|not.have	eat-PROG	this	piece	cake

Affirmative: 'I am eating this piece of cake.'

(150) 我 (唔｜冇) 寫**緊**呢封信

ngo	*(*m*	*|ˀˀmou)*	*se-**gan***	*li*	*fung*	*seon*
I	not	|not.have	write-PROG	this	CL	letter

Affirmative: 'I am writing this letter.'

(151) 我 (唔｜冇) 贏**緊**比賽

ngo	*(*m*	*|ˀˀmou)*	*jeng-**gan***	*beicoi*
I	not	|not.have	win-PROG	race

Affirmative: 'I am winning the race.'

(152) 我 (唔｜冇) 打爛**緊**隻杯

ngo	*(*m*	*|*mou)*	*daalaan-**gan***	*zek*	*bui*
I	not	|not.have	shatter-PROG	CL	mug

Affirmative: 'I am shattering the mug.'

(153) 我 (唔｜冇) 敲**緊**門

*ngo (*m |[?]mou) haau-**gan** mun*

I not |not.have knock-**PROG** door

Affirmative: 'I am knocking on the door.'

(154) 我 (唔｜冇) 打**緊**思嚏

*ngo (*m |[?]mou) daa-**gan**-siik*

I not |not.have make-**PROG**-hiccup

Affirmative: [?]'I am hiccupping.'

B4.3 Gaozhou Cantonese

(155) 我 (冇｜冇有) 狂**緊**老鼠

*ngo ([??]mau |*mau jau) kwong-**gan** lousyu*

I not |not have fear-**PROG** rats

Affirmative: *'I am fearing rats.'

(156) 我 (冇｜冇有) 鍾意**緊**小明

*ngo ([?]mau |[??]mau jau) zungji-**gan** Siuming*

I not |not have like-**PROG** Siuming

Affirmative: *'I am liking Siuming.'

(157) 我(冇｜冇有) 知道**緊**己件事

*ngo ([??]mau |[??]mau jau) deidou-**gan** gei gin si*

I not |not have know-**PROG** this CL event

Affirmative: *'I am knowing about this event.'

(158) 我 (冇｜冇有) 識得**緊**陳先生

*ngo ([??]mau |[??]mau jau) sikdak-**gan** Can sinsaang*

I not |not have know-**PROG** Chan Mr

Affirmative: *'I am knowing Mr Chan.'

(159) 我 (冇｜冇有) 散**緊**步

*ngo (ˀmau |ˀˀmau jau) saan-**gan**-bou*

I not |not have stroll-**PROG**-steps

Affirmative: 'I am strolling.'

(160) 我 (冇｜冇有) 唱**緊**歌

*ngo (ˀmau |ˀˀmau jau) coeng-**gan**-go*

I not |not have sing-**PROG**-song

Affirmative: 'I am singing.'

(161) 我 (冇｜冇有) 睇**緊**書

*ngo (ˀmau |ˀˀmau jau) tai-**gan** syu*

I not |not have read-**PROG** book

Affirmative: 'I am reading books.'

(162) 我 (冇｜冇有) 跑**緊**步

*ngo (ˀmau |ˀˀmau jau) paau-**gan**-bou*

I not |not have run-**PROG**-steps

Affirmative: 'I am running.'

(163) 我 (冇｜冇有) 食**緊**己舊蛋糕

*ngo (ˀˀmau |ˀˀmau jau) sik-**gan** gei gau daangou*

I not |not have eat-**PROG** this piece cake

Affirmative: 'I am eating this piece of cake.'

(164) 我 (冇｜冇有) 寫**緊**己封信

*ngo (ˀˀmau |ˀˀmau jau) se-**gan** gei fung seon*

I not |not have write-**PROG** this CL letter

Affirmative: 'I am writing this letter.'

(165) 我 (冇｜冇有) 贏**緊**比賽

*ngo (ˀmau |ˀˀmau jau) jing-**gan** beicoi*

I not |not have win-PROG race

Affirmative: 'I am winning the race.'

(166) 我 (冇｜冇有) 打爛**緊**隻杯

*ngo (ˀˀmau |ˀˀmau jau) daalaan-**gan** zik bui*

I not |not have shatter-PROG CL mug

Affirmative: 'I am shattering the mug.'

(167) 我 (冇｜冇有) 敲**緊**門

*ngo (ˀmau |ˀˀmau jau) haau-**gan** mun*

I not |not have knock-PROG door

Affirmative: 'I am knocking on the door.'

(168) 我 (冇｜冇有) 打**緊**嗝

*ngo (ˀˀmau |ˀˀmau jau) daa-**gan**-gaak*

I not |not have make-PROG-hiccup

Affirmative: ˀ'I am hiccupping.'

Appendix C: Periodisation of the Chinese language

Table C1. Proposed periodisation of the Chinese language.

Dynasty/Era	Capital city (Present-day location)	PHONOLOGICAL PERIODISATION		GRAMMATICAL PERIODISATION			MULTI-CRITERIA
		Karlgren 1915	Norman 1988	Pan 1982	Ohta 1988	Peyraube 1988, 1996	Wang 1958
Xia *ca. 2100-1600BC*		Proto-Chinese (period before literary record					Shanggu Hanyu 'Early Old Chinese' period before 3rd c. AD
Shang *ca. 1600-1028BC*	Bo (Shangdong); Yin (Anyang)			Early Shanggu Hanyu (Early Old Chinese)	Shanggu Hanyu (Early Old Chinese)	Pre-Archaic Chinese 14th - 11th c. BC Early Archaic Chinese 10th - 6th c. BC	
Western Zhou *1027-771BC*	Gaojing (Xi'an); Luoyi (Luoyang)	Archaic Chinese (compilation of *Shijing*)	Old Chinese, a.k.a. Shanggu Hanyu ca. 1000BC				
Spring & Autumn period *770-481BC*				Middle Shanggu Hanyu (Middle Old Chinese)		Late Archaic Chinese 5th - 2nd c. BC	
Warring States period *480-222BC*							
Qin *221-207BC*	Xianyang						
Han *206BC-AD220*	Changan (Xi'an)			Late Shanggu Hanyu (Late Old Chinese)		*Transition:* Pre-Medieval Chinese 1st c. BC-1st c. AD Early Medieval Chinese 2nd - 6th c.	*Transition:* 3rd - 4th c. AD
Wei-Jin period *AD220-420*	Luoyang			Zhonggu Hanyu (Middle Chinese)	Zhonggu Hanyu (Middle Old Chinese)		Zhonggu Hanyu 'Middle Old Chinese' 4th - 12th c.
Southern & Northern dynasties *420-589*	Jiankang (Nanjing); Changan (Xi'an)						

Sui *589-618*	Changan (Xi'an)	Ancient Chinese (*Qieyun* AD601)	Middle Chinese, a.k.a. Zhonggu Hanyu (*Qieyun* AD601)			Late Medieval Chinese 7th - mid-13th c.	
Tang *618-907*	Changan (Xi'an)			Late Zhonggu Hanyu (Late Middle Chinese)	Jingu (Late Old Chinese)		
Five Dynasties & Ten Kingdoms *907-960*	Bian (Kaifeng)						
Song *960-1279*	Dongjing (Kaifeng)	Middle Chinese (Song rhyme tables)	Old Mandarin Song - early Ming dynasty	Jindai Hanyu (Pre-Modern Chinese) Song dynasty - 1842			*Transition:* 12th - 13th c. AD
Yuan *1271-1368*	Dadu (Beijing)					*Transition:* Pre-Modern Chinese mid-13th c.-14th c.	Jindai Hanyu (Pre-Modern Chinese) 13th c. - 1842
Ming *1368-1661*	Yingtian (Nanjing); Beijing	Old Mandarin (*Hongwu Zhengyun*)	Middle Mandarin Ming - early Qing			Modern Chinese 15th - mid-19th c.	
Qing *1644-1911*	Beijing		Modern Mandarin 19th-20th c.		Jindai Hanyu (Pre-Modern Chinese)	Contemporary Chinese mid-19th c. - present	*Transition:* 1842-1919
Republican era *1911-1949*	Nanjing			Xiandai Hanyu (Modern Chinese) 1919-present	Xiandai Hanyu (Modern Chinese) 1911-present		Xiandai Hanyu (Modern Chinese) 1919-present
PRC *1949-present*	Beijing						

Map C2. Location of historic capital cities and four contemporary Chinese varieties examined (cf. Zhou 1995, Wan 1958).

Source:
https://pasarelapr.com/images/map-of-china-with-cities/map-of-china-with-cities-25.jpg

Legend:

- Major historical capital cities
  - Xi'an (Shaanxi Province)
  - Luoyang (Henan Province)
  - Kaifeng (Henan Province)
  - Nanjing (Jiangsu Province)
  - Beijing (capital city of the PRC)

- Location of contemporary Chinese varieties examined in the present study
  - Beijing Mandarin
  - Taiwan Mandarin
  - Hong Kong Cantonese
  - Gaozhou Cantonese (in Maoming, Guangdong Province)

Appendix D: Data on historical texts selected

Table D1. Basic information of selected texts

Texts		Year of compilation	Possible location of the koine represented	Total no. of words in text
I	《論語》 *The Analects*	480-350BC	Luoyang, Henan	12700
II	《史記》 *Shiji*	109-91BC	Xi'an, Shaanxi	526500
III	《三國志》 *Records of the Three Kingdoms*	AD265-300	Luoyang, Henan	350833
IV	《世說新語》 *A New Account of the Tales of the World*	420-581	Nanjing, Jiangsu; Xi'an, Shaanxi	68967
V	《太平廣記》 *Taiping Guangji*	977-978	Kaifeng, Henan	1782000
VI	《朱子語類》 *Zhuzi Yulei*	1270	Kaifeng, Henan	1973905
VII	《西遊記》 *Journey to the West*	1520-1580	Nanjing, Jiangsu; Beijing	589137
VIII	《紅樓夢》 *Dream of the Red Chamber*	1784	Beijing	731017

Table D2. Number of occurrences of different [NEG-*yǒu*] 'NEG-have' in texts

Texts	勿 *wù*	毋 *wú*	弗 *fú*	匪 *fěi*	非 *fēi*	未 *wèi*	微 *wēi*	蔑 *miè*	莫 *mò*	不 *bù*	無 *wú*	沒 *méi*	Total no. of [NEG+*yǒu*] tokens
I	0	0	0	0	0	2	0	0	0	3	0	0	**5**
II	0	12	0	1	34	76	0	0	2	15	31	0	**171**
III	2	0	0	0	11	67	0	0	10	6	10	0	**106**
IV	0	0	0	0	0	20	1	0	9	4	6	0	**40**
V	1	0	0	1	32	91	31	0	34	19	102	13	**324**
VI	2	0	0	0	52	420	37	0	16	94	134	1	**756**
VII	0	0	0	0	2	4	1	0	1	4	8	69	**89**
VIII	0	0	0	0	1	7	5	0	0	7	9	801	**830**

Table D3. Frequency of occurrences of individual negators.

Texts	*wei4*	*wu4*	*wu2*	*fei1*	*mo4*	*wei1*	*fei3*	*bu4*	*wu2*	*mei2*	TOTAL
I	57	13	7	33	18	6	0	583	131	6	**854**
II	857	127	355	794	406	163	9	8041	2036	54	**12842**
III	1692	140	3	1268	422	254	44	10387	2818	213	**17241**
IV	168	15	3	92	48	18	0	1177	307	8	**1836**
V	2879	447	12	1970	1015	615	19	19571	6738	357	**33623**
VI	4940	557	107	3627	1212	615	45	38889	10577	401	**60970**
VII	384	52	1	151	750	103	0	8877	1762	555	**12635**
VIII	684	3	0	209	81	162	4	14411	1273	2310	**19137**

Figure D4. Frequency of occurrences of individual negators.

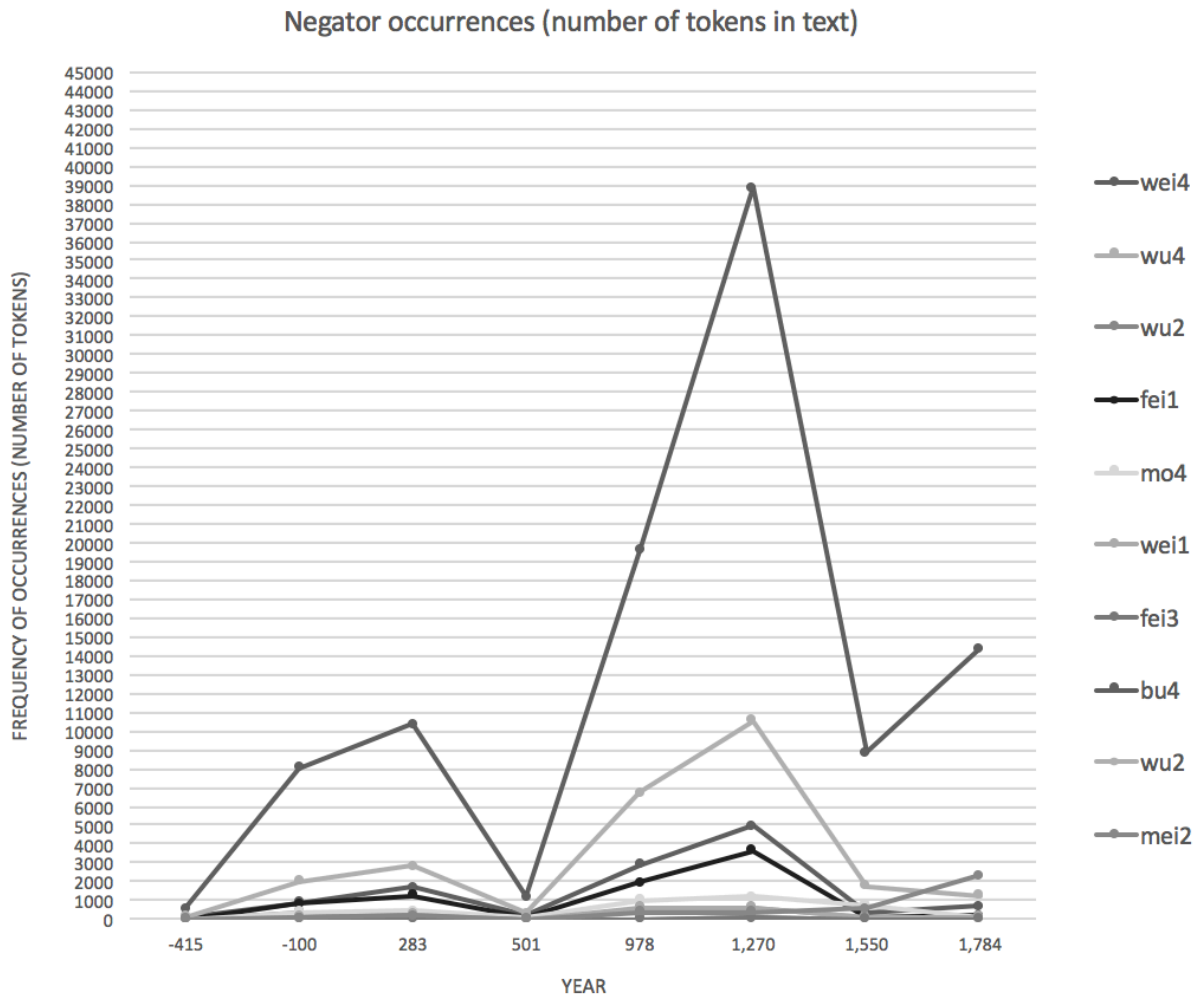

Table D5. Frequency of occurrences of individual negators in percentages.

Texts	*wei4*	*wu4*	*wu2*	*fei1*	*mo4*	*wei1*	*fei3*	*bu4*	*wu2*	*mei2*
I	6.7%	1.5%	0.8%	3.9%	2.1%	0.7%	0.0%	68.3%	15.3%	0.7%
II	6.7%	1.0%	2.8%	6.2%	3.2%	1.3%	0.1%	62.6%	15.9%	0.4%
III	9.8%	0.8%	0.0%	7.4%	2.4%	1.5%	0.3%	60.2%	16.3%	1.2%
IV	9.2%	0.8%	0.2%	5.0%	2.6%	1.0%	0.0%	64.1%	16.7%	0.4%
V	8.6%	1.3%	0.0%	5.9%	3.0%	1.8%	0.1%	58.2%	20.0%	1.1%
VI	8.1%	0.9%	0.2%	5.9%	2.0%	1.0%	0.1%	63.8%	17.3%	0.7%
VII	3.0%	0.4%	0.0%	1.2%	5.9%	0.8%	0.0%	70.3%	13.9%	4.4%
VIII	3.6%	0.0%	0.0%	1.1%	0.4%	0.8%	0.0%	75.3%	6.7%	12.1%

Figure D6. Frequency of occurrences of individual negators relative to total occurrences of negators in text.