Focus Placement and Interpretations of Bare Gradable Adjective Predicates in Mandarin Chinese

Thesis

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Abstract

In this study, I identify four structures in which a bare gradable adjective predicate can have either a positive or a comparative reading depending on the context. The four structures are the simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons, and polar questions. This study makes contributions to the field of Chinese linguistics in the following two ways: First, to the best of my knowledge, the empirical data provided in this thesis is different from previous studies. This data set challenges the widespread assumption that a bare gradable adjective predicate in the above four structures can only have one reading in all contexts. This thesis cites empirical data and tests to suggest that the interpretation of a bare gradable adjective predicate depends on context in the above four structures. Second, different from previous studies, this thesis takes a focus-based pragmatic approach in analyzing the reported context dependency of the interpretation of a bare gradable adjective in the four target structures. In this thesis, I apply Roberts' (1996/2012) QUD and question/answer congruence theory to capture the interaction between different contexts and the semantics of a bare gradable adjective predicate in the four target structures. In this study, the context dependency of a bare gradable adjective predicate's interpretation is reduced to the identification of focus placement in an utterance. I observe that when the predicate is focused in the target structures, only the positive reading of a bare gradable adjective predicate will be permitted. In contrast, when the subject is focused, a gradable adjective can only allow for a

comparative reading. In this study, I argue that focus placement in Mandarin Chinese presupposes the type of question it can answer. Following Roberts (1996/2012), I assume that a question sets up a partition over the context set and each cell in the context set corresponds to one possible answer of the question. Since questions are holes to presupposition (Kattunen 1973), all the possible answers, i.e., all the instantiations of the question, carry all of the question's presuppositions. In this way, the context dependency of gradable adjective predicates' interpretation is linked to the identification of the QUD's presupposition.

Dedication

Dedicated to my parents Ke Wang 王克 and Ping Huang 黄萍

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Chapter 1 The context dependency of bare gradable adjective predicates' interpretation

In this thesis, I provide an empirical description and a theoretical analysis of the context dependency of bare gradable adjective predicates' interpretation in simple gradable adjective predications, the contrastive focus construction, *gen…xiangbi* comparisons, and polar questions in Mandarin Chinese. I will provide empirical data and tests to argue that a bare gradable adjective predicate such as *gao* in the above four structures can either mean 'tall' or 'taller' in appropriate contexts. In addition, I cite Roberts' (1996/2012) Question Under Discussion (QUD) and question/answer congruence theories to provide a focus-based pragmatic account for the observed phenomenon.

In this chapter, I will first introduce the distinction between a positive reading and a comparative reading of a gradable adjective then I will introduce the context dependency of a bare gradable adjective predicate's interpretation. The empirical data and tests suggest that a bare gradable adjective predicate in simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons can take either a positive or a comparative reading in different contexts.[1]

[1] As stated earlier, there are four target structures in this study. In chapter 1, I will first present data of simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons

1.1 Introduction

Adjectives in Mandarin Chinese can be categorized into two groups: **non-gradable adjectives** and **gradable adjectives** (Zhu 1980, 1982; Lǔ 1984; Liu et al 2001; Shi 2001). The former group includes adjectives such as *zhen* 'true, *jia* 'fake', and *cuo* 'wrong', which are not compatible with pre-adjective degree modifiers such as *hen* 'very', *feichang* 'very', *tebie* 'extremely', *xiangdang* 'quite', *geng* 'more', and *bijiao* 'relatively' or post-adjective modifiers such as *hen duo* 'a lot' and *yi dian* 'a little'.[2] See examples in (1a) and (1b), respectively. On the other hand, adjectives such as *gao* 'tall', *ai* 'short', and *hou* 'thick' fall into the second category and they can be preceded or followed by degree morphemes. See (2a) and (2b) for examples.

(1) a. * Ni-de da'an hen/feichang/tebie/ xiangdang/geng/bijiao **cuo**.
your answer very/very/ extremely/ quite/ more/relatively wrong

b. *Ni-de da'an **cuo** hen duo/yi dian.
your answer wrong a lot/ a little

(2) a. Zhangsan hen/ feichang/tebie/ xiangdang/geng/bijiao **gao**.
Zhangsan very/ very/ extremely/ quite/ more/relatively tall
'Zhangsan is very/very/extremely/quite tall/taller/taller.'

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and will address polar questions in chapter 3. Motivations for such organization will become clear in chapter 3.

[2] Some non-gradable adjectives such as *cuo* 'wrong' can be preceded by the 'degree modifier + **de**' structure. See below for example. This study excludes this structure and only examines cases where the gradable adjective is modified by a bare degree modifier.

Zhangsan feichang **de** cuo.
Zhangsan very DE wrong
'Zhangsan is very wrong.'

b. Zhangsan **gao** hen duo/yi dian.

Zhangsan tall a lot/ a little

'Zhangsan is a lot/a little taller (than someone known from context).'

Now that I have distinguished gradable adjectives from non-gradable adjectives, I limit this thesis to the discussion of gradable adjectives' interpretation in Mandarin Chinese. To begin the discussion, I need to introduce the distinction between the comparative reading and the positive reading of a gradable adjective. In (2a), among the pre-adjective degree modifiers, *geng* 'more' and *bijiao* 'relatively' differ from the rest in that they have comparative implications (see e.g., Lin 2014). *Geng gao* and *bijiao gao* in (2a) mean 'taller' rather than '(very) tall' and we refer to *gao*'s meaning in *geng gao* and *bijiao gao* as the **comparative reading** of a gradable adjective. In (2a), other pre-adjective degree modifiers such as *hen* 'very' modify the extent of degree denoted by a gradable adjective and we call the meaning of *gao* in *hen gao* 'very tall' the **positive reading** of a gradable adjective. In (2b), when degree modifiers occur in the post-adjective position, *gao* can only permit a comparative reading.

Data in (2) indicate that the semantic interpretation of a gradable adjective is specified in the presence of a degree modifier. However, data in (3b) and (4b) suggest that without degree modifiers, the gradable predicate *gao* 'tall' in (2) can either permit a **positive** or a **comparative** reading given appropriate context. The contrast between (2) on the one hand, and (3b) and (4b) on the other suggests that the (non)occurrence of degree modifiers does not affect the grammaticality of (2) but plays a role in interpreting the semantics of the gradable predicate *gao* in (2). When modified by a degree modifier, the gradable adjective predicate *gao*'s meaning is specified. In contrast,

without degree modifiers, *gao*'s interpretation depends on context. To be specific, as shown in (3b), the positive reading of *gao* 'tall' is permitted when (3b) is used to answer (3a). *gao* 'tall' in (3b) means 'positively tall', i.e., tall relative to a contextually provided standard.[3] In contrast, *gao* 'tall' in (4b) means 'taller than an individual known from context'. In other words, the comparative reading of *gao* arises in (4b) when (4b) is used to answer (4a).

(3) a. *interlocutor A*:

Zhangsan gao ma?[4] (polar question)

Zhangsan tall SFP

'Is Zhangsan tall?'

b. *interlocutor B*:

Zhangsan gao. (positive reading)

Zhangsan tall

'Zhangsan is tall.'

[3] A context provided standard means a standard that is provided by a context. It can be an arbitrary degree such as 'the standard of tallness for human beings' or an arbitrary individual such as 'Zhangsan'. When the context provided standard is an arbitrary degree, a positive reading of a gradable adjective denotes a comparison between an individual and a degree (degree comparison). When the contextually provided standard is an arbitrary individual, a positive reading of a gradable adjective denotes a comparison between the target of comparison and an arbitrary individual (individual comparison). For now, it is sufficient to know that a comparison denoted by a positive reading of a gradable adjective differs from a comparison denoted by a comparative reading of a gradable adjective in important ways. I will return to the differences between these two kinds of contextually provided standard in the discussion of *gen…xiangbi* comparisons in the latter part of this chapter.

[4] Abbreviations:

SFP=sentence final particle
SHI= Shi
CL=classifier
NEG=negation
3SG=third person singular
PAR=particle
DE=de
ASP=aspect
DOU=dou

(4) a. *interlocutor A*:

Zhangsan he Lisi, shui gao? (*shui* 'who'-question)

Zhangsan and Lisi who tall

'As for Zhangsan and Lisi, who is taller?'

b. *interlocutor B*:

Zhangsan gao. (comparative reading)

Zhangsan tall

'Zhangsan is taller (than Lisi).'

The difference between the positive reading of *gao* in (3b) and the comparative reading of *gao* in (4b) can be demonstrated by their different requirements on context. (3b) requires Zhangsan to meet a contextually provided standard of tallness, while (4b) requires Zhangsan's height to exceed another individual's height. Among the example contexts in (5), Zhangsan meets the standard of tallness in (5a) and (5c), but not in (5b) or (5d). As a response to (3a), (3b) is felicitous in the context of (5a) and (5c), but not in (5b) or (5d). See the notations listed under (3b) in (5), where √ and X standards for the felicity and infelicity of (3b) occurring in certain contexts, respectively. The same notation applies to the rest of the thesis. The above discussion suggests that the felicity of (3b) places the following requirement for appropriate contexts: Zhangsan's height meets the contextually provided standard of being tall. In contrast, the above requirement does not apply to (4b). (4b) is a felicitous response to (4a) despite the specific standard of tallness defined in the context. As indicated by notations listed under (4b) in (5), (4b) is felicitous in the context of (5c) and (5d), but not in (5a) or (5b).

In (5c) and (5d), Zhangsan meets the standard of tallness in the former but not in the latter. However, this difference does not affect the felicity of (4b) occurring in either of the contexts, which indicates that the felicity of (4b) is not contingent on the contextually defined standard of tallness. In addition, the fact that (4b) is a felicitous answer to (4a) in the context of (5c) but not in (5a) implies that (4b) requires the existence of more than one individual's height known from the context. Such claim is further supported by the fact that (4b) is felicitous in (5d) but not in (5b). In both (5d) and (5b), Zhangsan does not meet the standard of tallness but (5d) contains information of both Zhangsan and Lisi while (5b) only includes information of one individual, i.e., Zhangsan. Thus, the contrast between (5d) and (5b) also suggests that the felicity of (4a) requires the existence of two individuals known from the context.

(5) (3b) (4b)

a. People who are over 170 cm are tall. Zhangsan is 172 cm. (√) (X)

b. People who are over 175 cm are tall. Zhangsan is 172 cm. (X) (X)

c. People who are over 170 cm are tall. Zhangsan is 172 cm. Lisi is 171 cm. (√) (√)

d. People who are over 190 cm are tall. Zhangsan is 172 cm. Lisi is 171 cm. (X) (√)

The above discussion indicates that (3b) and (4b) constrain context in different ways. The former requires the availability of a contextually provided standard, while the latter calls for the existence of more than one individual known from the context. In other words, (3b) and (4b) express two kinds of comparisons and the gradable

adjective predicate *gao* in (3b) and (4b) takes two different readings. (3b) conveys a comparison between Zhangsan's height and a contextually provided standard of tallness and the gradable adjective predicate *gao* in (3b) takes a positive reading. On the other hand, (4b) states a comparison between Zhangsan's height and Lisi's height and *gao* in (4b) takes a comparative interpretation.

The different readings of *gao* in (3b) and (4b) are further supported by the complementary distribution of (6) and (7) as the response to (3a) and (4a). In (6), *gao* is modified by *yi dian* 'a little/a bit' and it takes a comparative reading. In (7), *gao* is modified by *hen* 'very' and it takes a positive reading. As illustrated in table 1, (6) is a felicitous response to (4a), a *shui* 'who'-question, but is odd in the context of (3a), a polar question, while (7) can felicitously answer (3a) but not (4a). The fact that (3a) is not compatible with answers that denote comparative predications indicate that (3a) calls for answers that denote positive predications. Since (3b) is a felicitous answer to (3a), (3b) can only denote a positive predication and *gao* in (3b) can only take a positive reading in the context given in (3a). Similarly, the fact that (4a), a *shui* 'who'-question, excludes answers that denote positive predications indicates that (4a) requires a comparative predication as its answer. Since (4b) is a felicitous response to (4a), (4b) can only denote a comparative predication and *gao* in (4b) can only obtain a comparative reading in the given context in (4a).

(6) Zhangsan gao yi dian. (comparative reading)

Zhangsan tall a little

'Zhangsan is a little taller (than someone known from context).'

(7) Zhangsan hen gao.[5] (positive reading)

Zhangsan very tall

'Zhangsan is very tall.'

Table 1. The complimentary distribution of (6) and (7) as the response to (3a) and (4a)

	(3a) polar question	(4a) *shui* 'who'-question
(6) comparative reading	#	√
(7) positive reading	√	#

To summarize, our discussions on (3b) and (4b) indicate that the string-identical utterance *Zhangsan gao* can denote different kinds of predication when it is used in different contexts. When it is used in a context such as (3a), a polar question, where the speaker is interested to know whether Zhangsan can be considered tall according to a contextually provided standard, the utterance *Zhangsan gao* denotes a positive predication and the gradable adjective *gao* takes a positive reading. However, when the context is to compare the height of two individuals such as Zhangsan and Lisi in (4a), a *shui* 'who'-question, the utterance *Zhangsan gao* denotes a comparative predication and *gao* takes a comparative reading. In other words, both (3b) and (4b) denote comparisons but they differ from each other in the type of comparison indicated by the bare gradable adjective predicate *gao*. *Gao* in (3b) indicates a comparison between an individual and a contextually provided standard, while *gao* in (4b) denotes a comparison between two individuals.

[5] *hen* 'very' in (7), according to Li and Thompson (1981), is ambiguous. It can be interpreted either as a degree intensifier or as a semantically bleached item. Native speakers' judgment about the two-way distinction varies. In addition, given that the analysis to be developed in this study does not rest on the bleached/intensifier distinction of *hen*, we, therefore, ignore the availability of bleached reading of *hen* and uniformly gloss *hen* as 'very' in this study.

As discussed above, the (non)occurrence of degree modifiers such as *hen* 'very' plays a role in interpreting the gradable adjective predicate in simple gradable adjective predications. See the contrast between (7) on the one hand, and (3b) and (4b) on the other. In this study, we identify two features of simple gradable adjective predications. First, the (non)occurrence of degree modifiers does not affect the grammaticality of a simple gradable adjective predication. Second, the (non)occurrence of degree modifiers affects the semantic interpretation of gradable adjective predicates in a simple gradable adjective predication. Take the interaction between the degree modifier *hen* 'very' and the interpretation of gradable adjectives' interpretation for example. When *hen* 'very' co-occurs with gradable adjectives, gradable adjectives can only obtain positive readings. See the example in (7). When *hen* 'very' is absent, gradable adjectives can either permit positive or comparative readings in appropriate contexts. See examples in (3b) and (4b). In other words, when *hen* 'very' does not co-occur with gradable adjectives, the interpretation of gradable adjectives depends on the preceding context. In this study, I focus on identifying structures that fulfill the above two requirements, which are summarized in table 2. This study focuses on examining the semantics of bare gradable adjective predicates in the identified structures and identifying the reasons for and the conditions under which each reading arises.

Table 2. Features of the target structures

degree modifiers' distribution	**gradable adjectives' meaning**
[+]	specified
[-]	positive/comparative

1.2 Data Presentation

In the previous section, we have proved the context dependency of a bare

gradable adjective's interpretation in simple gradable adjective predications. In addition, we have identified the two requirements of target structures. In this section, I report three structures that fulfill the requirements in table 2. They are simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons. See examples in (8)-(10). As shown in the three examples, the degree modifier *hen* 'very' is chosen to test whether a structure allows for the optional occurrence of degree modifiers. This is because *hen* 'very' is the degree modifier that is used in many previous studies about gradable adjectives in Mandarin Chinese. This study uses *hen* 'very' as a representative degree modifier to make the data set more comparable to those in previous studies. As noted in (8)-(10), gradable adjective predicates can only have positive readings when the degree modifier *hen* 'very' is present, but positive readings of gradable adjectives are not guaranteed when *hen* 'very' is absent.

(8) **simple gradable adjective predications**

a. Zhangsan hen gao. (positive reading)

Zhangsan very tall

'Zhangsan is very tall.'

b. Zhangsan gao. (positive/comparative reading)

Zhangsan tall

'Zhangsan is tall/Zhangsan is taller.'

(9) **the contrastive focus construction**

a. Zhangsan hen gao, Lisi hen ai. (positive reading)

Zhangsan very tall Lisi very short

'Zhangsan is very tall, but Lisi is very short.'

b. Zhangsan gao, Lisi ai. (positive/comparative reading)

Zhangsan tall Lisi short

'Zhangsan is tall, but Lisi is short/Zhangsan is taller and Lisi is shorter.'

(10) ***gen…xiangbi* comparisons**

a. Gen Zhangsan xiangbi, Lisi hen gao. (positive reading)

with Zhangsan compare-with Lisi very tall

'Compared to Zhangsan, Lisi is very tall.'

b. Gen Zhangsan xiangbi, Lisi gao. (positive/comparative reading)

with Zhangsan compare-with Lisi tall

'Compared to Zhangsan, Lisi is tall/taller.'

In the rest of this section, I discuss in detail the semantic interpretation of bare gradable adjective predicates in those three structures. We begin with **simple gradable adjective predications**. As shown in (8), the degree modifier *hen* 'very' can optionally occur and the presence/absence of *hen* 'very' plays a role in interpreting the gradable adjective *gao* 'tall'. In (8a), *hen* 'very' is present and only a positive reading of *gao* 'tall' is achievable. See the same example also in (7). In (8b), *hen* 'very' does not co-occur with the gradable adjective predicate *gao* 'tall' and *gao* can permit either a positive or comparative reading in appropriate contexts. See (3a) and (4a) for example contexts and related discussion in the previous section.

As for the **contrastive focus construction**, exemplified in (9), gradable

adjectives *gao* 'tall' and *ai* 'short' can only mean 'positively tall/short' when co-occurring with *hen* 'very' as in (9a). However, when *hen* 'very' is absent as in (9b), the accessibility of a positive/comparative interpretation of *gao* 'tall' and *ai* 'short' depends on context. See example contexts in (11a) and (12a). As shown in (11b) and (12b), the string-identical utterance *Zhangsan gao, Lisi ai* has different interpretations in different contexts. As a response to (11a), a polar question, only the positive readings of *gao* 'tall' and *ai* 'short' in (11b)/(9b) can be obtained. However, in the context of (12a), a *shui* 'who'-question, only the comparative readings of *gao* 'tall' and *ai* 'short' can be allowed in (12b)/(9b).

(11) a. *interlocutor A*:

Zhangsan he Lisi gao ma? (polar question)

Zhangsan and Lisi tall SFP

'Are Zhangsan and Lisi tall?'

b. *interlocutor B*:

Zhangsan gao, Lisi ai. (positive reading)

Zhangsan tall Lisi short

'Zhangsan is tall, but Lisi is short.'

(12) a. *interlocutor A*:

Zhangsan he Lisi xiangbi, shui gao? Shui ai?

(*shui* 'who'-question)

Zhangsan and Lisi compare-with who tall who short

'As for Zhangsan and Lisi, who is taller and who is shorter?'

b. *interlocutor B*:

Zhangsan gao, Lisi ai. (comparative reading)

Zhangsan tall Lisi short

'Zhangsan is taller and Lisi is shorter.'

In the following, I cite empirical evidence to support the alleged interpretations of bare gradable adjective predicates in (11b) and (12b), respectively. The positive readings of *gao* 'tall' and *ai* 'short' in (11b) are supported by the fact that (11b) can felicitously answer (11a) only in contexts where Zhangsan meets the standard of tallness while Lisi does not. (11a) indicates that the speaker is interested in knowing what Zhangsan and Lisi look like according to standards that are presumed conversationally. Among the contexts in (13), (11b) can felicitously answer (11a) in the context of (13a), but not in (13b)-(13d). See the notations under the column (11b) in (13). In (13), the standard of being tall is set to be 170 cm. Zhangsan meets the standard in (13a) and (13c). However, in (13c), Lisi also meets the standard and therefore is considered as tall, which contradicts *Lisi ai* in (11b). In summary, as a response to (11a), (11b) is true in context where the comparison is conducted relative to the contextually defined standard and Zhangsan meets the standard while Lisi does not. In other words, as a response to (11a), (11b) can only express a positive predication and the gradable adjective *gao* 'tall' and *ai* 'short' in (11b) can only take the positive readings.

(13) (11b) (12b)

a. People who are over 170 cm are tall. Zhangsan is 172 cm. Lisi is 168 cm.

(√) (√)

b. People who are over 170 cm are tall. Zhangsan is 168 cm. Lisi is 167 cm.

(X) (√)

c. People who are over 170 cm are tall. Zhangsan is 172 cm. Lisi is 171 cm.

(X) (√)

d. People who are over 170 cm are tall. Zhangsan is 168 cm. Lisi is 169 cm.

(X) (X)

On the other hand, the comparative reading of *gao* 'tall' and *ai* 'short' in (12b) is supported by its requirement of felicitous context. In (12a), the domain of comparison is explicitly limited to Zhangsan and Lisi and (12a) suggests that the topic of mutual interest is the ordering relationship between Zhangsan's height and Lisi's height. As a response to (12a), (12b) is true in the context of (13a)-(13c), in which Zhangsan's height exceeds Lisi's height. Moreover, the fact that (12b) can felicitously occur in (13b) suggests that (12b), differing from (11b), does not require that Zhangsan is tall according to the contextually provided standard because Zhangsan does not meet the standard in (13b).

The above claims of bare gradable adjective predicates' interpretation in (11b) and (12b) are further supported by the complementary distribution of (9a) and (14) when used to answer (11a) and (12a). In (9a), the positive readings of *gao* and *ai* are made explicit by the degree modifier *hen* 'very'. In (14), the comparative readings of *gao* and *ai* are made clear by the lower-scale intensifier *yidian* 'a little'. As reported in table 3, (9a) is a felicitous answer to (11a), a polar question but odd for (12a), a *shui* 'who'-question, while (14) is pragmatically odd as a response to (11a) but is a felicitous answer to (12a). In the context of (11a), the fact that (9a) is felicitous while (14) is odd

indicates that (11a) seeks answers that express positive predications. Therefore, as a felicitous response to (11a), *gao* and *ai* in (11b) can only take the positive readings. Correspondingly, in the context of (12a), the fact that (9a) is odd but (14) is felicitous suggests that (12a), a *shui* 'who' question, asks for answers that denote comparative predications. Thus, gradable adjectives in (12b) can only obtain the comparative readings.

(9a) Zhangsan hen gao, Lisi hen ai. (positive reading)
Zhangsan very tall Lisi very short
'Zhangsan is very tall. Lisi is very short.'

(14) Zhangsan gao yi dian, Lisi ai yi dian. (comparative reading)
Zhangsan tall a little Lisi short a little
'Zhangsan is a little taller and Lisi is a little shorter.'

Table 3. The complimentary distribution of (9a) and (14) as the response to (11a) and (12a)

	(11a) polar question	(12a) *shui* 'who'-question
(9a) positive reading	√	#
(14) comparative reading	#	√

In summary, (11b) and (12b) constrain context in different ways. (11b) requires that there is a contextually provided standard of tallness and an individual's height known from the context while (12b) requires that there are at least two individuals' heights to be retrievable from the context. Thus, bare gradable adjective predicates in (11b) can only denote positive predications in the given context in (11a) and bare

gradable adjective predicates in (12b) can only express comparisons between two individuals in the context given in (12a).

Another structure that meets the requirements in table 2 is ***gen…xiangbi* comparisons**. See the example in (10), repeated below. In (10a), *hen* 'very' co-occurs with the gradable adjective *gao* 'tall' and *gao* can only allow a positive reading. In (10b), *hen* 'very' does not co-occur with gradable adjectives, and the interpretation of the gradable adjective *gao* 'tall' depends on context. See (15a) and (16a) for example contexts. As demonstrated in (15b) and (16b), the string-identical utterance *Gen Zhangsan xiangbi, Lisi gao* denotes different kinds of predication when used in different contexts. As an answer to (15a), (15b) can only denote a positive predication and *gao* 'tall' in (15b) can only mean 'positively tall'. On the other hand, when (16b) is used in the context of (16a), it can only denote a comparative predication and *gao* in (16b) can only mean 'taller than someone known from context'.

(10) ***gen…xiangbi* comparisons**

a. Gen Zhangsan xiangbi, Lisi hen gao. (positive reading)
with Zhangsan compare-with Lisi very tall
'Compared to Zhangsan, Lisi is very tall.'

b. Gen Zhangsan xiangbi, Lisi gao. (positive/comparative reading)
with Zhangsan compare-with Lisi tall
'Compared to Zhangsan, Lisi is tall/taller.'

(15) a. *interlocutor A*:

Gen Zhangsan xiangbi, Lisi gao ma? (polar question)

with Zhangsan compare-with Lisi tall SFP

'Compared to Zhangsan, is Lisi tall?'

b. *interlocutor B*:

Gen Zhangsan xiangbi, Lisi gao (a). (positive reading)

with Zhangsan compare-with Lisi tall SFP

'Compared to Zhangsan, Lisi is tall.'

(16) a. *interlocutor A*:

Gen Zhangsan xiangbi, shui gao? (*shui* 'who'-question)

with Zhangsan compare-with who gall

'Compared to Zhangsan, who is taller?'

b. *interlocutor B*:

Gen Zhangsan xiangbi, Lisi gao (a). (comparative reading)

with Zhangsan compare-with Lisi tall SFP

'Compared to Zhangsan, Lisi is taller.'

The positive/comparative interpretation of *gao* 'tall' in (15b) and (16b) is supported by their difference in choosing the felicitous context. As a response to (15a), a polar question, (15b) is felicitous in the context of (17a), but not in (17b). See the notations under the column (15b) in (17). Note that (17a) and (17b) differ in the degree of difference between Zhangsan's height and Lisi's height. In (17a), Lisi is taller than Zhangsan by 10 cm. In (17b), Lisi's height exceeds Zhangsan' height by 2 cm. The fact that (15b) is true in the context of (17a), but not in (17b) suggests that in order for (15b) to felicitously occur, there must be a significant difference between Zhangsan's and

Lisi's height. On the other hand, (16b) as a response to the *shui* 'who'-question in (16a) can felicitously occur in either (17a) or (17b), which indicates that *gao* in (16b) allows a crisp difference between Zhangsan and Lisi's height. See notations under the column (16b) in (21).

(17)	(15b)	(16b)
a. Zhangsan is 170 cm. Lisi is 180 cm.	(√)	(√)
b. Zhangsan is 170 cm. Lisi is 172 cm.	(X)	(√)

Note that the positive predication denoted by (15b) differs from the previous positive predications such as (3b) and (11b), repeated below, in the choice of standard of comparison and the denoted semantic relationship between a target of comparison and the comparison class. See table 4 for a summary. In (15b), a *gen… xiangbi* comparison, the standard of comparison is contextually provided by an individual, i.e., Zhangsan. However, in other positive predications such as (3b) and (11b), the standard of comparison is contextually provided by a degree, i.e., the standard of tallness for human beings. Furthermore, the bare gradable predicate *gao* in (15b) differs from *gao* in (3b) and (11b) in the denoted semantic relationship. The former requires a significant difference between the individual being compared and the contextually provided standard, i.e., another individual while the latter two require that the individual being compared exceed the contextually provided degree. When the contextually provided standard is an arbitrary degree, a positive reading of a gradable adjective denotes a comparison between an individual and a degree, i.e., a degree comparison. Take 'John is tall' for example. 'Tall' denotes a comparison between John's height and an arbitrary

degree defined in a context, i.e., the standard of tallness for humans. For 'John is tall' to be true, John's height has to **exceed** the standard of tallness for humans. On the other hand, when the contextually provided standard is an arbitrary individual, a positive reading of a gradable adjective denotes a comparison between an individual being compared and an arbitrary individual, i.e., an individual comparison. Take 'Compared to John, Mary is tall' for example. 'Tall' in that sentence denotes a comparison between John, the target of comparison and Mary, an arbitrary individual known from the context. In order for 'Compared to John, Mary is tall' to be true, Mary's height has to **exceed** John's height **by a significant amount**.

(3) a. *interlocutor A*:

Zhangsan gao ma? (polar question)

Zhangsan tall SFP

'Is Zhangsan tall?'

b. *interlocutor B*:

Zhangsan gao. (positive reading)

Zhangsan tall

'Zhangsan is tall.'

(11) a. *interlocutor A*:

Zhangsan he Lisi gao ma? (polar question)

Zhangsan and Lisi tall SFP

'Are Zhangsan and Lisi tall?'

b. *interlocutor B*:

Zhangsan gao, Lisi ai. (positive reading)

Zhangsan tall Lisi short

'Zhangsan is tall, but Lisi is short.'

Table 4. Differences between the positive predication in (15b) and (3b)/(11b)

	examples	**standard of comparison**	**relationship between the individual being compared and the standard of comparison**
positive predications	(15b)	contextually provided individual	exceed by a significant amount
	(3b), (11b)	contextually provided degree	exceed

Return to (15b) and (16b). Our discussion of (15b) and (16b) indicates that the bare gradable adjective predicate *gao* in (15b) and (16b) denotes comparisons between two individuals but specifies different semantic relationship between the two individuals' degrees of tallness. In a given polar question context in (15a), the bare gradable predicate *gao* in (15b) can only mean 'positively tall'. *Gao* in (15b) specifies that the difference between the two individuals' degrees of tallness has to be significant. In the contrary, in a given *shui* 'who'-question context in (16a), the bare gradable adjective *gao* in (16b) does not require the existence of a significant difference between the two individuals' degrees. Instead, *gao* in (16b) allows for an insignificant difference between the two individuals' degrees of tallness and *gao* can only take a comparative reading.

The conclusion regarding (15b) and (16b)'s contextual constraints is further supported by the fact that (16b) can be immediately followed by comparative predications such as (18), but (15b) cannot. In (18), *yi dian* 'a little/a bit' is used to

modify the gradable adjective *gao* and *gao* takes a comparative reading. In addition, the degree modifier *yi dian* 'a little/a bit' specifies that Lisi is only a bit taller than the arbitrary individual known from the context. The fact that (16b) can be immediately followed by (18) indicates that (16b) and (18) have the same requirements on felicitous context, i.e., there are at least two individuals know from the context and one individual's degree of tallness exceeds the other. On the other hand, the fact (15b) cannot be followed by (18) indicates that (15b) and (18) cannot felicitously occur in the same context. Because the predicate *gao yi dian* 'a little taller' in (18) specifies that the difference between the two individuals' height is not significant, we can conclude that (15b) cannot be felicitously uttered in such context. In other words, the (15b) is not felicitous in a context where there is only a crisp difference between the two individuals' degrees of tallness.

(18) Danshi Lisi zhishi gao yi dian. (comparative reading)
but Lisi only tall a little
'But Lisi is only a little taller.'

To summarize, in this chapter, three structures have been identified that fulfill the following two requirements: 1) the (non)occurrence of *hen* 'very' does not affect grammaticality, 2) when *hen* 'very' is absent, a bare gradable adjective predicate can allow either a positive or a comparative reading depending on the context. The three structures are simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons.[6] See examples in (8)-(10). In these three structures, *hen*

[6] As explained in footnote 1, I will address polar questions in chapter 3 after introducing the distinction between subject focus and predicate focus in Mandarin Chinese.

'very' can optionally occur in front of a gradable adjective predicate and the (non)occurrence of *hen* 'very' makes a difference to the semantic interpretation of a gradable adjective predicate. When *hen* 'very' is not present, a gradable adjective in these three structures can permit either a positive or a comparative interpretation, depending on the context. In this chapter, I identify the conditions under which each reading arises when *hen* 'very' does not co-occur with a gradable adjective. As shown in table 5, if the standard of comparison is a contextually provided **degree**, a bare gradable adjective permits a positive reading. If the standard of comparison is an **individual**, we need to examine the semantic relationship between the degree of the individual being compared and standard of comparison, i.e., a contextually provided individual's degree in order to determine the interpretation of bare gradable adjective predicates. If there is a significant difference between the two individuals' degrees, the bare gradable adjective takes a positive reading. If the difference between the two individuals' degrees is not significant, the gradable adjective takes a comparative reading. As for the three target structures discussed in chapter 1, *gen…xiangbi* comparisons differ from simple gradable adjective predications and the contrastive focus construction in that a positive reading of a bare gradable adjective predicate in a *gen…xiangbi* comparison denotes an individual comparison while in the other two structures it denotes a degree comparison.

Table 5. Conditions under which a positive/comparative reading of a bare gradable adjective arises

standard of comparison	**bare gradable adjectives' interpretation**	**semantic relationship between the individual being compared and the standard of comparison**	**corresponding target structures**
degree	positive	exceed	simple gradable adjective predications, the contrastive focus construction
individual	positive	exceed by a significant amount	*gen…xiangbi* comparisons
	comparative	exceed	simple gradable adjective predications, the contrastive focus construction, *gen…xiangbi* comparisons

This thesis is organized as follows: Chapter 1 has discussed the context dependency of bare gradable adjective predicates' interpretation in simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons. In chapter 2, I will review relevant proposals in the literature and highlight the fact that previous proposals ignore the significance of context and therefore cannot explain the context dependency of bare gradable adjectives' interpretation as described in chapter 1. In chapter 3, I apply Roberts' (1996/2012) QUD and question/answer congruence theory to explain the connection between a bare gradable adjective's

interpretation and the preceding context. In this chapter, I will distinguish subject focus from predicate focus in Mandarin Chinese and will introduce polar questions as another target structure. In chapter 4, I conclude this chapter with a summary of my proposal and a discussion of some open issues in my analysis.

This study contributes to the field of Chinese linguistics in the following two ways: First, to the best of my knowledge, the empirical data provided in this thesis is different from previous studies. This data set challenges the widespread assumption that a bare gradable adjective predicate in simple gradable adjective predications, the contrastive focus construction, *gen…xiangbi* comparisons, and polar questions can only have one reading in all contexts. This thesis cites empirical data and tests to suggest that the interpretation of a bare gradable adjective predicate depends on context in the above four structures. Second, different from previous studies, this thesis takes a focus-based pragmatic approach in analyzing the reported context dependency of the interpretation of a bare gradable adjective in the four target structures. In this thesis, we apply Roberts' (1996/2012) QUD and question/answer congruence theory to capture the interaction between different contexts and the semantics of a bare gradable adjective predicate in the four target structures. In this study, the context dependency of a bare gradable adjective predicate's interpretation is reduced to the identification of focus placement in an utterance.

Chapter 2 Previous studies

In the previous chapter, I presented empirical data to argue that a bare gradable adjective predicate can permit either a positive or a comparative reading in different contexts. In this chapter, I review five studies that offer different perspectives in explaining the interaction between the (non)occurrence of the degree modifier *hen* 'very' and interpretations of gradable adjectives. Among the studies reviewed in this section, the degree modifier *hen* 'very' is assigned different functions: a type-shifter (Huang 2006), a tense-anchoring element (Gu, 2007), an overt degree morpheme (C. Liu, 2010), and a degree phrase head (Grano 2012). In Wu and Zhu (2013), *hen* 'very' is not assigned a specific function. Instead, Wu and Zhu attribute the non-occurrence of *hen* 'very' to the co-occurrence of generic operator and focus. This section reviews the proposed analyses in the five studies and highlights the fact that none of the proposals can explain the context dependency of a bare gradable adjective predicate's denotation in simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons. All five studies do not report the conditions under which a gradable adjective takes a certain reading and the connection between context and gradable adjectives' interpretation.

2.1 Type-shifting: Huang (2006)

Huang (2006) adopts Chierchia's (1984) property theory and argues that *hen*

'very' in Mandarin Chinese functions is a type-shifter. According to the property theory, all properties in natural languages can be categorized into two types: propositional properties and nominalized properties. The former are unsaturated structures. They are functions (type <e,t>), which take type <e> arguments. The latter type can be viewed as entities (type <e>) and appear in argument positions. Huang (2006) claims that bare adjectives in Mandarin Chinese denote nominalized properties because they can appear in argument positions. See examples in (19a) and (20a). *Qinfen* 'diligent' and *pinqiong* 'poor' in (19a) and (20a) are bare gradable adjectives but they occur in argument positions. Therefore, according to the property theory, bare gradable adjectives in (19a) and (20a) denote nominalized properties and are of type <e>. Building on this premise, Huang (2006) further concludes that *hen* 'very' in (19b) and (20b) is a type lifter (type <e, <e,t>>) and its function is to save the type mismatch: *qinfen* (type <e>) and *hen qinfen* (type <e,t>). In other words, *hen* is a lexicalized Predicator (PRED) operator whose function is to convert the type of '*hen* + adjective' to make it eligible as a predicate.

(19) a. Qinfen shi yige meide.
diligent is one-CL beautiful virtue
'Diligence is a beautiful virtue.'

b. Ta hen qinfen.
she very diligent
'She is very diligent.' (Huang 2006, p. 349)

(20) a. Women yao zhansheng pinqiong.

we want overcome poverty

'We want to wipe out poverty.'

b. Tamen neige diqu hen pinqiong.

they that region very poor

'Their region is very poor.' (Huang 2006, p. 350)

Huang's (2006) type-shifting proposal offers a straightforward explanation of sentences like (19b) and (20b). In Huang's view, the (non)occurrence of *hen* 'very' is reduced to the question of type-matching. Since bare gradable adjectives are type <e> elements, *hen* 'very' serves as a lexicalized Predicator to save the predication in cases such as (19b) and (20b). However, Huang's type-shifting theory wrongly predicts that *hen* 'very' is mandatory when bare gradable adjectives are used as predicates.[7] Data in (8b), (9b), and (10b), repeated below, are contradictory to Huang's prediction. In (8b), (9b), and (10b), bare gradable adjectives are used as predicate (type <e,t>) and the nonoccurrence of *hen* 'very' does not affect the grammaticality of these sentences.

[7] Huang (2006) rules out the possibility of a null PRED operator in cases such as *Zhangsan gao*. She uses the following examples to suggest that *hen* is mandatory for (b) to be grammatical because *hen* saves it from type mismatching. If a null PRED operator exists in (a), it will render (a) grammatical. Since (a) is marked as ungrammatical in Huang (2006), we, thus, conclude that a null PRED operator is implicitly ruled out in Huang's analysis of (a).

a. *Zhangsan gao. 'Zhangsan is tall'
where *gao*(*Zhangsan*) is undefined, because *gao* is of type *e*
b. Zhangsan hen gao
where *hen*(*gao*)(*Zhangsan*) is defined, because *hen*(*gao*) is of type <*e,t*> (Huang 2006, p.348)

(8b) **simple gradable adjective predications**

Zhangsan gao. (positive/comparative reading)

Zhangsan tall

'Zhangsan is tall/Zhangsan is taller.'

(9b) **the contrastive focus construction**

Zhangsan gao, Lisi ai. (positive/comparative reading)

Zhangsan tall Lisi short

'Zhangsan is tall, but Lisi is short/Zhangsan is taller and Lisi is shorter.'

(10b) ***gen…xiangbi* comparisons**

Gen Zhangsan xiangbi, Lisi gao. (positive/comparative reading)

with Zhangsan compare-with Lisi tall

'Compared to Zhangsan, Lisi is tall/taller.'

2.2 Tense-anchoring: Gu (2007)

Different from Huang (2006), Gu (2007) links the presence/absence of the degree modifier *hen* 'very' to tense anchoring in Mandarin Chinese. Gu argues that a proposition in natural languages must have a subject, a predicate and some elements to anchor tense in order to receive a truth value. Assuming that tense has syntactic manifestations in Mandarin Chinese, Gu argues that *hen* 'very' is one of the eligible elements that can anchor tense in Mandarin Chinese.[8] See (8a), repeated below, for

[8] There is no consensus in literature regarding whether or not Tense exists in Mandarin Chinese. See Lin (2010) and Sybesma (2007) for two representative opinions. We assume that Tense exists in order to review Gu's (2007) analysis but we make no assumption about the existence of Tense in Mandarin Chinese in our proposed analysis of the context dependency of the interpretation of bare gradable adjective predicates' interpretation.

example. Gu suggests that the contrast between (8a) and (21) indicates that *hen* 'very' in (8a) provides tense and makes the sentence grammatical.

(8a) **simple gradable adjective predications**

Zhangsan hen gao. (positive reading)

Zhangsan very tall

'Zhangsan is very tall.'

(21) ?? Zhangsan gao.[9]

Zhangsan tall (Gu 2007, p. 13)

In Gu's view, the (non)occurrence of the degree modifier *hen* 'very' with bare gradable adjectives depends on whether *hen* 'very' is necessary to provide a reference point for the interpretation of a given situation in space and time. According to Gu, *hen* 'very' is not necessary under the two conditions: when tense can be anchored by other elements or when adjectives occur in small clauses. See examples in (3a), (22), and (23). According to Gu, *ma* question particle in (3a) and *bu* negation marker in (22) are eligible time anchoring elements in Mandarin Chinese.[10] Therefore, *hen* 'very' is optional in (3a) and (22). In (23), *hen* 'very' is optional in the small clause *ta (hen) lan* because tense does not project in small clauses (Stowell 1981; Bowers 1993, 2000).

[9] This study does not agree with the judgement in (25). See data in (3b) and (4b) and related discussions in chapter 1.

[10] Negations in Mandarin Chinese can be expressed by *bu, meiyou, bushi*, etc. Since this study's focus is on the distribution of *hen* 'very' and its possible influence on the interpretation of gradable adjectives, we will not go into details discussing the potential differences resulting from various negation markers.

(3a) **polar questions**

Zhangsan gao ma?

Zhangsan tall SFP

'Is Zhangsan tall?'

(22) ***bu*-negations**

Zhangsan bu gao.[11]

Zhangsan NEG tall

'Zhangsan is not tall.'

(23) **small clauses**

Laoban ma ta lan.

boss scold 3SG lazy

'The boss scolded him for being lazy.' (Gu 2007, p. 30)

Gu's (2007) tense-anchoring proposal provides insightful explanations to a wide range of data, but Gu's proposal cannot explain the binary semantic interpretations of

[11] In Hsu (2013), the '*bu*+ HEN + gradable adjective' structure is marked as pragmatically odd. See below for example. However, google search of *bu hen gao/piaoliang* 'not very tall/beautiful' returns a large number of entries and we take (8) and the example below to be felicitous in this thesis. We suspect that the acceptability variations regarding the '*bu*+*hen*+gradable adjective' expressions are due to the dialectal differences between Mandarin and Cantonese/Min.

?ta bu hen piaoliang.
She not very beautiful
'She is not beautiful.' (Hsu 2013, p.7)

In addition, negations in Mandarin Chinese can be expressed by *bu, meiyou, bushi*, etc. Since this study's focus is on the distribution of *hen* 'very' and its possible influence on the interpretation of gradable adjectives, we will not go into details discussing the potential differences resulting from various negation markers.

the gradable adjective *gao* in *Zhangsan gao* in different contexts. See (3) and (4), repeated below, for examples. As shown in (3b) and (4b), the string-identical utterance *Zhangsan gao* has different semantic interpretations when it is used to answer a polar question in (3a) and a *shui* 'who'-question in (4a). Gu's proposal does not address how tense is anchored in (3b) and (4b) or the reasons why the gradable adjective predicate *gao* takes different interpretations in different contexts. Gu's tense-anchoring theory, similar to Huang's type-shifting proposal (2006), focuses entirely on the target structures' grammaticality and does not address their semantics. Therefore, Gu's tense-anchoring proposal cannot explain the interaction between the degree modifier *hen* 'very', an eligible tense anchoring element, and the availability of positive/comparative readings of gradable adjectives.

(3) a. *interlocutor A*:

Zhangsan gao ma? (polar question)

Zhangsan tall SFP

'Is Zhangsan tall?'

b. *interlocutor B*:

Zhangsan gao. (positive reading)

Zhangsan tall

'Zhangsan is tall.'

(4) a. *interlocutor A*:

Zhangsan he Lisi, shui gao? (*shui* 'who'-question)

Zhangsan and Lisi who tall

'As for Zhangsan and Lisi, who is taller?'

b. *interlocutor B*:

Zhangsan gao. (comparative reading)

Zhangsan tall

'Zhangsan is taller (than Lisi).'

2.3 Grammar constraint: Grano (2012)

Grano (2012) proposes two grammar constraints (Universal Markedness Principle and The T[+V] constraint; See (24) for detail) to explain what he calls the Mandarin *hen* puzzle. His study addresses the interaction between the (non)occurrence of the degree modifier *hen* 'very' and the semantic interpretations of gradable adjectives. In his view, the presence/absence of *hen* 'very' is reduced to the question whether it is needed to save the deep structure from violating the T[+V] constraint. According to Grano, the semantic interpretation of gradable adjectives is guided by the Universal Markedness Principle but restricted by the T[+V] constraint.

> (24) **Universal Markedness Principle**: Universally, comparative semantics is provided by an explicit morpheme in syntax which is overt in some languages and null in others, whereas positive semantics is provided by a type-shifting rule that does not project in syntax.
> **The T[+V] constraint**: In Mandarin, the direct complement to T(ense) must either be (an extended projection of) a verb or a functional morpheme that can in principle combine with (an extended projection of) a verb.
> (Grano 2012, p. 518)

Grano (2012) uses data in (25) to describe the Mandarin *hen* puzzle. In (25a), the gradable adjective *gao* 'tall' is intended to mean 'positively tall', but when it is used as the predicate without the degree modifier *hen* 'very', it yields a ungrammatical sentence. In fact, *gao* 'tall' in (25a) can only allow a comparative reading in proper

context as shown in (25b).[12] When *hen* 'very' is present as in (25c), the matrix-level predicate is *hen gao* 'very tall' and *gao* in *hen gao* can only have the positive reading. Assuming that every gradable adjective must combine with either POS morpheme or COMP morpheme to turn gradable adjectives into properties of individuals, Grano rewrites data in (25) as in (26).

(25) a. *Zhangsan gao.
Zhangsan tall
Intended: 'Zhangsan is tall.'

b. Zhangsan **gao**. (comparative reading)
Zhangsan tall
'Zhangsan is taller (than someone known from context).'

c. Zhangsan **hen gao**. (positive reading)
Zhangsan very tall
'Zhangsan is very tall.' (Grano 2012, p. 530)

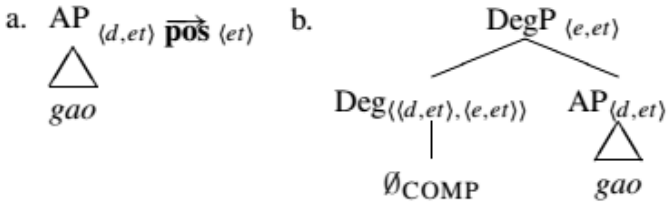
(26) a. *Zhangsan [POS gao]. Intended: 'Zhangsan is tall.'
b. Zhangsan [COMP gao]. = 'Zhangsan is taller.'
c. Zhangsan [*hen* gao]. = 'Zhangsan is tall.' (Grano 2012, p. 530)

Grano (2012) proposes [POS *gao*] and [COMP *gao*] should have the syntactic structures in (27) according to the Universal Markedness Principle. In (27a), POS does

[12] This observation is contrary to examples in (3) and (4), in which we demonstrate that *Zhangsan gao* can either express a positive or a comparative predication in appropriate contexts. However, we tentatively accept the judgment reported in Grano (2012) in order to evaluate his argumentation.

not project in syntax but functions as a type-shifter. It changes the semantic type of AP from <d, <e,t>> to <e,t> without affecting the syntactic categorical status of AP. In (27b), COMP projects in syntax and occupies the head of DegP. ∅COMP is a null functional morpheme that selects an AP as its complement.

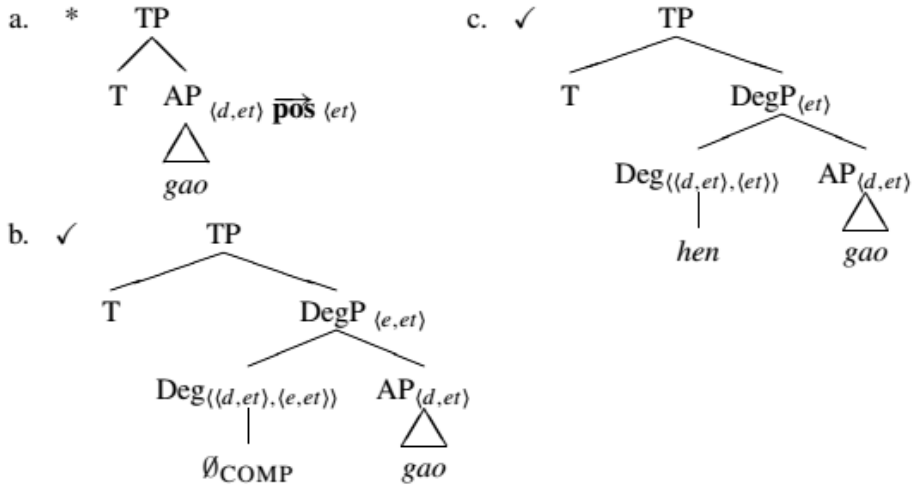
(27)



(Grano 2012, p. 530)

According to the T[+V] constraint, the syntactic structures of examples in (26) are shown in (28). In (28a), POS is a type-shifting rule and does not change AP's syntactic category. Thus, (28a) fails to meet the T[+V] constraint because T has an AP (not a VP or a phrase headed by a functional morpheme) as complement. In contrast, (28b) and (28c) do not violate the T[+V] constraint because T has a DegP (a functional phrase) as complement in both cases.

(28)



(Grano 2012, p. 532)

In summary, Grano (2012) successfully links the availability of positive/comparative interpretations of gradable adjectives to two grammar constraints: the Universal Markedness Principle and T[+V] constraint. However, similarly with the three studies that have been reviewed, Grano's syntax-based proposal cannot explain why a string-identical utterance can have different interpretations in different contexts. Grano's analysis is built on such data as in (25). He implicitly assumes that comparative interpretations of gradable adjectives will survive when positive interpretations fail. However, this assumption is challenged by data in (3)-(4), in which I demonstrate that *Zhangsan gao* can either have positive or comparative interpretation depending on the context. Grano's theory predicts that *Zhangsan gao* cannot express a positive predication due to its violation of the T[+V] constraint as shown in (28a), but (3b) in chapter 1 shows that *Zhangsan gao* can take a positive reading when used to answer polar questions.

2.4 Operator license: C. Liu (2010)

C. Liu's (2010) study on positive morphemes and adjectival structures in Mandarin Chinese contends that *hen* 'very' is the overt POS morpheme in Mandarin Chinese. He argues that there are two allomorphs in Mandarin Chinese for the POS degree morpheme: the overt form *hen* 'very' and the covert form POS. The latter, according to Liu, behaves like a polarity item and can only occur in "a predicate-accessible operator [-wh] domain contained in the smallest clause that contains the adjectival predicate and the operator" (C. Liu 2010, p. 1040).

C. Liu (2010) identifies two groups of structures. The first group includes polar questions, *bu*-negations, adjectival small clauses (see examples in (3a), (22), and (23), repeated below), conditional clauses, and the contrastive focus construction (See examples in (29)-(30)). C. Liu (2010) argues that gradable adjective predicates in this group of structures can only combine with the covert POS to generate positive predications.[13] In addition, Liu suggests that the covert POS is allowed by the question operator *ma* in (3a), the negation operator *bu* in (22), the epistemic operator in (23), (29), and focus operator in (30).[14]

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[13] As discussed earlier, according to C. Liu (2010), POS morpheme has two possible manifestations in Mandarin Chinese: overt POS, i.e., *hen* and covert POS. He further suggests that *hen*, the overt POS and the covert POS are in complementary distribution, which means if a degree term has been marked by the covert POS, it cannot be marked again by the overt POS, i.e., *hen* and vice versa. Thus, examples listed in the first group cannot combine with the overt POS, i.e., *hen* to generate positive predications. Liu then provides evidence to suggest that when *hen* does co-occur with bare gradable adjectives in the first group of structures, *hen* can only be a degree intensifier rather than an overt POS morpheme. See section 4.3 in C. Liu (2010) for a more detailed discussion.

[14] C. Liu (2010) argues that the focused constituents in sentences such as *hua hong le* 'The flower got red' is "the change of state (i.e., the initial BECOME sub-event) rather than the change of degree; therefore, no degree term is needed". Thus, sentences ending with the sentence final particle *le* are excluded from Liu's discussion of covert POS morpheme in Mandarin Chinese.

Hua hong le.
flower red SFP
'The flower got red.'

(3a) **polar questions**

Zhangsan gao ma?

Zhangsan tall SFP

'Is Zhangsan tall?'

(22) ***bu*-negations**

Zhangsan bu gao.

Zhangsan NEG tall

'Zhangsan is not tall.'

(23) **small clauses**

Laoban ma ta lan.

boss scold 3SG lazy

'The boss scolded him for being lazy.' (Gu 2007, p. 30)

(29) **conditional clause**

Zhangsan yaoshi gao dehua, Lisi jiu bu ai.

Zhangsan if tall PAR Lisi then NEG short

'If Zhangsan is tall, then Lisi is not short.' (C. Liu 2010, p. 1030)

(30) **the contrastive focus construction**

Zhangsan gao, Lisi ai.[15]

[15] This study does not agree with the judgment of (30) in C. Liu (2010). See the discussion on the contrastive focus construction in example (9) in chapter 1.

Zhangsan tall Lisi short

'Zhangsan is tall, but Lisi is short.' (C. Liu 2010, p. 1027)

The second group contains the *shui* 'who'-questions. See the example in (31). In (31), the gradable adjective predicate *gao* can only take a comparative reading, which indicates that *gao* in (31) cannot combine with the covert POS. Based on the contrast between these two groups of structures, Liu concludes that wh-operator cannot allow positive readings of gradable adjectives, which suggests that wh-operators fail to allow the occurrence of the covert POS. In other words, C. Liu (2010) suggests that covert POS in Mandarin Chinese can be allowed by various operators but not by [wh] operators. Therefore Liu uses 'operator [-wh]' to summarize the environment for covert POS in Mandarin Chinese.

(31) Zhangsan he Lisi, shui gao?

Zhangsan and Lisi who tall

'As for Zhangsan and Lisi, who is taller?' (C. Liu 2010, p. 1042)

To summarize, according to C. Liu (2010), *hen* 'very' is not necessary for gradable adjectives to secure positive readings when covert POS can be allowed in 'predicate-assessable operator [-wh] domain' (C. Liu 2010, p. 1040). Liu's study examines a wide range of data but his proposal, similar to Huang's (2006) and Gu's (2007) theories, cannot explain why a string-identical utterance can have different interpretations in different contexts. Take the utterance *Zhangsan gao* for example. Liu's covert/overt POS proposal predicts that *gao* in *Zhangsan gao* can only take a

positive reading because there is no [wh] operator in *Zhangsan gao*. However, such predication contradicts with data in (3) and (4), where the string-identical utterance *Zhangsan gao* can have different types of interpretation depending on the preceding context.

2.5 GEN and focus: Wu and Zhu (2013)

Wu and Zhu's (2013) study identifies seven structures in which bare gradable adjectives can be used alone as predicates. The seven structures are *bu*-negations, small clauses, conditional clauses, the constructive focus construction (see examples in (22), (23), (29), and (30), repeated below), question-answer pairs, the *shi…de* structure, and simple gradable adjective predications (see examples in (32)-(34)).

(22) ***bu*-negations**

Zhangsan bu gao.

Zhangsan NEG tall

'Zhangsan is not tall.'

(23) **small clauses**

Laoban ma ta lan.

boss scold 3SG lazy

'The boss scolded him for being lazy.' (Gu 2007, p. 30)

(29) **conditional clause**

Zhangsan yaoshi gao dehua, Lisi jiu bu ai.

Zhangsan if tall PAR Lisi then NEG short

'If Zhangsan is tall, then Lisi is not short.' (C. Liu 2010, p. 1030)

(30) **the contrastive focus construction**

Zhangsan gao, Lisi ai.

Zhangsan tall Lisi short

'Zhangsan is tall, but Lisi is short.' (C. Liu 2010, p. 1027)

(32) **question-answer pairs**

a. *interlocutor A:*

Zhangsan gao ma?[16]

Zhangsan tall SFP

'Is Zhangsan tall?'

interlocutor B:

Zhangsan gao.

Zhangsan tall

'Zhangsan is tall.'

b. Na ben shu hao?

which-CL book good

'Which book is better?'

Zhe-ben hao.

this-CL good

'This one is better.' (Wu and Zhu 2013, p. 21)

[16] (38a) is the same with (3) in chapter 1.

(33) **the *shi…de* structure**

Zhe-ben shu shi xin de.

this-CL book SHI new DE

'This book is new.' (Wu and Zhu 2013, p. 20)

(34) **simple gradable adjective predications**

Zhangsan hen/youdianer/xiangdan gao.

Zhangsan very/a little/quite tall

'Zhangsan is very/a little too/quite tall.' (Wu and Zhu 2013, p.21)

Wu and Zhu (2013) argue that only adjectives of quality rather than depictive adjectives can be used alone as predicates in the seven structures.[17] Adjectives of quality, according to Zhu (1956/1980), denote objects' stable and static qualities, such as *hong* 'red', *da* 'big', *kuai* 'fast', and *ganjing* 'clean', while depictive adjectives denote temporary properties, such as *xiaoxiao* 'small'.[18] Wu and Zhu further argue that

[17] This study follows Paul (2006) in translating *xingzhi xingrongci* 性质形容词 as adjectives of quality and *zhuangtai xingrongci* 状态形容词 as descriptive adjectives.

[18] Zhu (1980) argues for a dichotomy in categorizing Chinese gradable adjectives: the 'base forms' (*jiben xingshi* 基本形式) and the 'complex forms' (*fuza xingshi* 复杂形式). The former describes qualities while the latter category depicts state or mood of qualities. The former includes both monosyllabic adjectives such as *hong* 'red' and disyllabic adjectives such as *ganjing* 'clean'. The latter is summarized into three subcategories by Paul (2006). See below for detail.

(1) Reduplicated adjectives
   a. AA(BB) *xiaoxiao* 小小 'small', *ganggangjingjing* 干干净净 'clean'
   b. A*li*AB *hulihutu* 糊里糊涂'muddleheaded', *malimahu* 马里马虎
   c. ABB *heihuhu* 黑乎乎, *rehuhu* 热乎乎 'warm'

(2) Modifier-head compound adjectives (e.g., *bing liang* 冰凉 'ice cold', *xue bai* 雪白 'snow white', etc. As noted in Paul (2006), this description is proposed by Tang (1988). Zhu (1980) only gives examples and does not give a term to summarize this category.)

(3) Adjectival phrases (This group has the following internal structure 'adverb + adjective'. Examples include *hen da* 很大'very big', *feichang piaoliang* 非常漂亮 'extremely beautiful', *tinghao* 挺好 'very good', etc.)

adjectives of quality share the same feature with generic sentences. Both of them denote qualities that do not associate with specific times or spaces. Thus, Wu and Zhu conclude that sentences with property adjectives as predicate are generic sentences. Because generic sentences can provide a GEN operator (Wilkinson 1986; Diesing 1992; Chierchia 1995), Wu and Zhu contend that and there is a GEN operator in each of the identified structures.

In addition, Wu and Zhu (2013) argue that these structures are closely related to focus. Take the *shi…de* structure for example. According to Zhu (1982), (39) implies that 'this book is new, not old or half new/half old'. Wu and Zhu (2003) suggests that the element that occurs between '*shi*' and '*de*' bears the [+contrastive] feature. They argue that (33) can be interpreted as '*zhe ben shu shi* X *de*', in which X is variable. In (33), X receives the value *xin* 'new' and *xin* 'new' defines the set of alternative values for X such as 'old', 'half new', and 'half old'. Because *xin* 'new', the element between '*shi*' and '*de*' can introduce alternatives, Wu and Zhu claim that there is focus in (39). See Wu and Zhu (2013) for complete discussions on the association between focus and all seven structures.

Following Alternative Semantics (Rooth 1992, 1995), Wu and Zhu suggest that gradable adjectives in the seven structures introduce alternative sets, which can serve as variables. Wu and Zhu then link the GEN operator with the variables provided by focus and the rationale is to save the above structures from violating the Prohibition against Vacuous Quantification (PAVQ) proposed by Kratzer (1995).

Wu and Zhu's (2013) focus-based proposal provides an explanation to a wide range of data using a single operator GEN. However, similar with other studies reviewed in this section, Wu and Zhu's proposal cannot be used to explain why a string-

identical utterance can have different interpretations in different contexts. In order to account for data in (3) and (4), in which *Zhangsan gao* receives different interpretations when it is used to answer a polar question and a *wh*-question, one has to posit an artificial operator to clarify the semantic difference.

To summarize, this chapter reviewed five studies of the relationship between the (non)occurrence of the degree modifier *hen* 'very' and gradable adjectives in Mandarin Chinese. To be specific, Huang (2006) proposes that *hen* 'very' is a type-shifter whose function is to save the type mismatch between a type <e> gradable adjective and a type <e, t> "*hen* + adjective" phrase. Gu (2007) argues that *hen* 'very' is a tense-anchoring device. It can provide a reference point for time and space for the utterance to be grammatical. Grano (2012) reduces the (non)occurrence of *hen* 'very' to two syntactic principles: the Universal Markedness Principle and T[+V] constraint. If the two principles are met, the occurrence of *hen* 'very' is optional. If not, the occurrence of *hen* 'very' is mandatory. C. Liu (2010) analyzes *hen* 'very' as an overt POS morpheme, which can only occur in "a predicate-accessible operator [-wh] domain contained in the smallest clause that contains the adjectival predicate and the operator" (C. Liu 2010, p. 1040) Last, Wu and Zhu (2013) identifies generic sentences and the presence of focus as the two features to allow the non-occurrence of *hen* 'very' in Mandarin Chinese.

As pointed out at the beginning of this chapter, none of the above five studies examine the conditions under which a gradable adjective takes a certain reading. They fail to construct contexts for their examples and summarize the conditions for a gradable adjective's interpretation. Therefore, none of the five studies can explain why a bare gradable adjective predicate in simple gradable adjectives, the contrastive focus

construction, *gen…xiangbi* comparisons, and polar questions can have either a positive reading or a comparative reading in different contexts.

Chapter 3 Focus-based interpretations of bare gradable adjective predicates in Mandarin Chinese

Chapter 3 applies Roberts' (1996/2012) Question Under Discussion (QUD) and question/answer congruence theories to address the context dependency of bare gradable adjectives' interpretation in Mandarin Chinese. In my proposal, the context dependency of a bare gradable adjective predicate's interpretation is conditioned by the focal placement of an utterance.

In section 3.1, I will introduce QUD and question/answer congruence theories (Roberts 1996/2012) and highlight the function of focus in the suggested proposal. In section 3.2, I will first introduce focus identification in Mandarin Chinese and the distinction between predicate focus and subject focus before applying QUD and congruence theories to capture the interaction between a bare gradable adjective's interpretation and the preceding context in Mandarin Chinese.

3.1 Roberts (1996/2012): QUD and question/answer congruence

In this section, we first introduce the definition of focus and the ways to identify focus in natural languages and then use English data as examples. In addition, we introduce the mandatory prosodic prominence of focus in English, which is a key

observation for Roberts' QUD and question/answer congruence theories. Roberts' proposal captures native speakers' intuition about felicity and formalizes it as the congruent relationship between the set of alternatives associated with an utterance and the preceding question, respectively.

3.1.1 Preliminary: Focus and focus identification

In this section, I discuss what is meant by focus, what focus can do, and how focus is identified in natural languages. In this study focus is a property of syntactic constituents. It evokes alternatives and highlights some constituents in an utterance. As for identification, using question/answer pairs is the major way of identifying focus in natural languages. At the end of this section, I give an example analysis to demonstrate focus' functions and focus identification in English. In addition, I highlight the mandatory presence of prosodic prominence of focus in English.

Focus is marked as a feature F on syntactic constituents (e.g., Halliday 1967, Chomsky 1971, Jackendoff 1972) and foci are reflected "both in semantic and pragmatic effects and in prosodic patterns" (Kadmon 2001, p. 263). Because there is no consensus in defining focus in the literature, I concentrate on discussing what focus can do and how it can be identified in natural languages.[19] In this thesis, I identify two major functions of focus. First, focus evokes alternatives (Rooth 1985, 1992).[20] "[F]ocus indicates the presence of alternatives that are relevant for the interpretation of linguistic expressions" (Krifka 2007, p.18). Rooth (1985) proposes that each focus expression has two semantic values: the ordinary semantic value ($[[\alpha]]^o$) and the focus semantic value

[19] See the relevant discussion on the difficulties of identifying the defining features of focus in Kadmon (2001) section 13.1.
[20] This is the central claim of Alternative Semantics (Rooth 1985, 1992). This claim is not limited to Alternative Semantics but is a widely accepted intuition about focus.

($[[\alpha]]^f$, a set of alternatives). In this thesis, I follow Roberts (1996/2012) in defining the focus alternative set of a constituent β in (35). Second, focus foregrounds some constituents and backgrounds others in an utterance's information structure (Roberts 2012). The focused constituents carry the more "valuable" information and the unfocused constituents, on the other hand, convey less "valuable" information in the information packaging.

> (35) The *focus alternative set* corresponding to a constituent β:
> $\| \beta \|$ is the set of all interpretations obtained by replacing all the F-marked (focused) and *wh*-constituents in β with variables and then interpreting the result relative to each member of the set of all assignment functions which vary at most in the values they assign to those variables. (Roberts 1996/2012, p. 6:33)

After discussing what focus can do, we move on discussing the ways to identify focus in natural languages. We assume that "focus is the answer to the question being addressed" (Kadmon 2001, p. 261).[21] In other words, foci are the constituents that directly answer the question at the time of utterance. We agree with many previous studies (e.g., Jackendoff 1972, Rooth 1985, 1992, Roberts 1996/2012) and believe that using question/answer pairs is a central means of identifying focus in natural languages.

Take the English data in (36) and (37) for example to see what roles focus plays in communicating information and how focus is identified. In (36b), 'kiss' directly

[21] As pointed out in Kadmon (2001), when we use question/answer pairs to identify focus, we make use of a truly direct answer rather than the other felicitous responses. Consider (b)-(d) as replies to (a). All three answers explicitly address the question in (a), but (b) differs from (c) and (d) in that (b) is a truly direct answer to (a) and (c) and (d) are not. (b) does nothing more than directly answering (a) while (c) and (d) clearly provide more information than what the question in (a) seeks for.

> (a) Was Smith officially invited?
> (b) He was officially invited.
> (c) Everybody was officially invited.
> (d) He was officially invited three months in advance. (Kadmon 2001, p. 262)

answers the what-question in (36a) and therefore is the focused element, marked with F. Following the definition in (35), we obtain the focus alternative set of 'kiss' by replacing it with variables, i.e., other individuals of the same type (type <e, <e,t>>) such as 'scold' and 'compliment'. The set of alternatives {kiss, scold, compliment, …} constitutes the focus semantic value of 'kiss' and it gives rise to the focus semantic value of (36b), i.e., {She kissed Ronnie, She scolded Ronnie, She complimented Ronnie, …}. Note that $[[(36b)]]^f$ is a set of propositions of the form *She x Ronnie* (*x* is a member of $[[kiss]]^f$) and the focused constituent, i.e., 'kiss' provides the direct answer to the question in (36a). Similarly, 'Ronnie' in (37b) directly addresses the who-question in (37b) and is the focused constituent, marked with F. The focus semantic value of 'Ronnie' is a set of type <e> individuals, which constituents the domain *D*. The focus semantic value of (37b) is a set of propositions of the form *She kissed y* (*y* is a member of the domain *D*) and the focused constituent 'Ronnie' addresses the question. The contrast between (36b) and (37b) suggests that different focus placement in a string–identical utterance introduces propositions of different forms and focused constituents, i.e., 'kiss' and 'Ronnie' directly address (36a) and (37a) at the time of utterance, respectively.

(36) a. What did she do to Ronnie?

b. She $[kissed]_F$ Ronnie.

H* L L% (Kadmon 2001, p. 265)

(37) a. Who did she kiss?

b. She kissed $[Ronnie]_F$.

H* L L% (Kadmon 2001, p. 265)

After discussing the functions of focus and focus identification in natural languages using English as an example, we introduce the prosodic manifestation of focus in English.[22] As noted in (36b) and (37b), the focused constituents, i.e., 'kiss' and 'Ronnie' receives the H* L pitch contour. In English, focus is tied closely to prosodic prominence. Following Selkirk (1984), we assume that pitch accent is the kind of prosodic prominence that can be used to identify focus in English. Constituents that receive the H* L pitch contour are foci in English. In other words, focus in English can be identified through question/answer pairs or the placement of prosodic prominence. The mandatory association between prosodic prominence and focus placement in English is the key to Roberts' (1996/2012) QUD and question/answer congruence theories. See Roberts (1996/2012) and the references therein for a detailed discussion of the phonology of focus in English.

To summarize, a focus is a syntactic constituent that is marked by the feature F. It has two major functions: introducing alternatives and highlighting some constituents. As for focus identification, inferring focus placement from question/answer pairs is the major way of identifying focus. In English in particular, focus can be identified with the help of pitch contours in addition to question/answer pairs.

[22] In our previous discussion of what focus can do and the way to identify focus in natural languages, I primarily discussed the semantic and pragmatic aspects of focus. In this thesis, I assume that focus in different languages has different prosodic patterns. Take English and Chinese for example. Chinese does not use pitch contours but other means to mark focus as English does. See section 3.2.1 for detailed discussion of focus identification in Mandarin Chinese.

3.1.2 QUD and question/answer congruence

Having already discussed focus and focus identification, this section will focus on Roberts' (1996/2012) Question Under Discussion (QUD) and question/answer congruence theories. Stalnaker (1978), Roberts (1996/2012) assume that interlocutors' primary goal in conducting a conversation is to figure out 'the way things are'. Interlocutors exchange beliefs about "the world as being a certain way" (Stalnaker 1978, p. 78). In the exchange process, new information is added to the common ground (the set of propositions that the interlocutors hold to be true in a discourse, technically realized as a set of possible worlds) and context set (a subset of common ground, a set of "live candidates" for the actual world). The mutually shared knowledge of the interlocutors expands and the common ground and context set are updated as the discourse develops (Stalnaker, 1978). Under this view, the primary goal of discourse is to maximize the common ground and reduce the number of "live candidates" in the context set until there is only one candidate left for the actual world. In a natural language discourse, such communal inquiry is made possible by series of set-up moves (i.e. questions) and pay off moves (i.e. answers). Each move *m* in Roberts (1996/2012) has two aspects of content: **presupposed content** and **proffered content**. The former refers to the information that is assumed to be available in context. The latter is used as a cover term for "what is asserted in an assertion and for the non-presupposed content of questions and commands" (Roberts 1996/2012, p.5).

Building on Carlson (1982), Roberts (1996/2012) suggests that natural human language discourse is modeled partly in terms of **question-answer relations**. If a question is accepted by interlocutors in a discourse, it becomes **the question under discussion (QUD)**. It indicates that the hearer forms an intention to address the question.

The accepted questions are added to the QUD stack and remain in QUD stack until it is answered or determined to be practically unanswerable. Answers or assertions, on the other hand, if accepted by conversational participants, are added to the common ground.

Roberts (1996/2012) suggests that the relationship between QUD and assertions/answers is governed by the **congruence** principle. Congruence captures native speakers' intuition about 'good' answers to a question. Take (36) and (37) for example, repeated below. Intuitively, native speakers' of English can tell that < (36a), (36b) > and < (37a), (37b) > are felicitous moves, but < (36a), (37b) > or < (37a), (36b) > is not. In Roberts (1996/2012), such intuition is formalized as native speakers' knowledge of the relationship between the set of alternatives proffered by the QUD and the set of alternatives presupposed by the answer. In the following, we will first summarize Roberts' definition of the proffered content of a question and the presupposed focal alternatives of an assertion. Then we will present her formal definition of question/answer congruence.

(36) a. What did she do to Ronnie?

b. She $[\text{kissed}]_F$ Ronnie.

H* L L% (Kadmon 2001, p. 265)

(37) a. Who did she kiss?

b. She kissed $[\text{Ronnie}]_F$.

H* L L% (Kadmon 2001, p. 265)

As in Hamblin (1973), a question in Roberts (1996/2012) denotes a set of alternatives. The set of alternative propositions that the question proffers is the *q-alternative set* of the question. See the definition in (38). In (38), '?' is a wide-scope interrogation operator and ?(*α*) is the logical form of a question. Q-alt(*α*) refers to a question's denotation, i.e., the set of alternatives proffered by a question. As shown in (38), the denotation of a question ?(α), noted as | ?(α) |, is the q-alternative set proffered by the question. In Roberts (1996/2012), to derive q-alt(*α*), we "abstract over any *wh*-elements there may be in the utterance and then permit the variables of abstraction to vary freely over entities of the appropriate sort in the model" (p. 6:10). See the formal representation in (39). Given (39), the q-alternative set proffered by a simple *wh*-question is the set of propositions obtained by substituting all values of the right type in a model for the *wh*-word in the logical form. For a polar question, because there is no *wh*-word, the q-alternative set proffered by the question is a singleton set {|*α*|}, i.e., the regular denotation of *α*.

(38) The interpretation of a question ?(α):

| ?(α) | = q-alt (α) (Roberts 1996/2012, p. 6:11)

(39) The q-alternatives corresponding to utterance of a clause *α*
q-alt (*α*) = {ρ : $\exists \mu^{i-1}, \cdots \mu^{i-n} \in D$ [ρ = | *β* | (μ^{i-1}) … $, \cdots \mu^{i-n}$]} where *α* has the logical form wh_{i-1}, … wh_{i-n} (*β*), with { wh_{i-1}, … wh_{i-n} } the (possible empty) set of *wh*-elements in *α*, and where *D* is the domain of the model for the language, suitably sortally restricted, e.g., to humans for *who*, nonhumans for *what.* (Roberts 1996/2012, p. 6:10)

As in Gronedijk and Stokhof (1984), a question in Roberts' QUD theory establishes a partition over a set of possible worlds and each cell in the set of possible

worlds corresponds to one q-alternative that the question proffers. The presuppositions that a question carries will be reflected in all the cells of the corresponding partition. In other words, each cell of the possible worlds represents one possible answer to the question and each cell/possible answer carries the same presuppositions as the question does. For example, for a polar question, its proffered singleton set $\{|\alpha|\}$ sets up a partition on the context set which has only two cells. One contains the possible worlds in which $|\alpha|$ is true and the other cell includes the possible worlds in which $|\alpha|$ is false. If an assertion addresses the question, then it has to contextually eliminate one of the q-alternatives the question proffers, this is only possible when the assertion shares the same presupposition as the rest of q-alternatives of the question.

As with questions, assertions in Roberts (1996/2012) also introduce a set of alternatives. However, different from the q-alternative set, alternatives of assertions are presupposed by prosodic focus rather than proffered by questions in English. Recall our discussion of focus in English in section 3.1.1. In English, focused constituents are invariably marked by pitch contours. In other words, prosodic prominence is mandatorily associated with focus in English. Thus, focal alternatives in English are calculated based on the placement of prosodic prominence, which is reflected in Roberts' definition of focus alternative set.[23] See (35), repeated below, for detail.

> (35) The *focus alternative set* corresponding to a constituent β:
> $\| \beta \|$ is the set of all interpretations obtained by replacing all the F-marked (focused) and *wh*-constituents in β with variables and then interpreting the result relative to each member of the set of all assignment functions which vary at most in the values they assign to those variables. (Roberts 1996/2012, p. 6:33)

[23] The focus alternative set is calculated in similar fashion in Rooth 1992 and von Stechow 1991. In addition, note that wh-constituents in (35) are not labelled as focused, but wh-constituents introduce alternatives as focus does in alternative semantics.

After developing formal representations for the proffered content of a question and presupposed content of an assertion, the relationship between question/answer pairs can be formally described in (40). Informally, (40) requires that the answer and QUD evoke the same set of alternatives. To illustrate this, consider the congruent relationship between (36a) and (36b), repeated below. Following the definitions in (39) and (35), q-alternatives of (36a) and focal alternatives of (36b) are derived in (41a) and (41b), respectively. Comparing (41a) and (41b), notice that the congruence principle does not require the answer to be among the set of alternatives proffered by the question. Instead, the congruence principle requires that a question and an assertion evoke propositions of the same form. Refer back to (36a) and (36b). Propositions in both the q-alternatives set of (36a) and in the focal alternatives of (36b) are of the form *She* μ *Ronnie*, μ is of the type <e, <e,t>>. Therefore, < (36a), (36b) > meet the congruence requirement and therefore is felicitous.

(40) Move β is *congruent* to a question ?(α) *iff* its focal alternatives $\| \beta \|$ are the q-alternatives determined by ?(α), i.e., *iff* $\| \beta \|$ = q-alt(α).

(Roberts 1996/2012, p.6:31)

(36) a. What did she do to Ronnie?

b. She [kissed]$_F$ Ronnie. (Kadmon 2001, p. 265)

H* L L%

(41) a. | ?(what(λx. She x Ronnie)) |

= q-alt(what(λx. She x Ronnie))

= {ρ : ∃μ∈P [ρ = |λx. She x Ronnie| (μ)]}

= {She μ Ronnie: μ ∈P} where P is a set of predicates of the type <e, <e,t>>. Suppose that P = {kiss, compliment}.

= {She kissed Ronnie, She complimented Ronnie}

b. || She $[\text{kissed}]_F$ Ronnie || = {She kissed Ronnie, She scolded Ronnie, She complimented Ronnie, …}

The question/answer congruence principle in (40) not only can explain why a certain question/answer pair is felicitous, but also can explain why a particular question/answer sequence is infelicitous. Take the < (36a), (37b) > for example. Based on previous discussion, we know (36a) proffers alternatives of the form *She x Ronnie* while (37b) presupposes alternatives of the form *She kissed y*. Thus, we conclude that < (36a), (37b) > is infelicitous because the alternatives that the question and answer introduce are of different forms. The same kind of analysis applies to the infelicity of < (37a), (36b) >. The infelicity of < (36a), (37b) > and < (37a), (36b) > suggests that prosodic focus placement in assertions in English presupposes the type of QUD. Such a prediction captures the intuition that native speakers of English can correctly predict the QUD just by hearing an assertion. It has long been observed (see e.g., Jackendoff 1972) that prosody in an answer constrains the kind of question it can address in English. In Roberts (1996/2012), that constraint is articulated as the congruent relationship between the set of alternatives proffered by a question and the set of alternatives presupposed by an assertion in a question/answer pair. See the generalization in (42).

(42) Presupposition of prosodic focus in an utterance *β*

β is congruent to the question under discussion at the time of utterance.

(Roberts 1996/2012, p. 6:33)

In (42), *β can be either a question or an assertion. When *β is realized as an assertion, the focus placement pattern in the assertion constrains the type of QUD. Refer back to the discussion on (36) and (37) where I have proved that a string-identical utterance with difference focus placement is felicitous in different contexts. When *β is realized as a question, the focus placement in *β presupposes the type of superquestion in a strategy of inquiry. A strategy of inquiry is a sequence of partially ordered questions and the relationship between these questions is governed by the relevance principle. See (43) for definition and (44) for example. In (44), the sequence < (44a), (44b) > is felicitous because it meets the congruent requirement in (40) and the relevance requirement in (43). The proffered content of (44a) and (44b) are derived in (45a) and (45b), respectively. Because a complete answer to (45a) such as *Grace invited Mary* can evaluate the truth condition of every alternative proposition proffered by (45b), < (44a), (44b) > meets the relevant requirement in (43) and (44a) entails (44b). Therefore, < (44a), (44b) > is a felicitous strategy of inquiry and (44b) is relevant to (44a). In addition, the focal alternatives of (44b) are derived in (46). (46) and (45a) suggest that the presupposed alternatives of (44b) are of the same logical form as the proffered propositions of (44a). In other words, < (44a), (44b) > meets the question/answer congruence requirement in (40) and (44b) is congruent to (44a).

(43) A move *m* is *Relevant* to the question under discussion *q*, i.e., to last(QUD(*m*)), *iff m* either introduces a partial answer to *q* (*m* is an assertion) or is part of a strategy to answer *q* (*m* is a question). (Roberts 1996/2012, p. 6:21)

(44) a. Who invited whom?

b. Who did [Mary]$_F$ invite?

(45) a. |?(who invited whom)| = {*u* invited *u'*: *u*, *u'* ∈ *D*}. Suppose D = {Mary, Alice, Grace}

= {Mary invited Alice, Mary invited Grace, Alice invited Grace, Alice invited Mary, Grace invited Mary, Grace invited Alice}

b. |?(who did Mary invite)| = {Mary invited *u* : *u* ∈ *D* }

= {Mary invited Alice, Mary invited Grace}

(46) || who did [Mary]$_F$ invite || = {*u* invited *u'*: *u*, *u'* ∈ *D*}

In summary, this section introduces Roberts' (1996/2012) QUD and question/answer congruence theories. Roberts' QUD and congruence theories make a critical use of focus in two major ways. First, focus placement in an utterance presupposes the type of QUD. Second, the question/answer congruence principle is articulated as the relationship between the set of alternatives presupposed by the choices of focus in an utterance and the set of alternatives proffered by the preceding question. In addition, in our application of QUD and congruence in interpreting bare gradable adjectives, we will also make use of Roberts' discussion of partitioning. We follow Roberts (1996/2012) and hypothesize that a question establishes a partition over the context set and possible answers to a question represent cells of possible worlds established by a question over the context set. Each cell shares the same presupposition

as the question. Therefore, each possible answer to the question shares the same presupposition as the question.

3.2 The application of QUD and congruence in interpreting bare gradable adjective predicates in Mandarin Chinese

Now that I have discussed Roberts' (1996/2012) QUD and question/answer congruence theories and how they are related to focus, I will turn to offer an application of those theories in interpreting bare gradable adjectives in Mandarin Chinese. In section 3.2.1, I will discuss what focus can do and how focus can be identified in Mandarin Chinese. I argue that focus is a universal of natural human languages but the realizations of focus can be language specific. I identify four ways of identifying focus in Mandarin Chinese: adding stress, inserting focus markers, fronting the focused constituents, and inferring from question/answer pairs. In section 3.2.2, I use the identified means of focus identification to establish two choices of focus placement, i.e., subject focus and predicate focus that are relevant to the interpretation of bare gradable adjective predicates in Mandarin Chinese. In addition, I provide both theoretical and empirical evidence to suggest that focus placement in an assertion constrains the type of QUD it can address in Mandarin Chinese.

3.2.1 Preliminary: Focus and focus identification in Mandarin Chinese

This subsection is devoted to focus' functions and the ways of identifying focus in Mandarin Chinese. This thesis assumes that focus, as a property of syntactic constituents, is a universal of natural human languages. Thus, focus in Mandarin

Chinese has the same functions as focus does in English. Focus in Mandarin Chinese can introduce alternatives and foreground the information conveyed by the focused constituents. However, this study does not assume the universal realization of focus in different languages. In many European languages, the above two functions of focus are fulfilled mainly through pitch accent. However, in tonal languages such as Chinese, focus has different manifestations.[24] In Mandarin Chinese, focus can be realized in the following four ways: adding stress, inserting focus markers, fronting the focused constituents, and inferring from question/answer pairs.[25] See examples in (47)-(51).

Example (47) demonstrates how **stress** can be used to indicate different focus choices in a string-identical utterance in Chinese.[26] In (47), stress is marked in boldface in Chinese and in capital letters in the corresponding English translation. As shown in (47), stress can be assigned to different components of a string-identical sentence to highlight and background different information. In (47a), stress falls on the subject Lao Wang and Lao Wang is the foregrounded information. (47a) emphasizes that it is Lao Wang, not Lao Li or Lao Zhao, who drove the jeep yesterday. Adding stress to Lao Wang in (47a) has the following two consequences. First, stress introduces the alternatives of Lao Wang, the other individuals who are pertinent to the interpretation

[24] Different from English, Mandarin Chinese does not rely on pitch contours to convey focus in Mandarin Chinese. In other words, Mandarin Chinese does not use F0 contour shapes such as L+H* or H* to differentiate focused constituents from non-focused constituents. This is because the shapes of pitch contours are the major cue to differentiate the four lexical tones (high-level tone 1, high-rising tone 2, low-dipping tone 3, high-falling tone 4) in Mandarin Chinese. However, the above discussion does not suggest that Mandarin Chinese does not rely on prosody to convey information structural categories. Rather, it highlights the fact that Mandarin Chinese uses a different prosodic means to convey information structural categories. In the latter discussion, we refer to the prosodic means as stress.

[25] Fang (1995) and Yuan (2003) listed the first three ways of identifying focus in Mandarin Chinese and using question/answer pairs is often treated as the default method in many studies (e.g., Dong 2003).

[26] In our discussion of focus identification, stress is used to refer to prosodic prominence in general. As to prosodic cues, F0 ranges and duration have been identified as the prosodic cues in identifying focus in the literature. For example, Jin (1996) proposes that words that receive narrow new information focus have longer duration and larger F0 ranges than words that receive broad new information focus. See a review of relevant studies in Ouyang and Kaiser (2015).

of Lao Wang in (47a). Second, stress highlights Lao Wang among all the information conveyed in (47a). Because stress on Lao Wang in (47a) fulfills the same functions as focus does in natural human language discourse, we conclude that Lao Wang in (47a) receives focus, marked with F. Similar analysis applies to (47b)-(47d).

(47) a. **[Lao Wang]**$_F$ zuotian kai-guo jipuche. (stress)

Lao Wang yesterday drive-ASP jeep

'LAO WANG drove the jeep yesterday.'

b. Lao Wang [**zuotian]**$_F$ kai-guo jipuche.

Lao Wang yesterday drive-ASP jeep

'Lao Wang drove the jeep YESTERDAY.'

c. Lao Wang zuotian [**kai**-guo]$_F$ jipuche.[27]

Lao Wang yesterday drive-ASP jeep

'Lao Wang DROVE the jeep yesterday.'

d. Lao Wang zuotian kai-guo [**jipuche**]$_F$.

Lao Wang yesterday drive-ASP jeep

'Lao Wang drove the JEEP yesterday.' (adapted from L. Xu 2004, p. 291)

In addition to stress, different constituents of a string-identical utterance can be focused by inserting the **focus marker** *shi* in Mandarin Chinese.[28] Take (48a) for

[27] As noted in (53c), *kai* 'drive' is the constituent that receives the peak of prosodic prominence but *kai-guo* 'drive-ASP' is the syntactic constituent that receives focus. This is because focus in this study refers to a property of syntactic constituent and *kai-guo* forms a single constituent. Therefore, it receives focus as a unity.

[28] There are other focus markers such as *shi…de*, *…de shi*, *lian* and *zhiyou* 'only'. Here, we only use one

example. In (48a), Lao Wang is the constituent that immediately follows the focus marker *shi* and it is the element that sticks out in the flow of information. (48a) reflects the speaker's intention of emphasizing Lao Wang, not Lao Li or Lao Zhao in packaging information. The focus marker *shi* in (48a) indicates that the speaker accentuates that it is Lao Wang, rather than Lao Li or Lao Zhao, who came yesterday. Similar with stress in (47), the focus marker *shi* in (48a) fulfills the same functions and it marks Lao Wang as the focus. Similar analysis applies to (48b) and (48c).

(48) a. **Shi** [Lao Wang]$_F$ zuotian lai-guo. (focus marker)
SHI Lao Wang yesterday come-ASP
'It was Lao Wang that came yesterday.'
b. Lao Wang **shi** [zuotian]$_F$ lai-guo.
Lao Wang SHI yesterday come-ASP
'It was yesterday that Lao Wang came.'
c. Lao Wang zuotian **shi** [lai-guo]$_F$.
Lao Wang yesterday SHI come-ASP
'Lao Wang did come yesterday.' (adapted from L. Xu 2004, p. 279)

Another way of marking focus in Mandarin Chinese is **moving a constituent to the front of a sentence**. In (49b), the object *niurou* 'beef' is fronted. The syntactic structure of (49b) is 'object + subject + verb', which is different from the canonical 'subject + verb + object' order as in (49a).[29] Different from (49a), (49b) gives emphasis

focus marker, i.e., *shi* to illustrate the pattern.
[29] (49b) can also be referred as an "inverted sentence". According to Chao (1968), inverted sentences refer to sentences with reversed subject-predicate order. In (49b), the object *niurou* 'beef' precedes the predicate *chi* 'eat' therefore (49b) is an inverted sentences. We should also note that inverted sentences,

on the fact that it is beef, rather than pork or turkey, that Lao Wang does not eat. *Niurou* 'beef' in (49b) receives focus because it introduces alternatives such as pork and turkey and highlights itself in (49b).[30]

(49) a. Lao Wang bu chi niurou. (fronting)
Lao Wang NEG eat beef
'Lao Wang doesn't eat beef.'
b. [Niurou]$_F$ Lao Wang bu chi.
beef Lao Wang NEG eat
'Beef, Lao Wang doesn't eat.' (adapted from L. Xu 2004, p. 278)

The last way of communicating focus is inferring from **question/answer pairs**.[31] Focus can be identified by locating the constituents in a response that directly answer the question being addressed. The robust intuition is that the focused constituent in an answer should address (completely or partially) the question at the time of utterance, i.e., provide a complete or partial answer for the questioned part. Examples in (50) and (51) illustrate how the questioned part in a question interacts with focus identification in an answer in Mandarin Chinese. The questioned part in (50a) and (51a)

as a term, is used to include different structures in the literature. See a review in Davis (2004) and the references therein.

[30] It is possible to treat *niurou* 'beef' in (49b) as a contrastive topic and it does not harm the core argument in this thesis because contrastive topics and foci are analyzed in a similar fashion in many studies such as Buring (2003).

[31] Among the four identified ways of locating focus in Mandarin Chinese, using stress can only be achieved in non-written discourse while the remaining three methods can be used either in written or oral discourse. In oral discourse, stress might be observed in an utterance even when focus has already been marked via other methods in Mandarin Chinese. For example, *Lao Wang* in (48a), *niurou* 'beef' in (49b), and *yi-ge pingguo* 'one apple' in (56b) might receive prosodic prominence in oral speech even though the focus in (54a), (55b), and (50b) has already been indicated by the focus marker *shi*, the fronted position of *niurou* 'beef', and the question words *shui* 'who' in the preceding question, respectively.

is underlined and the focused constituents in (50b) and (51b) are marked by F. In (50b) and (51b), the responses are string-identical but they differ from each other in the position of the constituent that directly answers the question. In addition, (50b) and (51b) are felicitous responses to different questions. Note that the focused constituent *yi-ge pingguo* 'one apple' in (50b) corresponds to the question word *shenme* 'what' in (50a) and the focused constituent *Zhangsan* in (51b) has the same position as the wh-word shui 'who' in (51a). Therefore, *yi-ge pingguo* 'one apple' and *Zhangsan* are the focused constituents in (50b) and (51b), respectively.

(50) a. Zhangsan chi-le shenme?
Zhangsan eat-ASP what
'What did Zhangsan eat?'
b. Zhangsan chi-le [yi-ge pingguo]$_F$.
Zhangsan eat-ASP one-CL apple
'Zhangsan ate an apple.'

(51) a. Shui chi-le yi-ge pingguo?
who eat-ASP one-CL apple
'Who ate just one apple?'
b. [Zhangsan]$_F$ chi-le yi-ge pingguo.
Zhangsan eat-ASP one-CL apple
'It is Zhangsan who just ate one apple.'

In summary, this section assumes that focus is a universal to natural language discourse but focus manifestation and identification can be language-specific. This section focuses on demonstrating how focus can be identified in Chinese via stress, focus markers, syntactic fronting, and question/answer pairs. The comparison between focus identification in English and Mandarin Chinese indicate that different from English, prosodic emphasis is not mandatory in communicating focus in Mandarin Chinese. Stress can indicate focus but focus is not necessarily marked by stress in Mandarin Chinese.

3.2.2 Subject focus and predicate focus in Mandarin Chinese

Having established the four ways of identifying focus in Mandarin Chinese, I identify two choices of focus placement: subject focus and predicate focus in this section to discuss the possible interaction of focus placement and interpretation of gradable adjectives in Mandarin Chinese. Subject focus refers to the focus placement pattern that it is the subject that receives focus. Correspondingly, predicate focus refers to the pattern where focus falls on the predicate. See (52) for an illustration. In (52a), the predicate *hen gao* 'very tall' receives the focus and (52a) displays the predicate focus pattern. In (52b), the subject Zhangsan receives focus and (52b) demonstrates the subject focus.[32] Following the definition of focus alternative set in (35), repeated below, we replace the F-marked constituents with alternatives of the same sort and derive the set of presupposed alternatives of (52a) and (52b) in (53a) and (53b), respectively. As shown in (53a), the set of focal alternatives that (52a) presupposes differ in the property

[32] The argued focus placement can be tested phonetically (stress), syntactically (fronting), lexically (inserting focus marker), and contextually (inferring from question/answer pairs). Here, we simply use a string-identical utterance to demonstrate the possibility of having different choices in selecting the focused constituents.

ascribed to Zhangsan while the set of focal alternatives provoked by (52b) differ in the individual to whom the property *very tall* is ascribed. In summary, our discussion on (52a) and (52b) suggests that different focus placement in assertions evoke propositions of different logical forms in Mandarin Chinese.

(52) a. Zhangsan [hen gao]$_F$. (predicate focus)

Zhangsan very tall

'Zhangsan is very TALL.'

b. [Zhangsan]$_F$ hen gao. (subject focus)

Zhangsan very tall

'ZHANGSAN is very tall.'

(35) The *focus alternative set* corresponding to a constituent β:
$\| \beta \|$ is the set of all interpretations obtained by replacing all the F-marked (focused) and *wh*-constituents in β with variables and then interpreting the result relative to each member of the set of all assignment functions which vary at most in the values they assign to those variables. (Roberts 1996/2012, p. 6:33)

(53) a. $\|$ (62a) $\|$ = {Zhangsan is p: p is a set of type <e, t> properties}

b. $\|$ (62b) $\|$ = {u is very tall: $u \in D_e$}

In the following, we provide evidence to suggest that focus placement in Mandarin Chinese presupposes the type of QUD. As discussed above, if an assertion receives **predicate focus**, the set of presupposed alternative propositions differ in the property ascribed to the known subject (e.g., of the logical form *Zhangsan is p*). If an assertion receives **subject focus**, the set of alternative propositions differ in the individual to whom the known property is ascribed (e.g., of the logical form *u is very*

tall). Then, according to the question/answer congruence principle in (40), repeated below, we can infer that for a felicitous question/answer pair, the set of alternative propositions proffered by the question should be of the same logical form as the alternative propositions presupposed by the assertion. In other words, because focus placement determines the logical form of the propositions presupposed by the assertion, it in turn determines the logical form the set of propositions proffered by the question according to the question/answer congruence principle. In short, focus placement in an assertion presupposes the type of QUD.

(40) Move β is *congruent* to a question ?(α) *iff* its focal alternatives $\| \beta \|$ are the q-alternatives determined by ?(α), i.e., *iff* $\| \beta \|$ = q-alt(α).

(Roberts 1996/2012, p.6:31)

Previously, the discussion was based on theoretical assumptions about focus, focal alternatives, q-alternatives and formalized definition of question/answer congruence. In the following, I provide empirical evidence to suggest that focus placement in an assertion constrains the type of QUD it can address in Mandarin Chinese. In (54b) and (55b), the predicate *hen gao* and the subject Zhangsan is focused, respectively. The former was marked via syntactic fronting and the latter is marked by the focus marker *shi*. The fact that < (54a), (54b) > and < (55a), (55b) > are felicitous question/answer pairs but < (54a), (55b) > or < (55a), (54b) > is not suggests that predicate focused assertions can only address a certain type of question and this is also true with subject focused assertions. In addition, our observation is strengthened by the fact that native speakers of Chinese can guess the type of QUD when they hear (54b)

and (55b) out of the blue, which can serve as evidence to support that focus placement in an assertion presupposes the type of question under discussion at the time of utterance in Mandarin Chinese.[33]

(54) a. Zhangsan hen gao ma?
Zhangsan very tall SFP
'Is Zhangsan very tall?'
b. [Hen gao] a Zhangsan. (predicate focus)
very tall PAR Zhangsan
'Zhangsan is VERY TALL.'

(55) a. Shui hen gao?
who very tall
'Who is very tall?'
b. Shi [Zhangsan]$_F$ hen gao. (subject focus)
SHI Zhangsan very tall
'It is Zhangsan who is very tall.'

[33] Our discussion does not rule out the possibility that native speakers can use prosodic clues in an utterance to guess the type of QUD. For instance, native speakers of Mandarin Chinese can predicate that the type of QUD of the following utterance would be of the same logical form as (55a). In the following utterance, the subject Zhangsan, noted in bold face, is marked as the focus by stress. Thus, the following utterance is of the same logical form as (55b) and they presuppose QUDs of the same logical form.

Zhangsan hen gao.
Zhangsan very tall.
'It is Zhangsan who is very tall.'

In our discussion, we make use of non-prosodic focus marking devices whenever possible because this study does not involve a production or perception experiment and is not denoted to describe the prosodic manifestation of focus in Mandarin Chinese. See more information in footnote 27.

In summary, in this section, I distinguished subject focus from predicate focus in Mandarin Chinese and provided both theoretical and empirical evidence to suggest that focus placement pattern in an assertion presupposes the type of QUD in Mandarin Chinese. However, notice that in examples discussed in this section, the predicates are not bare gradable adjectives but are gradable adjectives modified by degree modifiers. Recall the discussion on degree modification of gradable adjectives in chapter 1. I generalized that gradable adjectives' interpretation is specified in the presence of degree modifiers (e.g. *hen gao* 'very tall', *geng gao* 'taller', *gao yidian* 'taller') but a bare gradable adjective predicate's interpretation depends on context in simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons. In the rest of this thesis, connections between subject focus/predicate focus are established in an utterance with the interpretation of bare gradable adjective predicates. Following QUD and question/answer congruence theories (Roberts 1996/2012), I propose that the selection of focused constituents in an utterance constrain the type of questions it can address. Since different types of questions carry different presuppositions, the possible answer, corresponding to the cells of possible worlds will inherit all of the questions' presuppositions. Those presuppositions in turn can help determine the semantic interpretation of bare gradable adjectives. In the following five sections, I apply QUD and question/answer congruence theories (Roberts 1996/2012) to examine the interaction between focus placement and interpretations of gradable adjective predicates in wh-questions, polar questions, simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons.

3.2.3 A semantics for *wh*-questions in Mandarin Chinese

The previous two sections have discussed focus identification and the two choices of focus placement that are pertinent to the interpretation of bare gradable adjective predicates in Mandarin Chinese. Now the gap in our data presentation in chapter 1 will be addressed. In chapter 1, the possible influence of the selection of focused constituents on the interpretation of bare gradable adjective predicates was ignored. Building on the previous discussion on subject focus and predicate focus in Mandarin Chinese, the relationship will be examined between different selections of focused constituents and the interpretation of bare gradable adjective predicates. In chapter 1, I assume without argument the denotations of gradable adjective predicates in *wh*-questions. In this section, evidence will be provided to argue that a bare gradable adjective predicate can only have a comparative reading in a *wh*-question regardless of the choice of focused constituents.

Following Beck (2006), *wh*-phrases are treated as foci in this thesis. *Wh*-phrases in this study fulfill the same functions as focus does. They evoke alternatives and highlights the information that they convey, i.e., the questioned part in a question. Because *wh*-words in our examples uniformly take the subject position, examples of *wh*-questions in chapter 1 invariably receive subject focus.[34] Take (4a) for example,

[34] In this study, cases where *wh*-phrases are used as indefinite pronouns are excluded. Take *shui* 'who' for example. It can be either a question word (see the example in (4a) or an indefinite pronoun (See the example below). In the following example, the question word s*hei* is an indefinite pronoun and the two *shei*s are co-referential.

Jingcha yao zhua **shei** jiu zhua **shei**.
police want arrest whoever then arrest whoever
'The police will arrest whomever they want to arrest.' (Li and Thompson, 1981, p. 528)

In the above example, the question word 谁 is romanized as *shei,* but in the rest of this thesis, we use *shui* as the romanization for the question word 谁. They are different ways to represent the same question word in Mandarin Chinese and therefore does not make a difference to the argument made in this thesis.

repeated below. The *wh*-word *shui* 'who' receives focus and (4a), according to our definition of subject focus in section 3.2.2, receives subject focus.[35]

(4) a. Zhangsan he Lisi, [shui]$_F$ gao? (subject focus)
Zhangsan and Lisi who tall
'As for Zhangsan and Lisi, who is taller?'

Besides the theoretical claim in the literature, provide empirical evidence is provided to suggest that *wh*-phrases invariably receive focus in *wh*-questions from the following three perspectives. First, I report that *wh*-phrases can be marked for focus by the focus marker *shi.* See the example in (56). In (56), the *wh*-word *shui* 'who' is marked as the focus by the focus marker *shi*. Thus, (56) suggests that *wh*-phrases such as *shui* 'who' can receive focus in *wh*-questions.

(56) Zhangsan he Lisi, shi [shui]$_F$ gao? (focus marker)
Zhangsan and Lisi SHI who tall
'As for Zhangsan and Lisi, WHO is taller?'

In this thesis, *wh*-phrases are limited to question words because it does not seem possible for a *wh*-indefinite and a bare gradable adjective predicate to co-occur in the same sentence. See the example below. Note that we does not include embedded clauses in our discussion and our discussion of bare gradable adjectives applies at the sentential level.

* Shui gao.
Whoever /who tall

[35] In our discussion, we take the question word *shui* 'who' as an example. Another possible *wh*-question word is *na-ge* 'which one'. Our data presentation and analysis will not be affected by this alternative.

Second, I cite empirical evidence to argue that *wh*-phrases always receive focus even when a predicate is also marked for focus in a *wh*-question. In (57a)-(57c), the predicates are focused via fronting, prosodic prominence, and context, respectively. However, felicitous answers to the questions in (57a)-(57c) still have to address the *wh*-phrase, i.e., the questioned part to become a felicitous answer. All three questions in (57) can be felicitously answered by 'Zhangsan', which corresponds to the *wh*-phrases rather than to the predicates. In other words, even though the predicates are focused in (57a)-(57c), they do not carry the most import information, i.e., the questioned information and they do not require the interlocutor to choose from the alternatives that they evoke.

(57) a. Zhangsan he Lisi, [gao de]$_F$ shi [shui]$_F$? (fronting)
Zhangsan and Lisi tall DE SHI who
'As for Zhangsan and Lisi, who is taller?'

b. Zhangsan he Lisi, [shui]$_F$ [**gao**]$_F$? (stress)
Zhangsan and Lisi who tall
'As for Zhangsan and Lisi, who is TALLER?'

c. Zhangsan he Lisi, [shui]$_F$ [**gao**]$_F$? Wo mei wen shui shou. (context)
Zhangsan and Lisi who tall I NEG ask who thin
'As for Zhangsan and Lisi, who is TALLER? I am not asking who is thinner.'

Third, I cite the experiment result reported in T. Liu (2008) to support the claim that *wh*-words receive inherent focus. Liu conducts a production and a

perception experiment of sentences containing multi strong foci and sentences in (57a)-(57c) fit into the 'question words and other forms' category in Liu's study. See (58) for another example. In (58), the *wh*-question word *shui* 'who' and the predicate *zoulu* 'walk' are marked for focus by the focus marker *dou* and *shi,* respectively. Liu's phonetic analysis of the production of (58) reports that *shui* 'who' has the higher pitch value and longer duration than *zoulu* 'walk' and the F0 expansion of *shui* 'who' is more prominent than that of *zoulu* 'walk' compared to their F0 ranges when they are not focused. In addition, Liu's perception experiment reports that native speakers of Mandarin Chinese identify the question word *shui* 'who' as the most prominent information in (58). Based on the above results, T. Liu argues that *wh*-words carry the strong focus feature [+F] in the lexicon in Mandarin Chinese.[36,37] In other words, *wh*-words are inherent foci.

(58) Dou [shui]$_F$ pingchang shi [zoulu]$_F$ shangban?
DOU who usually SHI walk go to work
'WHO are the ones who usually WALK to work?'

In the following, empirical evidence is provided to suggest that bare gradable adjective predicates can only take comparative readings in *wh*-questions. The felicitous contexts are identified for (4a), (56), and (57a)-(57c) and I conclude that the type of comparison that a *wh*-question denotes can only be a comparison between two

[36] Similar view can also be found in J. Xu (2003). He argues that the Strong Focus mark [+Fs] of wh-phrases is pre-determined in the lexicon.
[37] T. Liu (2008) further argues that *wh*-phrases are the stronger foci than other devices if co-occurring in a single sentence. As pointed out by T. Liu, to establish the ordering among different strong foci, more production and perception experiments need to be conducted in future studies.

individuals regardless of the focus pattern. In other words, evidence is provided to suggest that the subject focused (4a) and (56) on the one hand and the multi-focused (57a)-(57c) on the other display the same restriction on felicitous contexts.

Among the contexts in (59), (4a), (56), and (57a)-(57c) are felicitous in (59c) and (59d) but not in (59a) or (59b). (59a) and (59c) minimally differ from each other in the presence of Lisi's height and the contrast between (59a) and (59c) suggests that felicitous contexts of (4a), (56), and (57a)-(57c) have to contain information regarding both Zhangsan and Lisi's height. This predication is further supported by the contrast between (59b) and (58d) in allowing the occurrence of (4a), (56), and (57a)-(57c).[38] In addition, the fact that (4a), (56), and (57a)-(57c) can occur in both (59c) and (59d) suggests that the (non)availability of context-provided standard does not make a difference in making the context felicitous/infelicitous, which is further supported by the infelicity of (59b). The discussion of felicitous contexts of (4a), (56), and (57a)-(57c) indicates that they presuppose that there are at least two entities retrievable from context in order to do comparison and the focus pattern (subject focus or multi foci) does not affect the semantic interpretation of gradable adjective predicates.

(59) a. Zhangsan is 180 cm. (X)

b. Zhangsan is 180 cm. People who are over 170 cm are tall. (X)

c. Zhangsan is 180 cm. Lisi is 173 cm. (√)

d. Zhangsan is 180 cm. Lisi is 173 cm. People who are over 170 cm are tall. (√)

[38] To put it in another way. (59c) is a subset of (59a) and (59d) is a subset of (59b). (4a), (56), and (57a)-(57c) are felicitous in the subsets of (59a) and (59b) in which the height of both Zhangsan and Lisi are known.

In addition, data in (60) provide further evidence for the claim that bare gradable adjectives in *wh*-questions can only permit comparative readings. In (60), the denotations of gradable adjective predicates are known. Notice that gradable adjectives in (60) are no longer bare. They are modified either by a preceding or following element. In other words, the denotation of gradable adjectives are overtly specified. Recall our discussion on degree modification of gradable adjectives in chapter 1. A gradable adjective's meaning is specified in the presence of a degree modifier. The pre-adjective modifier *hen* 'very' marks the positive reading of an adjective (see e.g., in (60a)) and the post-adjective *yi dian* 'a little' and pre-adjective *geng* 'more' indicate that the adjective can have only a comparative reading (see e.g., (60b) and (60c)). The gradable adjectives' interpretations and felicitous contexts of (60a)-(60c) is summarized in table 6. Because (4a), (56), and (57a)-(57c) pair with (60b) and (60c) in choosing felicitous context and we have known that gradable adjectives in the latter two examples denote comparisons between individuals, the bare gradable adjective in (4a), (56), and (57a)-(57c) denotes the same kind of comparison and has a comparative rather than a positive interpretation.

(60) a. Zhangsan he Lisi, shui **hen** gao? (positive reading)
Zhangsan and Lisi who very tall
'As for Zhangsan and Lisi, who is very tall?'

b. Zhangsan he Lisi, shui gao **yi dian**? (comparative reading)
Zhangsan and Lisi who tall a little
'As for Zhangsan and Lisi, who is taller?'

c. Zhangsan he Lisi, shui **geng** gao? (comparative reading)

Zhangsan and Lisi who more tall

'As for Zhangsan and Lisi, who is taller?'

Table 6. Gradable adjectives' interpretation in (60a)-(60c) and felicitous contexts for (60a)-(60c)

	gradable adjectives' interpretation	felicitous context
(60a)	positive reading	(59b), (59d)
(60b)	comparative reading	(59c), (59d)
(60c)	comparative reading	(59c), (59d)

The previous discussion on the subject focused *wh*-question in (4a), (56) and multi-focused questions (57a)-(57c) has proven that (4a), (56), and (57a)-(57c) can only denote comparisons between two individuals and that the bare gradable adjective predicate *gao* can only take a comparative reading. After knowing the property under discussion in (4a), (56), and (57a)-(57c), I take (4a) as the example (repeated below) and offer an example formal analysis. Following Roberts' (1996/2012) definition of q-alternatives in (39), repeated below, we derive the q-alternatives of (4a) in (61).[39] As shown in (61), the set of propositions that (4a) proffers differ from each other in the individual to whom the property *taller* is ascribed. As indicated in (4a), there are only two individuals under discussion, i.e., D = {Zhangsan, Lisi}. Then the denotation of (4a) is {Zhangsan is taller, Lisi is taller}. Let *p* stands for the former proposition and *q* stands for the latter. The set of possible words (4a) represents is represented as follows:

[39] Note that the definition of q-alternatives in Roberts (1996/2012) requires the abstraction over wh-words not the focused constituents. Therefore, *wh*-questions with subject focus or multi foci receive the same q-alternative set.

{(ρ ∧ q), (ρ ∧ ¬q), (¬ρ ∧ q), (¬ρ ∧ ¬q)}. Because both *p* and *q* presuppose that there are at least two individuals of different height retrievable from context, the cells of possible worlds, corresponding to the possible answers of the question, also carry the same presupposition of the question, following Roberts' discussion on questions' partition.

(4) a. Zhangsan he Lisi, [shui]$_F$ gao? (subject focus)

Zhangsan and Lisi who tall

'As for Zhangsan and Lisi, who is taller?'

(39) The q-alternatives corresponding to utterance of a clause α
q-alt (α) = $\{\rho : \exists \mu^{i-1}, \cdots \mu^{i-n} \in D [\rho = | \beta | (\mu^{i-1}) \ldots, \cdots \mu^{i-n}]\}$ where α has the logical form $wh_{i-1}, \ldots wh_{i-n}(\beta)$, with $\{ wh_{i-1}, \ldots wh_{i-n} \}$ the (possible empty) set of *wh*-elements in α, and where *D* is the domain of the model for the language, suitably sortally restricted, e.g., to humans for *who*, nonhumans for *what.* (Roberts 1996/2012, p. 6:10)

(61) | (4a) | = | ?(who (λx. *x* is taller)) |

= q-alt(who(λx. *x* is taller))

= $\{\rho : \exists u \in D [\rho = | \lambda x.$ *x* is taller $| (u)\}$

= {*u* is taller: $u \in D$}

To summarize, in this section, empirical evidence was presented to argue that a bare gradable adjective predicate can only allow a comparative reading in a *wh*-question regardless of the focus placement pattern. The type of comparison a bare gradable predicate denotes is a comparison between two individuals rather than between an

individual and a context provided standard. Therefore, I conclude that the presupposition carried by a *wh*-question is that there are at least two individuals of different degrees along the scale associated with the bare adjective in the context. Following Roberts' (1996/2012) discussion on partition, I suggest that possible answers of a *wh*-question should share all of its presuppositions.

3.2.4 Polar questions: another target structure

In this section, the relationship between the choices of subject focus/predicate focus and gradable adjective predicates' semantics in polar questions will be investigated. In this section, evidence will be provided to suggest that polar questions are another target structure. The (non)occurrence of degree modifiers such as *hen* 'very' does not affect the grammaticality of polar questions and a gradable adjective predicate can either permit a positive or a comparative reading in a polar question when *hen* 'very' is absent. As shown in (62a), when the degree modifier *hen* 'very' co-occurs with a gradable adjective, the gradable adjective in polar questions can only have a positive reading. However, in (62b), when *hen* 'very' is absent, either a positive or a comparative reading of a bare gradable adjective can be permitted in different contexts. See example contexts in (63) and (64). In the rest of this section, evidence is provided to link the positive reading of a bare gradable adjective to predicate focus and the comparative reading of a bare gradable adjective to subject focus in polar questions.

(62) a. Zhangsan hen gao ma? (positive reading)

Zhangsan very tall SFP

'Is Zhangsan very tall?'

b. Zhangsan gao ma? (positive/comparative reading)

Zhangsan tall SFP

'Is Zhangsan tall?/Is Zhangsan taller?'

(63) a. Zhangsan zhang-de zen-me-yang?

Zhangsan look-like what

'What does Zhangsan look like?'

b. Zhangsan $[gao]_F$ ma? (positive reading)

Zhangsan tall SFP

'Is Zhangsan tall?'

(64) a. Zhangsan he Lisi, shui gao?

Zhangsan and Lisi who tall

'Who is taller? Zhangsan or Lisi.'

b. $[Zhangsan]_F$ gao ma? (comparative reading)

Zhangsan tall SFP

'Is Zhangsan taller (than Lisi)?'

In the first part of this section, (63) is taken as the example to establish the connection between **predicate focus** and the **positive interpretation** of a bare gradable adjective predicate in polar questions. In (63b), *gao* is identified as the focus and (63b) has the predicate focus. Recall the discussion on focus identification in Mandarin Chinese in section 3.1.1, inferring from question/answer pairs is one way of locating focus in Mandarin Chinese. The generalization is that the focused positon in one move

m correlates with the questioned part in the QUD. Since the questioned part in (63a) is overtly signaled by the underlined *wh*-word *zen-me-yang* 'what', it can be concluded that the predicate *gao* in (63b) is the focus because it possesses the same position as the *wh*-word in (63a).

The claim of predicate focus in (63b) can be further supported by the felicity of < (63a), (65) > and the infelicity of < (63a), (66) >. Recall that focus can be overtly marked via syntactic fronting and focus marker insertion in Mandarin Chinese. In (65), the predicate *gao* along with the sentence final particle *ma* are fronted and the bare gradable adjective predicate *gao* is overtly marked to be the focus.[40] In other words, (65) is overtly marked as a predicate focus utterance. In contrast, in (66), the focus marker *shi* is inserted before the subject Zhangsan. So the subject Zhangsan in (66) is focused and (66) receives subject focus. Therefore, the felicity of < (63a), (65) > suggests that (63a) can be followed by utterances that have predicate focus. The infelicity of < (63a), (66) >, on the other hand, indicates that (63a) cannot be followed by utterances of subject focus. Because (63a) can be felicitously followed by (63b), we can then conclude that (63b) also has predicate focus.

(65) [Gao]$_F$ ma, Zhangsan? (predicate focus)

tall SFP Zhangsan

'Is Zhangsan tall?'

[40] (65) can also be analyzed as an instance of left-dislocation according to Packard (1986). Packard uses left dislocation to refer to sentences with the fronting movement of partial or entire predicate "to provide focus for new information" (p.8). Packard's definition confirms our analysis of (74). In our analysis of (74), the predicate *gao* along the sentence final particle *ma* is analyzed as the fronted/dislocated constituent and it receives focus.

(66) Shi [Zhangsan]$_F$ gao ma?[41] (subject focus)

SHI Zhangsan tall SFP

'Is it Zhangsan who is tall?'

After locating the focused constituent in (63b), one can turn to making connections between focus placement and the interpretation of bare gradable adjective predicates. In the context of (63b), (67) is a felicitous response. Because *gao* is focused in (63b) and *hen gao* in (67) is the corresponding position, the predicate *hen gao* 'very tall' in (67) is focused and (67) receives predicate focus. Because (67) is congruent to (63b), following the congruent principle defined in (40), repeated below, the propositions associated with (63b) and (67) are of the same logical form. The idea is that in a cooperative language game, the hearer answers the question by selecting from the alternative propositions denoted by the question. In addition, we know the semantic meaning of the gradable adjective *gao* in (67) and the type of comparison it denotes. Recall our discussion on degree modification in Mandarin Chinese. When a gradable adjective is modified by a pre-adjective *hen* 'very', the resulting adjectival phrase can only denote a positive reading and the type of comparison it denotes is between an individual and a context-provided standard. In other words, by accepting that < (63b), (67) > is felicitous, one acknowledges that the proposition *Zhangsan is very tall* is one of the alternatives proffered by (63b). In this thesis, I take questions to be holes to presuppositions (Kattunen 1973) and all the q-alternatives of ?(α) carry the presuppositions of α. Since *Zhangsan is very tall* is one of the q-alternative of (63b), the presupposition carried by *Zhangsan is very tall* is also the presupposition of (63b).

[41] Subject focus in (75) can also be achieved by adding stress to Zhangsan.

In summary, (63b) carries the presupposition that there is an individual's degree and a context-provided standard retrievable from context. In other words, the bare gradable adjective predicate *gao* in (63b) can only take a positive reading.

(63b) Zhangsan [gao]$_F$ ma? (positive reading)

Zhangsan tall SFP

'Is Zhangsan tall?'

(67) Zhangsan [hen gao]$_F$. (predicate focus)

Zhangsan very tall

'Zhangsan is very tall.'

(40) Move β is *congruent* to a question ?(α) *iff* its focal alternatives $\| \beta \|$ are the q-alternatives determined by ?(α), i.e., *iff* $\| \beta \| = \text{q-alt}(\alpha)$.

(Roberts 1996/2012, p.6:31)

In the second part of this section, I will discuss the interaction between **subject focus** pattern and the **comparative reading** of bare gradable adjective predicates in polar question. Take (64), repeated below, for example. In (64b), the subject Zhangsan is focused and (64b) receives the subject focus. In (64a), the questioned part is made clear by the underlined *wh*-word *shui* 'who' and in (64b), Zhangsan, the subject rather than the predicate *gao* occupies the correspondingly position as *shui* 'who' does in (64a). Following the generalization that focus correlates to the questioned position in the QUD, we conclude that (64b) receives subject focus.

(64) a. Zhangsan he Lisi, shui gao?

Zhangsan and Lisi who tall

'Who is taller? Zhangsan or Lisi'

b. [Zhangsan]$_F$ gao ma? (comparative reading)

Zhangsan tall SFP

'Is Zhangsan taller (than Lisi)?'

The claim that Zhangsan is the focused constituent in (64b) is further supported by the felicity of < (64a), (66) > and the infelicity of < (64a), (65) >. As discussed before, the subject is overtly marked for focus by the focus marker *shi* in (66) while the predicate *gao* along with the sentence final particle *ma* is fronted to receive focus in (65). See (65) and (66), repeated below. The felicity contrast between < (64a), (66) > and < (64a), (65) > suggests that (64a) requires responses to have subject focus and rejects responses that have predicate focus. Since < (64a), (64b) > is felicitous, (64b) also has subject focus just as (66) does.[42]

(66) Shi [Zhangsan]$_F$ gao ma? (subject focus)

SHI Zhangsan tall SFP

'Is it Zhangsan who is tall?'

(65) [Gao]$_F$ ma, Zhangsan? (predicate focus)

[42] In our discussion, we use question/answer pairs as the major means to locate focus in (63b) and (64b). However, we do not rule out the possibility that the choice of focus in (63b) and (64b) can be double marked by phonetic prominence such as stress.

tall SFP Zhangsan

'Is Zhangsan tall?'

After having established the presence of subject focus in (64b), the focus placement's influence on bare gradable adjectives' interpretation will be discussed. In the context of (64b), (68) is a felicitous response. Thus, (68) receives subject focus. Because the gradable adjective *gao* is modified by *bijiao* 'relatively', a degree modifier, in (68), we know *gao* in (68) denotes a comparison between two individuals and can only take a comparative reading. Because the denotation of (68) is one of the alternatives proffered by (64b), corresponding to one cell of possible worlds in the context set, the presuppositions of (68) are also part of the presuppositions carried by (64b). In other words, (64b) also presupposes the existence of two individuals of different degrees in the context. Such presuppositions rule out *gao*'s possibility of having a positive reading due to the lack of a contextually provided standard, and the bare gradable adjective *gao* in (64b) can only take a comparative reading.

(64b) $[\text{Zhangsan}]_F$ gao ma? (comparative reading)

Zhangsan tall SFP

'Is Zhangsan taller (than Lisi)?'

(68) $[\text{Zhangsan}]_F$ bijiao gao. (subject focus)

Zhangsan relatively tall

'Zhangsan is relatively taller.'

To summarize, in this section I argued that bare gradable adjective predicates can also have two possible interpretations in polar questions. In the discussion, I placed polar questions in different contexts to assign focus on a predicate or a subject. Then I made use of the congruence relationship between polar questions and utterances in which the gradable adjective's interpretation is known to examine the presuppositions that a polar question carries. The analysis suggests that the interpretation of bare gradable adjectives in polar questions is closely related to the placement of focus. If a polar question with a bare gradable adjective predicate has predicate focus, the gradable adjective can only have a positive reading. In contrast, when a polar question has subject focus, the bare gradable adjective can only allow a comparative reading. In the following sections, I take focus placement into consideration and provide a more accurate description of the data in chapter 1. The same kind of analysis will be implemented here to illustrate simple gradable adjective predications, the contrastive focus construction, and *gen…xiangbi* comparisons. I aim to prove that the selection of focused constituents in one utterance presupposes the type of QUD it can address or the type of last(QUD) it can logically follow in Mandarin Chinese and the interpretation of bare gradable adjectives in the identified structures is dependent on the utterance's focal structure.

3.2.5 Simple gradable adjective predications

As discussed in chapter 1, simple gradable adjective predication is a target structure in this study. The (non)occurrence of degree modifiers does not affect the grammaticality but influences the semantic interpretation of bare gradable adjective predicates in this structure. Take the degree modifier *hen* 'very' for example. As shown in (8), repeated below, the (non)occurrence of *hen* 'very' does not affect the

grammaticality of (8a) or (8b). In (8a), the occurrence of *hen* 'very' indicates that the gradable adjective *gao* can only take a positive reading. In (8b), however, when *hen* 'very' does not co-occur with *gao*, *gao* can either permit a positive or a comparative reading depending on the context. See (3) and (4), repeated below, for examples. However, in the previous discussion in chapter 1, focus placement was not taken into consideration. After discussing the distinction between subject focus and predicate focus and the binary interpretation of bare gradable adjective predicates in polar questions, more accurate descriptions need to be provided of the interaction between focus placement and bare gradable adjectives' interpretation in simple gradable adjective predications.

(8) **simple gradable adjective predications**

a. Zhangsan hen gao. (positive reading)

Zhangsan very tall

'Zhangsan is very tall.'

b. Zhangsan gao. (positive/comparative reading)

Zhangsan tall

'Zhangsan is tall/Zhangsan is taller.'

(3) a. *interlocutor A*:

Zhangsan gao ma? (polar question)

Zhangsan tall SFP

'Is Zhangsan tall?'

b. *interlocutor B*:

Zhangsan gao. (positive reading)

Zhangsan tall

'Zhangsan is tall.'

(4) a. *interlocutor A*:

Zhangsan he Lisi, shui gao? (*shui* 'who'-question)

Zhangsan and Lisi who tall

'As for Zhangsan and Lisi, who is taller?'

b. *interlocutor B*:

Zhangsan gao. (comparative reading)

Zhangsan tall

'Zhangsan is taller (than Lisi).'

In the previous section, it has been proven that a bare gradable adjective in a polar question can have two possible readings depending on the utterance's focal structure. If a polar question has predicate focus, the gradable adjective predicate can only allow the positive reading. If a polar question has subject focus, the gradable adjective predicate can only allow the comparative reading. Based on the above conclusion, we rewrite (3) in (69) and (70) to cover the two possible choices of focus placement in polar questions.

(69) a. *interlocutor A*:

Zhangsan $[gao]_F$ ma? (predicate focus, positive reading)

Zhangsan tall SFP

'Is Zhangsan tall?'

b. *interlocutor B*:

Zhangsan [gao]$_F$. (positive reading)

Zhangsan tall

'Zhangsan is tall.'

(70) a. *interlocutor A*:

[Zhangsan]$_F$ gao ma? (comparative reading)

Zhangsan tall SFP

'Is Zhangsan tall?'

b. *interlocutor B*:

[Zhangsan]$_F$ gao.[43] (comparative reading)

Zhangsan tall

'Zhangsan is tall.'

In (69a), the predicate *gao* is focused and it can only allow a positive reading. The predicate focus pattern in (69a) can be testified by the type of preceding questions and the type of felicitous answers. Refer back to the discussion of (69a)/(63b) in the previous section for details. Based on the discussion in the previous section, the bare gradable adjective *gao* in (69a) denotes a comparison between an individual and a context-provided standard. Following the definition of q-alternatives in (39), repeated below, the denotation of (69a) is {Zhangsan is tall}. This singleton set sets up a partition

[43] *Shi* in (79a) and (79b) is optional but if the focus marker *shi* is omitted, prosodic prominence is added to Zhangsan in both (79a) and (79b) to indicate the placement of focus.

over the context set which has only two cells. One containing the possible worlds in which the proposition *Zhangsan is tall* is true and the other cell containing the possible worlds in which it is false. However, regardless of which cell is realized as the actual world, the presupposition carried in both cells is the same. Propositions in both cells presuppose that there is a context-provided standard of tallness and an individual's height in the context. Since < (69a), (69b) > is felicitous, (69b) inherits the presuppositions of (69a), i.e., a standard of tallness and an individual's height in the context. Thus, the type of comparison that (69b) denotes is between Zhangsan's height and a context-provide standard and the bare gradable adjective *gao* in (69b) can only take a positive reading.

(39) The q-alternatives corresponding to utterance of a clause α
q-alt (α) = $\{\rho : \exists\mu^{i-1}, \cdots \mu^{i-n} \in D\ [\rho = |\beta|\ (\mu^{i-1}) \ldots, \cdots \mu^{i-n}]\}$ where α has the logical form $wh_{i-1}, \ldots wh_{i-n}(\beta)$, with $\{ wh_{i-1}, \ldots wh_{i-n} \}$ the (possible empty) set of *wh*-elements in α, and where *D* is the domain of the model for the language, suitably sortally restricted, e.g., to humans for *who*, nonhumans for *what.* (Roberts 1996/2012, p. 6:10)

In the above, (69) is used as an example to discuss the connection between predicate focus and the positive reading of a bare gradable adjective in polar questions and simple gradable adjective predications. It has been proven that bare gradable adjective predicates in a predicate focused simple gradable adjective predication can only allow a positive reading. In the following, (70) is used as an example to establish the connection between subject focus and the comparative reading of a bare gradable adjective predicate in simple gradable adjective predications.

In (70), both the question and the answer have focus falling on the subject position. Similar to (69a), the subject focus in (70a) can be proven by the type of

preceding questions and the type of felicitous answers. See the discussion of focus placement and gradable adjective predicate's semantics in (70a)/(64b) in the previous section. Based on the previous discussion on polar questions, the bare gradable adjective *gao* in (70a) can only take a comparative reading. Because *gao* in (70a) can only denote a comparison between two individuals, all the alternatives proffered by (70a) carry the same presupposition, i.e., there are at least two individuals' heights known from the context. Since (70b) is congruent to (70a), it denotes the same kind of comparisons as in (70a) and it inherits the same presupposition from (70a). Therefore, the bare gradable adjective predicate *gao* in (70b) can only take a comparative reading. The same kind of analysis can be applied to (4), repeated below with focus marked by F, because both (4a) and (4b) have subject focus and the previous discussion on *wh*-questions' denotation suggests that the bare gradable adjective *gao* in (4a) can only take a comparative reading. Because (4b) is a congruent answer to (4a), it carries all of (4a)'s presupposition. Thus, (4b) can only denote a comparison between two individuals and the bare gradable adjective *gao* can only take a comparative reading.

(4) a. *interlocutor A*:

Zhangsan he Lisi, $[shui]_F$ gao? (*shui* 'who'-question)

Zhangsan and Lisi who tall

'As for Zhangsan and Lisi, who is taller?'

b. *interlocutor B*:

$[Zhangsan]_F$ gao. (comparative reading)

Zhangsan tall

'Zhangsan is taller (than Lisi).'

In summary, in this section, I provided evidence to suggest that bare gradable adjectives' interpretation in simple gradable adjective predications depends on context. Furthermore I demonstrated the link between the context dependency and the focal structure of the utterance in which a bare gradable adjective occurs. When the predicate is focused, a bare gradable adjective predicate in simple gradable adjective predications can only license a positive reading. When the subject is focused, only the comparative reading of a bare gradable adjective is possible.

3.2.6 The contrastive focus construction

In this section, the presentation of bare gradable adjectives' semantics in the contrastive focus construction will be revised by considering the utterance's focal structure. In chapter 1, I argued with empirical evidence that the contrastive focus construction is a target structure. As shown in (9), repeated below, the (non)occurrence of the degree modifier *hen* 'very' does not affect the grammaticality of (9a) or (9b) but affects the semantic interpretation of bare gradable adjective predicates. In (9a), *hen* 'very' is present and the bare gradable adjective predicates *gao* and *ai* can only allow a positive reading. However, when *hen* 'very' is absent in (9b), the interpretation of *gao* and *ai* depends on context. See example contexts in (11) and (12), repeated below with focus marked by F.

(9) **the contrastive focus construction**

a. Zhangsan hen gao, Lisi hen ai. (positive reading)

Zhangsan very tall Lisi very short

'Zhangsan is very tall, but Lisi is very short.'

b. Zhangsan gao, Lisi ai. (positive/comparative reading)

Zhangsan tall Lisi short

'Zhangsan is tall, but Lisi is short/Zhangsan is taller and Lisi is shorter.'

(11) a. *interlocutor A*:

Zhangsan he Lisi [gao]$_F$ ma? (polar question)

Zhangsan and Lisi tall SFP

'Are Zhangsan and Lisi tall?'

b. *interlocutor B*:

Zhangsan [gao]$_F$, Lisi [ai]$_F$. (positive reading)

Zhangsan tall Lisi short

'Zhangsan is tall, but Lisi is short.'

(12) a. *interlocutor A*:

Zhangsan he Lisi xiangbi, [shui]$_F$ gao? [Shui]$_F$ ai?

(*shui* 'who'-question)

Zhangsan and Lisi compare-with who tall who short

'As for Zhangsan and Lisi, who is taller and who is shorter?'

b. *interlocutor B*:

[Zhangsan]$_F$ gao, [Lisi]$_F$ ai. (comparative reading)

Zhangsan tall Lisi short

'Zhangsan is taller and Lisi is shorter.'

In (11), (11a) receives predicate focus and such focus placement pattern is supported by the felicity of < (71), (11a) > and < (11a), (72) >. In (71), the questioned part is the underlined *wh*-question word *zen-me-yang* 'what'. Since the predicate *gao* in (11a) has the corresponding position, the predicate *gao* receive focus when (11a) is used to answer (71). In addition, the predicate focus in (11a) is further supported by the felicity of < (11a), (72) >. In (72), the predicate *gao* is focused via fronting. Since (72) can felicitous answer (11a), (72) is a congruent to (11a). According to the congruence principle in (46), the set of alternatives associated with the question and the answer should be of the same logical form. Since the focal alternatives presupposed by (72) are of the form *Zhangsan and Lisi are x*, (11a) should also denote a set of propositions differing in the ascribed property. In other words, (11a) should also have predicate focus.

(71) Zhangsan he Lisi zhang-de zen-me-yang?

Zhangsan and Lisi look-like what

'What does Zhangsan and Lisi look like?'

(72) [Gao]$_F$ a, Zhangsan he Lisi. (predicate focus)

tall PAR Zhangsan and Lisi

'Zhangsan and Lis are TALL.'

Having established the predicate focus pattern in (11a), it can be concluded that the bare gradable adjective predicate *gao* in (11a) can only permit the positive reading according to our previous discussion of bare gradable adjectives' interpretation in polar questions. Following Roberts' (1996/2012) definition of q-alternatives in (39), we derive the denotation of (11a) in (73). We take *p* to be proposition *Zhangsan is tall* and *q* to be *Lisi is tall*. The singleton set that (11a) proffers can be rewritten as $\{p \wedge q\}$. The proffered alternatives of (11a) set up a partition over the context set, represented in (74). In any of the four possible worlds proffered by (11a), the existence of a context-provided standard of tallness is presupposed. Because (11b) is an instantiation of $\rho \wedge \neg q$, (11b) also carries the presupposition of *p* and *q*. Therefore, the bare gradable adjectives *gao* and *ai* in (11b) can only take positive readings.

(73) | (78a) | = q-alt (Zhangsan and Lisi are tall) = {Zhangsan and Lisi are tall}

(74) $\{(\rho \wedge q), (\rho \wedge \neg q), (\neg\rho \wedge q), (\neg\rho \wedge \neg q)\}$

In the above, an example analysis of (11) is given to illustrate the connection between predicate focus and the positive reading of bare gradable adjective predicates in the contrastive focus constructions. In the rest of this section, (12) will be used as an example to discuss the semantics of gradable adjectives in a subject focused contrastive focus construction.

In (12), the *wh*-question word *shui* 'who' in (12a) receives focus. Because the subjects Zhangsan and Lisi in (12b) possess the corresponding positions, the subjects

are focused in (12b). In other words, both (12a) and (12b) receive subject focus. Previously, it was proven that bare gradable adjectives can only take comparative readings in *wh*-questions in section 3.3.2. Thus, the bare gradable adjectives *gao* and *ai* in (12a) can only denote comparisons between two individuals, i.e., Zhangsan and Lisi, and the existence of two individuals of different heights is presupposed. Following the definition of q-alternatives in (39), the proffered set of alternatives of (12a) in (75) can be derived. Comparing (12b) with (75) it can be observed that (12b) corresponds to one possible world in the context set. In this thesis, I support Roberts (1996/2012) in believing that if a question is accepted, the hearer forms an intention to answer it. In order to address the question, the hearer needs to know the question's denotation and to choose from the proffered set of alternatives. Refer back to (12a) and (12b). They are associated with alternatives of the same logical form and the presupposition of (12a) holds for (12b). In other words, (12b) also presupposes that there are at least two individuals' heights known from the context. Thus, the bare gradable adjectives *gao* and *ai* in (12b) can only denote a comparison between two individuals and can only take comparative readings.

(12) a. *interlocutor A*:

Zhangsan he Lisi xiangbi, $[shui]_F$ gao? $[Shui]_F$ ai?

(*shui* 'who'-question)

Zhangsan and Lisi compare-with who tall who short

'As for Zhangsan and Lisi, who is taller and who is shorter?'

b. *interlocutor B*:

[Zhangsan]$_F$ gao, [Lisi]$_F$ ai. (comparative reading)

Zhangsan tall Lisi short

'Zhangsan is taller and Lisi is shorter.'

(75) | (84a) | = q-alt (who$_1$ is taller ∧ who$_2$ is shorter) = {Zhangsan is taller ∧ Lisi is shorter, Lisi is taller ∧ Zhangsan is shorter}

To summarize, in this section, the interaction was examined between the choice of focus placement and the interpretation of bare gradable adjectives' semantics in the contrastive focus construction. First, I established the distinction between subject focus and predicate focus in utterance of the contrastive focus structure. Then I identified the presupposition of the QUD to examine the semantics of bare gradable adjective predicates in utterances of the contrastive focus construction. My conclusion is that the contrastive focus construction displays the same pattern with polar questions and simple gradable adjective predications. When the utterance has predicate focus, only the positive reading of a bare gradable adjective predicate is possible. When the utterance has subject focus, a bare gradable adjective can only have a comparative interpretation.

3.2.7 *Gen…xiangbi* comparisons

The last target structure in this study is the *gen…xiangbi* comparisons. As shown in (10), repeated below. The (non)occurrence of the degree modifier *hen* 'very' does not affect the grammaticality of (10a) or (10b) but affects the semantic interpretation of the bare gradable adjective predicate *gao*. To be specific, when *hen* 'very' occurs in (10a),

only the positive reading of *gao* is possible. When *hen* 'very' is not present in (10b), the interpretation of *gao* depends on context. See (15) and (16), repeated below, for example contexts.

(10) ***gen…xiangbi* comparisons**

a. Gen Zhangsan xiangbi, Lisi hen gao. (positive reading)
with Zhangsan compare-with Lisi very tall
'Compared to Zhangsan, Lisi is very tall.'

b. Gen Zhangsan xiangbi, Lisi gao. (positive/comparative reading)
with Zhangsan compare-with Lisi tall
'Compared to Zhangsan, Lisi is tall/taller.'

(15) a. *interlocutor A*:

Gen Zhangsan xiangbi, Lisi gao ma? (polar question)
with Zhangsan compare-with Lisi tall SFP
'Compared to Zhangsan, is Lisi tall?'

b. *interlocutor B*:

Gen Zhangsan xiangbi, Lisi gao (a). (positive reading)
with Zhangsan compare-with Lisi tall SFP
'Compared to Zhangsan, Lisi is tall.'

(16) a. *interlocutor A*:

Gen Zhangsan xiangbi, shui gao? (*shui* 'who'-question)
with Zhangsan compare-with who gall

'Compared to Zhangsan, who is taller?'

b. *interlocutor B*:

Gen Zhangsan xiangbi, Lisi gao (a). (comparative reading)

with Zhangsan compare-with Lisi tall SFP

'Compared to Zhangsan, Lisi is taller.'

As previously pointed out, there is a necessary revision of our data presentation in chapter 1 to address the distinction between subject focus and predicate focus. Since the type of focus placement and the context dependency of bare gradable adjectives' interpretation in polar questions has been discussed, we rewrite (15) in (76) and (77).

(76) a. Gen Zhangsan xiangbi, Lisi $[gao]_F$ ma?

with Zhangsan compare-with Lisi tall SFP

'Compared to Zhangsan, is Lisi tall?'

b. Gen Zhangsan xiangbi, Lisi $[gao]_F$. (positive reading)

with Zhangsan compare-with Lisi tall

'Compared to Zhangsan, Lisi is tall.'

(77) a. *interlocutor A*:

Gen Zhangsan xiangbi, $[Lisi]_F$ gao ma?

with Zhangsan compare-with Lisi tall SFP

'Compared to Zhangsan, is Lisi tall?'

b. *interlocutor B*:

Gen Zhangsan xiangbi, $[Lisi]_F$ gao (a). (comparative reading)

with Zhangsan compare-with Lisi tall SFP

'Compared to Zhangsan, Lisi is tall.'

In (76), both (76a) and (76b) receive **predicate focus**. Based on the previous discussion, it is clear that the bare gradable adjective *gao* in (76a) denotes a comparison between an individual and a contextually provided standard, and *gao* can only take a positive reading. Following the definition of q-alternatives in (39), the denotation of (76a) is derived in (78). As reported in (78), the denotation of (76a) sets up a partition over the context set. The context set is divided in such a way that there are only two cells, one containing the possible worlds in which *Lisi is tall when Zhangsan's height is used as the standard* is true and the other containing the worlds in which it is false. Since < (76a), (76b) > is felicitous, (76b) is chosen from the set of alternatives proffered by (76a). In other words, (76b) represents the set of possible worlds in which *Lisi is tall when Zhangsan's height is used as the standard* is realized in the real world. Because this set of possible worlds entails that Lisi's height exceeds Zhangsan's height by a significant amount (refer back to table 4 in chapter 1), the same presupposition holds true in (76b) as well and the comparative reading of the gradable adjective *gao* in (76b) is therefore ruled out.

(78) | (76a) | = q-alt (Lisi is tall when Zhangsan's height is used as the standard) = {Lisi is tall when Zhangsan's height is used as the standard}

As for (77) and (16), the analysis of these two examples is completely comparable to (70) and (4) in section 3.2.4. In both sets of examples, questions and

answers receive **subject focus**, optionally marked by the focus marker *shi*, and bare gradable adjectives in the questions can only allow comparative readings. Thus, the questions in these two sets of examples carry the presupposition that there are at least two individuals known from the context. Since < (77a), (77b) > and < (16a), (16b) > are felicitous moves, (77b) and (16b) are congruent to (77a) and (16a), respectively. Therefore, they denote propositions of the same logical form *x is taller* and inherit the presupposition of the questions. Thus, bare gradable adjectives in (77b) and (16b) can only denote comparisons between individuals and can only take the comparative readings.

To summarize, chapter 3 applies Roberts' (1996/2012) QUD and question/answer congruence theories to explain the observed context dependency of bare gradable adjective predicates' interpretation in simple gradable adjective predications, the contrastive focus construction, *gen…xiangbi* comparisons, and polar questions. In this chapter, I distinguish subject focus from predicate focus. I construct question/answer pairs to examine the interaction between bare gradable adjectives' interpretation and the utterance's focal structure. My analysis suggests that a bare gradable adjective in the four target structures can only take a positive adding when the utterance receives predicate focus. When the subject is focused, a bare gradable adjective can only take a comparative reading.

Chapter 4 Conclusion

In this study, I identified four structures in which the (non)occurrence of degree modifiers such as *hen* 'very' makes no difference in grammaticality but influences the semantic interpretation of bare gradable adjective predicates. The four structures are simple gradable adjective predications, the contrastive focus construction, *gen…xiangbi* comparisons, and polar questions. In the above four structures, a bare gradable adjective predicate can either have a positive or a comparative reading depending on the context. The reported context dependency of bare gradable adjective predicates in this study challenges the assumption that a bare gradable adjective in the above four structures can only have one reading. To the best of my knowledge, the empirical data and tests in this study provides the first systematic description of the context dependency of bare gradable adjective predicates' interpretation in Mandarin Chinese.

On the theoretical side, based on Roberts' (1996/2012) QUD and question/answer congruence theories, this study offers a focus-based pragmatic account to explain the connection between a bare gradable adjective's denotation and the preceding context in the set of identified structures. This study reduces the observed context dependency of bare gradable adjective predicates' interpretation to the identification of focus placement in an utterance. When the predicate is focused in the set of identified structure, only the positive reading of a bare gradable adjective

predicate will be allowed. In contrast, when the subject is focused, a gradable adjective can only license a comparative reading. In this study, we argue that focus placement in Mandarin Chinese presupposes the type of question it can answer. Following Roberts (1996/2012), I assume that a question sets up a partition over the context set and each cell in the context set corresponds to one possible answer of the question. Since questions are holes to presupposition (Kattunen 1973), all the possible answers, i.e., all the instantiations of the question, carry all of the question's presuppositions. In this way, the context dependency of gradable adjective predicates' interpretation is linked to the identification of the QUD's presupposition.

That being said, I will briefly respond to some foreseen questions and some of the open issues in the rest of this chapter. First, I want to clarify that even though most of my contexts are restricted to two individuals, the proposed analysis will be the same if the domain of comparison increases to three individuals or more. Due to space limitations, I will not provide detailed discussion of bare gradable adjective predicates' interpretation in contexts of more than two individuals in this thesis.

Second, I would like to return to the question of prosody and focus in Mandarin Chinese in this concluding chapter. In the previous discussion of focus identification in Mandarin Chinese, I have discussed that stress can be used to identify focus. For future research, I am interested in exploring the interaction between prosodic prominence and the other three focus marking devices (syntactic fronting, focus marker insertion, and question/answer pairs) in oral discourse. In particular, I hope to answer the following question: will a constituent receive prosodic prominence if the constituent has already been marked as the focus via other methods? There is no consensus in the literature regarding this question. For example, Xu and Pan (2005) argue that if focus has been

marked syntactically, it does not need to be phonetically marked. On the other hand, Zhao et al's (2012) empirical study does not support Xu and Pan's (2005) generalization. Zhao et al's statistical study of 30 naturally read aloud discourse report that focus is accented in most cases (82%), though they acknowledge that the levels of prosodic prominence are different. However, Zhao et al's study has the following limitations. First, the two subjects who judged the 30 discourse samples were trained graduate students in phonetics and phonology. Their judgement might be biased. Second, Zhao et al do not do acoustic analysis to triangulate their results.

Third, in chapter 3, I concluded that *wh*-questions presuppose that there are two individuals' degrees known from the context, but I did not identify the way in which such presupposition arises. Here, I make an initial attempt to link the comparative reading of a bare gradable adjective predicate to the inherent subject focus in *wh*-questions. My proposal is motivated by the two observations summarized in table 7, namely: 1) different from the four target structures, *wh*-questions invariably receive subject focus while focus placement in the four target structures needs to be tested via stress, syntactic fronting, focus marker, or questions/answer pairs. 2) bare gradable adjective predicates can only take comparative readings in a *wh*-question while the interpretation of bare gradable adjective predicates in simple gradable adjective predications, the contrastive focus construction, *gen…xiangbi* comparisons, and polar questions depends on the context. To be specific, if the subject is focused in the four structures, only the comparative reading is allowed. On the other hand, if the predicate receives focus in the four structures, a bare gradable adjective can only allow a positive reading. In summary, the above two observations seem to suggest a connection between the inherent subject focus pattern and the mandatory comparative readings of bare

gradable adjective predicates in *wh*-questions. I will have to leave a systemic proof of the aforementioned proposal for future research.

Table 7. Interactions between focus placement and bare gradable adjective predicates' interpretation in the four target structures

structures	**focus placement**	**bare gradable adjective predicates' interpretation**
wh-questions	subject focus	comparative reading
simple gradable adjective predications, the contrastive focus construction, *gen…xiangbi* comparisons, and polar questions	subject focus	comparative reading
	predicate focus	positive reading

If the above attempt is on the right track, the focus-based proposal in this study can potentially be used to explain why a bare gradable adjective predicate can only take a positive or a comparative reading in other sentence structures. The generalization seems to be that if a structure receives inherent subject focus, bare gradable adjectives in that structure can only take comparative readings. If the predicate consistently receives focus, a bare gradable adjective can only take a positive reading. See the appendix for an example analysis of A-not A questions where I provide evidence to suggest that bare gradable adjective predicates can only take positive readings and the predicate is inherently focused. I will have to leave other sentence structures such as negations and alternative questions for future research.

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Appendix: Application on A-not A questions

A-not-A questions differ from polar questions in that the former makes both positive and negative answers explicit by conjoining them together while the latter only explicitly state the positive answers.[44] See the contrast between (79) and (3a). In (79), the two possible answers to the question, i.e., *gao* 'tall' and *bu gao* 'not tall' are made explicit in the question. In contrast, only the possible answer, i.e., *gao* 'tall' is made clear in the polar question in (3a).

(79) Zhangsan gao bu gao? (A-not-A questions)

Zhangsan tall NEG tall

'Is Zhangsan tall?'

(3a) Zhangsan gao ma? (polar question)

Zhangsan tall SFP

'Is Zhangsan tall?'

In addition, A-not-A questions differ from polar questions in that the former is

[44] The term "positive answer" in the above discussion is used in contrast with "negative answers". "Positive" in the above discussion does not refer to the semantic relationship between a target of comparison and a comparison class.

not a target structure for the purpose of this thesis. The presence of degree modifiers is prohibited in A-not-A questions but is optional in polar questions. The contrast between (80a-c) and (79) indicates that degree modifiers such as *hen* 'very' cannot co-occur with bare gradable adjectives in A-not-A questions. Therefore, A-Not-A questions are not a target structure.

(80) a. *Zhangsan hen gao bu hen gao?[45]

Zhangsan tall NEG tall

b. *Zhangsan hen gao bu gao?

Zhangsan tall NEG tall

c. *Zhangsan gao bu hen gao?

Zhangsan tall NEG tall

Having introduced the general features of A-not-A questions, the rest of this section will provide empirical evidence to suggest that gradable adjective predicates can only take positive readings and predicates that focus is mandatory in A-not-A questions. First, empirical evidence is provided to suggest that predicates can receive focus in A-not-A questions. The felicity of < (63a), (79) > suggests that the predicate

[45] The following examples illustrate that post-adjectival degree modifiers such as *yidian* 'a little' are also banned in A-not-A questions. The following examples and (87) suggest that degree modifiers, regardless of their positions, are excluded in A-not-A questions.

a. *Zhangsan gao yidian bu gao yidian?
b. *Zhangsan gao yidian bu gao?
c. *Zhangsan gao bu gao yidian?

gao bu gao 'tall not tall' receives focus. Since the questioned part in (63a), repeated below, is marked by the *wh*-word *zen-me-yang* 'how', the predicate in (79), i.e., *gao bu gao* 'tall not tall' receives focus according to the generalization that focus in a move *m* corresponds to the questioned part in the preceding question. In addition, the predicate focus of (79) can be further supported by the felicity of < (63a), (65) > and the infelicity of < (63a), (66) >. In (65), the predicate focus is marked via syntactic fronting of the predicate *gao* and the subject focus in (66) is indicated by the focus marker *shi*. The felicity contrast between < (63a), (65) > and < (63a), (66) > suggests that (63a) calls for answers that receive predicate focus rather than subject focus. Since (79) is a felicitous answer to (63a), the focus placement in (79) has to be predicate focus.

(63a) Zhangsan zhang-de zen-me-yang?

Zhangsan look-like what

'What does Zhangsan look like?'

(79) Zhangsan [gao bu gao]$_F$?

Zhangsan tall NEG tall

'Is Zhangsan tall?'

(65) [Gao]$_F$ ma, Zhangsan? (predicate focus)

tall SFP Zhangsan

'Is Zhangsan tall?'

(66) Shi [Zhangsan]$_F$ gao ma? (subject focus)

SHI Zhangsan tall SFP

'Is it Zhangsan who is tall?'

Second, I argue that predicates are invariably focused even when the subject also receives focus. In (81a) and (81b), the subject Zhangsan receives focus via stress and context, respectively. Therefore, (81a) and (81b) receive the subject focus. However, even though the subject is focused, felicitous answers such as *(Zhangsan) gao* 'tall' and *(Zhangsan) bu gao* 'not all' to (81a) and (81b) still have to address the underlined predicate constituents, which indicates that the predicates in (81a) and (81b) are the questioned part. In other words, the underlined predicates in (81a) and (81b) carry the most important question, i.e., the requested information.

(81) a. [**Zhangsan**]$_F$ [gao bu gao]$_F$? (stress)

Zhangsan tall NEG tall

'Is Zhangsan tall?'

b. [Zhangsan]$_F$ [gao bu gao]$_F$? bu shi wen Lisi. (context)

Zhangsan tall NEG tall NEG SHI ask Lisi

'Is Zhangsan tall? I am not asking about Lisi'

The above two pieces of evidence suggest that predicate focus is inherent in A-not-A questions. In the following, I provide evidence to suggest that gradable adjectives can only have positive readings in A-not-A questions. I construct question/answer pairs and use gradable adjective predicates' interpretation in the answers to infer the predicates' denotation in the questions. For example, in (6) and (7), repeated below, the gradable adjective *gao* takes a comparative and a positive reading, respectively. (7) can felicitously answer both (79) and (81a/b), but (6) cannot. In other words, the felicity of < (79), (7) > and < (81a/b), (7) > suggests that (7) instantiates one alternative that is proffered by the QUD, i.e., (79) and (81a/b). (7) shares the same presuppositions that (79) and (81a/b) do. Because the gradable adjective *gao* takes a positive reading, (7) presupposes that there is a contextually provided degree and a target of comparison available in the context. Thus, (79) and (81a/b) share this presupposition and the bare gradable adjective in (79) and (81a/b) takes a positive reading.

(6) Zhangsan gao yi dian. (comparative reading)

Zhangsan tall a little

'Zhangsan is a little taller (than someone known from context).'

(7) Zhangsan hen gao. (positive reading)

Zhangsan very tall

‘Zhangsan is very tall.’