The semantics of comparisons in Mandarin Chinese

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1. Introduction

This paper addresses the three fundamental uses of gradable adjectives in Mandarin Chinese. It aims to answer, without a morphological distinction between the so-called positive and comparative forms (e.g., *tall* vs. *taller*), how comparisons are encoded in Mandarin Chinese, and how distinctive interpretations are derived and understood by the users of the language.

As illustrated in (1), the three fundamental uses of gradable adjectives are **the positive use** (see (1a)), **the comparative use** (see (1b)), and **the use in measurement constructions** (see (1c)). In these English examples, evidently, the comparative form of gradable adjectives (e.g., *longer*) is morphologically more complex than the form used in the positive use and measurement constructions (e.g., *long*).

(1) a. This rope is **long**. — Positive use
b. This rope is **longer** than that rod is. — Comparative
c. This rope is 6 meters **long**. — Measurement construction

Cross-linguistically, it has been widely acknowledged that the morphology of the comparative form is usually not less complex than that of the positive form (see Table (2) from Grano 2012; see also e.g., Klein 1980, Bobaljik 2012).

(2) Morphosyntactic relationship between positive and comparative forms cross-linguistically (from Grano 2012)

	Positive form	Comparative form	
English	tall	tall**er**	DERIVED COMPARATIVE FORM
Irish	ard	ard**a**	
Spanish	alto	**más** alto	PERIPHRASTIC COMPARATIVE
French	grand	**plus** grand	
Swahili	mrefu	mrefu	NO CONTRAST
Japanese	takai	takai	

Intriguingly, in the formal semantics literature, there is a long noted puzzling phenomenon: as illustrated by (3), it has been claimed that the 'unmarked' use of gradable adjectives in Mandarin Chinese seems comparative, rather than positive (see (3a)), and then to convey the positive interpretation, using the form '*hěn*+ADJ.' (here *hěn gāo* '*very tall*') is more preferred than simply using the gradable adjective alone (see (3b)) (see e.g., Sybesma 1999, Grano 2012).

(3) a. 张三 高
Zhāng-Sān gāo
Zhāng Sān tall(-er)
'Zhāng Sān is taller (than someone known from context).'
NOT: 'Zhāng Sān is tall.' Sybesma (1999), Grano (2012)

b. 张三 很 高
Zhāng-Sān **hěn** gāo
Zhāng Sān very tall(-er)
'Zhāng Sān is tall.' Sybesma (1999), Grano (2012)

Are these examples shown in (3) against the generalization illustrated in Table (2)? In other words, does the contrast shown in (3) mean that in Mandarin Chinese, the positive form (which seems to be *hěn gāo*) is morphologically more complex than the comparative form (which seems to be simply *gāo*)? Does this mean that the semantics of gradable adjectives in Mandarin Chinese is inherently comparative?

Grano (2012)'s answer to all these questions is 'no'. Grano (2012) proposes that in Mandarin Chinese, both positive *tall* and comparative *taller* are spelt out as *gāo*, resulting in the same pattern as that of Japanese and Swahili. However, comparative *gāo* has a silent comparative morpheme (equivalent to English *-er*) that enables *gāo* to project to the TP level, but positive *gāo* needs the assistance of overt elements like *hěn* ('*very*') to project to TP. Essentially, what makes the morphosyntax of positive *gāo* seemingly more complex is due to a distinction between a **syntactically visible silent morpheme** (used along with comparative *gāo*) and a **syntactically invisible interpretation rule** (a type-shifting operation for positive *gāo*).

In this paper, I argue against Grano (2012)'s account and propose a new analysis that still validates the generalization in Table (2). In a nutshell, I propose that the notion of **comparison** underlies all the three uses of gradable adjectives.[1] The semantics proper of gradable adjectives is to relate and compare the measurement of an individual with a **standard** value, yielding a certain **difference**, and the three uses of gradable adjectives differ with regard to their distinctive standard and difference. I.e., for gradable adjectives in Mandarin Chinese, there is no so-called morphosyntactic difference between the positive and comparative forms. Thus, the use of gradable adjectives is inherently ambiguous, and it is the use of other elements (e.g., *hěn*) that helps to disambiguate (e.g., by selecting a certain kind of standard or difference), so that the non-use of these disambiguating elements leads to a seemingly 'default' use. Overall, my proposed account is purely semantic and pragmatic, irrespective of any syntactic factors.

In the following, I first argue against Grano (2012)'s account (Section 2). I present my own proposal in Section 3 and discuss implications in Section 4. Section 5 concludes.

2. Challenging cases for Grano (2012)'s account

I focus on three cases that challenge Grano (2012)'s account. **First**, the 'unmarked' comparative use of (3a) forms the very foundation for Grano (2012)'s account, but when uttered out of blue, (3a) does not sound perfectly unambiguous. (3a) can be ambiguous between a positive and a comparative reading, depending on context. Then, when context is fleshed out, the interpretation of *gāo* in (4) and (5) is unambiguously positive and comparative, respectively.

[1] Presumably, this claim holds not only for Mandarin Chinese, but also cross-linguistically (see Oda 2005 for a similar view for gradable adjectives in Japanese). However, a thorough cross-linguistic investigation is beyond the scope of the current paper and has to be left for future research. I focus on Mandarin Chinese phenomena in this paper and briefly discuss English data in Section 4.

(4) a. 这些 孩子 里 就 张三 高
zhè-xiē hái-zi lǐ jiù Zhāng-Sān gāo
these kids among/inside only Zhāng-Sān tall(-er)
'Among these kids, only Zhāng Sān is tall.' ⇝ positive

b. 张三 高 不 高? 张三 (不) 高
Zhāng-Sān gāo bù gāo Zhāng-Sān (bù) gāo
Zhāng-Sān tall(-er) NEG tall(-er) Zhāng-Sān NEG tall(-er)
'Is Zhāng Sān tall? Zhāng Sān is (not) tall. ' ⇝ positive

(5) 张三 和 李四 谁 高? 张三 高
Zhāng-Sān hé Lǐ-Sì shéi gāo Zhāng-Sān gāo
Zhāng-Sān and Lǐ-Sì who tall(-er) Zhāng-Sān tall(-er)
'Between Zhāng Sān and Lǐ Sì, who is taller? Zhāng Sān is taller.' ⇝ comparative

Liu (2010b) observes that the positive reading of a gradable adjective is often freely (i.e., without the use of *hěn*) available under certain conditions (like negation, focus, etc., see (4)). Based on this, Grano (2012) claims that it is crucially the presence of these conditions that satisfies the T[+V] constraint for syntactic grammaticality in Mandarin Chinese, and then he proposes that since a gradable adjective cannot satisfy this constraint itself, elements like a silent comparative morpheme *-er* or an explicit *hěn* need to be used to help it project to TP, satisfying the syntactic requirement and leading to a comparative or positive reading.

Thus, under this analysis, without the assistance of special conditions (like negation or focus) or the use of *hěn*, (3a) should only have an unambiguous comparative reading. This contradicts our intuition that (3a) sounds rather ambiguous when uttered out of blue.

Then, **second**, for sentences like (6a), which contain a measurement expression (here *liǎng mǐ* 'two meters'), Grano (2012)'s analysis also predicts that for the gradable adjective *cháng* ('*long*') here, a silent morpheme *-er* is needed to satisfy the T[+V] constraint, and thus the sentence is predicted to be unambiguously comparative.

However, this prediction is again not borne out. When uttered out of blue, (6a) is ambiguous between a comparative and a measurement reading, and it seems that the measurement reading is even more readily available. Moreover, the preferred form for an unambiguous comparative reading here typically involves adding a *bǐ*-phrase or an aspectual marker *le* (see (6b)). The preferred addition of *le* is particularly puzzling for Grano (2012)'s analysis: if a silent morpheme *-er* already satisfies the T[+V] constraint, how can this *le* be licensed? What does it serve for? If silent *-er* and other elements like *le* can co-occur to satisfy the syntactic requirement, does it mean that the comparative reading is always available for any use of gradable adjectives? How can it disappear under certain conditions (see (4)) or when *hěn* is present (see (3b))?

(6) a. 这 根 绳子 长 两 米
zhè gēn shéng-zi cháng liǎng mǐ
this CLASSIFIER rope long(-er) two meter
'This rope is 2 meters long/longer.' ⇝ ambiguous

b. 这 根 绳子 (比 那 根) 长 (了) 两 米
zhè gēn shéng-zi (bǐ nà gēn) cháng (le) liǎng mǐ
this CLASSIFIER rope COMPARE that CLASSIFIER long(-er) ASPECT two meter
'This rope is 2 meters longer (than that one).' ⇝ comparative

Finally, according to Grano (2012), when a gradable adjective is used attributively, as shown in (7a), since it no longer needs to project to TP to satisfy the T[+V] requirement, it

does not need the assistance of *hěn* to give rise to a positive reading. Crucially, to support this view, Grano (2012) argues that this kind of prenominal modification (in (7a)) is distinct from the use of relative clauses (see (8)): relative clauses can appear either to the left or to the right of 'numeral + classifier', while attributives can only appear to the right of 'numeral + classifier' (i.e., (7b) is unacceptable if *hěn* is not added; when *hěn* is added, (7b) contains a relative clause).

(7) a. 一 封 长 的 信
yī fēng cháng de xìn
one CLASSIFIER long(-er) PARTICLE letter
'a long letter' ⇝ positive

b. *(很) 长 的 一 封 信
*(hěn) cháng de yī fēng xìn
very long(-er) PARTICLE one CLASSIFIER letter
intended: 'a long letter' ⇝ positive (*hěn* is obligatory)

(8) a. 新 来 的 两 个 老师
xīn lái de liǎng gè lǎo-shī
new come PARTICLE two CLASSIFIER teacher
'two teachers who have newly arrived' Yip & Rimmington (2004), Grano (2012)

b. 两 个 新 来 的 老师
liǎng gè xīn lái de lǎo-shī
two CLASSIFIER new come PARTICLE teacher
'two teachers who have newly arrived' Yip & Rimmington (2004), Grano (2012)

Presumably, this analysis only means that in (7a), *cháng de* ('*long*') can be analyzed as an attributive. This analysis does not rule out the possibility that in principle, *cháng de* in (7a) and (7b) should still be able to be analyzed as relative clauses. Moreover, when analyzed as relative clauses, *cháng de* ('(NP) *that is long/longer*') should still need a silent *-er* to satisfy the T[+V] constraint within relative clauses and thus be interpreted in a comparative way. However, (7a) has by no means a comparative reading, and without *hěn*, (7b) is simply unacceptable.

Overall, in order to argue that the positive form of gradable adjectives in Mandarin Chinese does not have a heavier morphology than their comparative form, it seems that Grano (2012) ends up transferring the burden of licensing the positive reading to their syntax. This analysis predicts a comparative reading for (3a) and (6a), where actually, ambiguity arises, and it should predict ambiguous readings for (7a), which has only an unambiguous positive reading.

3. Proposal

My proposal starts with the ambiguity of (3a) and (6a): both are ambiguous between a comparative and a non-comparative use. For (3a), the comparative use seems, at least, the not less prominent one, and the more preferred form for a positive reading involves the use of *hěn* (see (3b)), while for (6a), the measurement use seems more prominent, and the more preferred form for a comparative reading involves the use of a *bǐ*-phrase and/or aspectual marker *le* (see (6b)).

Obviously, for gradable adjectives in Mandarin Chinese, no matter what kind of silent morphemes or interpretation rules we propose for them, if there is morphosyntactic unbalance between their comparative and non-comparative use, then when *hěn* or other conditions are absent, the use associated with the morphosyntactically unmarked (or less marked) form should always be more available and, in ambiguous cases, more prominent. (3a) speaks against the mor-

phosyntactic unmarkedness of the non-comparative use, while the example (6a) speaks against the morphosyntactic unmarkedness of the comparative use. Overall, these data speak against any morphosyntactic unbalance between the comparative and non-comparative use.

Thus, I propose that the use of gradable adjectives in Mandarin Chinese is inherently ambiguous, and the notion of **comparison** underlies all the three uses of gradable adjectives.

I analyze the semantics of gradable adjectives as a relation among three items: the comparison between the measurement of an individual x and a certain **standard** σ results in a **difference** δ (see (9)). The three uses of gradable adjectives differ in their arguments σ and δ.

For the **positive** use, σ is a contextually relevant average and often overtly expressed with the use of *hěn* (see (3b)), and δ is an always covert, unspecified positive value. *hěn*, which marks σ, usually appears to the left of a gradable adjective (see (3b)), but with the insertion of particle *de*, it can also appear to the right of a gradable adjective (see (10)).[2]

For the **comparative** use, σ is a **contextually salient** standard or introduced by a *bǐ*-phrase (see (6b)), and δ can be a covert (see (3a)) or overt positive value (see (6a), (6b)). When δ is overt, it can be a numerical measurement phrase (see (6a), (6b)) or less specified (see (11)).

The **measurement** use is actually only available for gradable adjectives associated with a scale that has an absolute zero point (e.g., *gāo* ('*tall*'), *cháng* ('*long*'), see Sassoon 2010). Thus, while (6a) is ambiguous between a comparative and a measurement reading, (12) is unambiguously comparative: the scale associated with *duǎn* ('*short*') has no absolute zero point, so the measurement reading cannot be available. Therefore, for the measurement use, σ refers to this absolute zero point, which is always covert, and δ is a numerical measurement phrase, which is always overtly expressed.

(9) $[\![\text{高 gāo}]\!]_{\langle d,\langle d,et\rangle\rangle} \stackrel{\text{def}}{=} \lambda\sigma_d.\lambda\delta_d.\lambda x_e.\text{HEIGHT}(x) - \sigma = \delta$
σ: the **standard** in a comparison; δ: the **difference** in a comparison; HEIGHT: a measure function that takes x as input and returns the measurement of x on the scale of height.

	σ (standard)	δ (difference)
Positive	a typical or relevant average (OFTEN OVERT) (e.g., *hěn*)	an unspecified value (ALWAYS COVERT)
Comparative	a salient standard (e.g., *bǐ*-phrase) (COVERT OR OVERT)	a measurement phrase (COVERT OR OVERT)
Measurement	the absolute zero point of the scale (ALWAYS COVERT)	a measurement phrase (ALWAYS OVERT)

(10) 张三 高 得 很
Zhāng-Sān gāo de **hěn**
Zhāng Sān tall(-er) PARTICLE very
'Zhāng Sān is very tall.' ⇝ positive

(11) 张三 高 很 多
Zhāng-Sān gāo **hěn** duō
Zhāng Sān tall(-er) very much/more
'Zhāng Sān is much taller.' ⇝ comparative
(Zhāng Sān is taller by a difference which is *hěn duō* ('*much*').)

[2]Presumably, the semantics of *hěn* refers to an unspecified high value serving as the standard on a relevant scale. Thus, for (3b), the use of *hěn* (as the standard on the scale associated with gradable adjective *gāo*) naturally gives rise to the positive reading. Then in (10), I propose that there is a silent *gāo* following *hěn*, so that overall, *gāo de hěn* (*gāo*) is interpreted roughly as *tall to the extent of* '*very tall*', i.e., a positive reading.

(12) 这 根 绳子 短 两 米
zhè gēn shéng-zi duǎn liǎng mǐ
this CLASSIFIER rope short(-er) two meter
'This rope is 2 meters shorter.' ⇝ Unambiguously comparative (cf. (6a))

Evidently, my analysis explains how comparisons are encoded in Mandarin Chinese: comparisons are encoded by gradable adjectives themselves, and thus the comparative use is not special in involving comparisons and does not need a silent marker.

The use of *gèng* It is worth noting that the use of some morphemes like *gèng* ('*furthermore*') or *hái-yào* ('*still*') often co-occurs with the comparative reading. For example, without *gèng*, (3a) is ambiguous between a comparative and a positive reading, while with the use of *gèng*, (13) is unambiguously comparative. This contrast gives the impression that *gèng* seems a marker of comparison. However, as illustrated in (14), in unambiguous comparative sentences, the use of *gèng* is quite optional. As pointed out by Liu (2010a), *gèng* actually brings a presuppositional requirement. For (14), without the use of *gèng*, there is no presupposition, while with the use of *gèng*, the sentence presupposes the existence of another comparison: i.e., Lǐ Sì, whose height serves as the standard in the asserted comparison, is already tall (i.e., taller than the typical or relevant average).

Thus, *gèng* is not a marker of comparison (see (15) and (16) for lexical entries of *gèng* and *bǐ*): it is a modifier for gradable adjectives that makes **the asserted comparison** a second comparison. In other words, *gèng* is the marker of the existence of a **presupposed comparison**. Under the current analysis, since all uses of gradable adjectives encode a comparison, there is no need to mark the asserted comparison.

Then since *gèng* marks the existence of a presupposed comparison, *gèng* actually also indicates the discourse salience of σ, i.e., the standard used in the asserted comparison. Then since this standard needs to be a salient discourse referent, it can be neither the absolute zero point nor a typical average, ruling out the measurement or the positive interpretation for the asserted comparison. Therefore, due to the use of *gèng*, which indicates the discourse salience of the standard in the asserted comparison, (13) has an unambiguous comparative reading.

(13) 张三 更 高
Zhāng-Sān gèng gāo
Zhāng Sān GENG tall(-er)
'Zhāng Sān is (even) taller.' ⇝ comparative

(14) 张三 比 李四 (更) 高 (五 厘米)
Zhāng-Sān bǐ Lǐ-Sì (gèng) gāo (wǔ lí-mǐ)
Zhāng Sān COMPARE Lǐ Sì GENG tall(-er) five centimeter
'Zhāng Sān is (5 cm) taller than Lǐ Sì.'
With *gèng*: the sentence presupposes that Lǐ Sì is tall;
Without *gèng*: there is no presupposition.

(15) $[\![\text{更 gèng}]\!]_{\langle\langle d,\langle d,et\rangle\rangle,\langle d,\langle d,et\rangle\rangle\rangle} \stackrel{\text{def}}{=}$
$\lambda G_{\langle d,\langle d,et\rangle\rangle}.\lambda\sigma_d.\lambda\delta_d.\lambda x_e.\underline{\exists\sigma'.\sigma-\sigma'=\delta'.G\text{'s scale}(x)-\sigma=\delta}$
Assertion: the measurement of x exceeds the standard σ by a difference value δ.
Presupposition (the underlined part): the standard σ exceeds another standard σ' (Most likely, σ' does not have discourse salience, yielding a positive reading for this presupposed comparison).

(16) $[\![\text{比 bǐ}]\!]_{\langle\langle d,\langle d,et\rangle\rangle,\langle e,d\rangle\rangle} \stackrel{\text{def}}{=} \lambda G_{\langle d,\langle d,et\rangle\rangle}.\lambda x_e.G\text{'s scale}(x)$

(Essentially, *bǐ* is a measure function that generates the standard for comparison.)

Distinguishing the three uses of gradable adjectives From (9), it is clear that the three uses of gradable adjectives are distinct from one another only in terms of the standard σ and the difference δ involved in comparisons. I.e., there is no need to morphologically make a difference between the so-called comparative vs. positive (or non-comparative) forms for gradable adjectives. Thus, the generalization in Table (2) is immediately validated.

(9) also makes it clear that a three-way ambiguous sentence is never possible.

According to (9), since a numerical measurement phrase δ is never compatible with the positive use, then whenever the use of a gradable adjective is accompanied by a numerical difference, the only possible readings are the measurement and the comparative readings (see (6a)). Similarly, since the measurement use always requires the presence of an overt numerical measurement phrase as δ, then as far as there is no numerical measurement phrase, the only possible readings are the positive and the comparative readings (see (3a)).

In addition to the presence/absence of numerical differences, I further propose that the actual interpretation of distinctive uses makes use of two other kinds of clues.

The first is a competition mechanism that can be characterized within the Rational Speech Act framework (Frank & Goodman 2012). Within this framework, speakers and listeners reason about each other's reasoning about the **literal** as well as **likely** interpretations. As illustrated in (17), with the use of *hěn*, (3b) has an unambiguous positive reading. If interlocutors are rational and use pragmatic reasoning, then, between the ambiguous sentence (3a) and the unambiguous positive-reading sentence (3b), they should choose (3b) to convey the positive reading. Based on this, if this unambiguous sentence (3b) is not chosen, but the ambiguous sentence (3a) is used, most likely, it is the comparative reading that interlocutors intend to convey. Thus, though the literal meaning of (3a) is ambiguous, its likely interpretation is comparative.

Similarly, for (6a) and (6b) (see (18)), since the addition of a *bǐ*-phrase and/or an aspectual marker *le* can disambiguate and lead to an unambiguous comparative reading, then the non-use of these elements makes the non-comparative reading more likely. In other words, though the literal meaning of (6a) is ambiguous, its likely interpretation is a measurement use.

(17) a. Without *hěn*: ⟦(3a)⟧ = ⟦Zhāng Sān is tall/taller⟧ ⇝ ambiguous ⇝ non-positive
b. With *hěn*: ⟦(3b)⟧ = ⟦Zhāng Sān is tall⟧ ⇝ positive

(18) a. Without a *bǐ*-phrase: ⟦(6a)⟧ = ⟦…long/longer⟧ ⇝ ambiguous ⇝ non-comparative
b. With a *bǐ*-phrase: ⟦(6b)⟧ = ⟦…longer than …⟧ ⇝ comparative

The second clue is the discourse salience of the standard σ for the comparative use. Different from the positive and the measurement use, the comparative use crucially requires that its standard be a salient discourse referent. Thus, when there is no *bǐ*-construction to explicitly introduce a salient standard, context needs to help with the accommodation of a salient standard. Obviously, among the above-mentioned examples, for (5), a salient standard is available, and thus (5) has a comparative reading, while for (4), there is no salient standard, and thus these sentences have no comparative reading, but only a positive reading.

If context supplies a salient standard for the yes/no question in (4b), as shown in (19), then a comparative reading is readily available. (19) and (4b) again suggest that the distinction between a positive and a comparative reading cannot be due to syntactic factors.

(19) A: 张三 不 是 很 高
A: Zhāng-Sān bù shì hěn gāo
A: Zhāng-Sān NEG COPULA very tall(-er)

B: 那 跟 李四 相比, 张三 高 不 高?
B: nà gēn Lǐ-Sì xiāng-bǐ Zhāng-Sān gāo bù gāo
B: then with Lǐ-Sì compare Zhāng-Sān tall(-er) NEG tall(-er)

'A: Zhāng Sān is not tall. B: Then compared with Lǐ Sì, is he taller?' ⇝ comparative

Intriguingly, for (4a), even if we use it to construct an example similar to (19), the comparative reading is still unavailable. (20) is unacceptable: if *gāo* is interpreted as *tall*, the sentence sounds contradictory, but *gāo* here can by no means be interpreted as *taller*. Presumably, to license the meaning that Zhāng Sān is taller than the other kids, the difference set 'all kids minus Zhāng Sān' needs to be a salient discourse referent, but it fails to be so.

(20) # 这些 孩子 都 很 矮 其中 就 张三 高
zhè-xiē hái-zi dōu hěn ǎi qí-zhōng jiù Zhāng-Sān gāo
these kids all very short(-er) among/inside only Zhāng-Sān tall(-er)
Unavailable: 'These kids are all short. Among them, only Zhāng Sān is taller.'

Gradable adjectives used at prenominal position As shown in (21) and (22), the comparative reading is totally unavailable in these cases. To convey the meaning that she wrote a longer letter, additional elements like *gèng* or *bǐ*-phrases are necessary (see (23)).

It is worth noting that in (21) and (22), given their context, there are indeed global discourse-salient items that can serve as the standard for comparison. Thus, it remains unclear why the comparative reading is totally impossible in these cases. One potential reason is that in these examples, the global discourse-salient items might be inaccessible to the prenominal gradable adjectives, failing to satisfy the requirement of the comparative use. A more detailed investigation for this issue is left for future research.

(21) (之前 那 封 信 很 短)
zhī-qián nà fēng xìn hěn duǎn
previously that CLASSIFIER letter very short

她 又 写了 一 封 长 的 信
tā yòu xiě-le yī fēng cháng de xìn
3.SG.F. again write-ASPECT one CLASSIFIER long(-er) PARTICLE letter

'(The previously letter was short). She then wrote a long one.' ⇝ positive

(22) (之前 那 封 信 只 有 三 页)
zhī-qián nà fēng xìn zhǐ yǒu sān yè
previously that CLASSIFIER letter only have three page

她 又 写了 一 封 长 五 页 的 信
tā yòu xiě-le yī fēng cháng wǔ yè de xìn
3.SG.F. again write-ASPECT one CLASSIFIER long(-er) five page PARTICLE letter

'(The previously letter has only 3 pages). She then wrote a 5-page-long letter.' ⇝ measurement

(23) a. 她 写了 一 封 更 长 的 信
tā xiě-le yī fēng gèng cháng de xìn
3.SG.F. write-ASPECT one CLASSIFIER GENG long(-er) PARTICLE letter
'She wrote a longer letter.' ⇝ comparative

b. 一 封 比 十四行诗 长 的 信
yī fēng bǐ shí-sì-háng-shī cháng de xìn
one CLASSIFIER compared-to sonnet long(-er) PARTICLE letter
'…a letter longer than a sonnet.' ⇝ comparative

4. Discussion

According to my proposal, the meaning of comparison is inherent to the semantics of gradable adjectives in Mandarin Chinese. Thus there is no need to mark the comparison involved in the comparative use. This analysis is highly consistent with Oda (2005)'s account for the semantics of gradable adjectives in Japanese. This raises a new question for the generalization shown in Table (2): why is comparison still marked in languages like English and French? If the notion of comparison underlies all the uses of gradable adjectives cross-linguistically, then in principle, (asserted) comparison never needs to be marked.

At least for English, it seems likely that the fundamental semantic contribution of comparative morpheme *-er/more* is simply additive (see also Greenberg 2010, Thomas 2010, Zhang & Ling 2019). The most natural interpretation of (24) is that Mary continued drinking after blacking out, i.e., the amount she drank at a later time does not necessarily exceed the amount she drank previously. In this sense, *-er/more* actually behaves like additive particles (e.g., *another*, *also*) and has a discourse-level contribution. As illustrated in (25), *-er/more* brings a presuppositional requirement: compared to (25a), (25b) presupposes the existence of a salient degree of amount in the discourse, serving as the base for the asserted amount, so that the asserted amount is considered an increase on this presupposed base. By behaving like an additive particle, most likely, *-er/more* marks the discourse salience of the item serving as the standard in a comparison, and it does not mark comparison per se.

(24) Mary drank till she blacked out. Then she drank more.

(25) a. Mary drank some beer. ⇝ existential assertion
b. Mary drank more beer. ⇝ presupposition + existential assertion

5. Conclusion

To sum up, this paper analyzes the three fundamental uses of gradable adjectives in Mandarin Chinese: the positive use, the comparative use, and the measurement use. I have argued that since the notion of comparison underlies all these three uses, the meaning of comparison does not need to be marked, which explains why there is no need to morphologically make a distinction between comparative and non-comparative forms. I analyze the semantics of gradable adjectives as a relation among (i) the measurement of an individual, (ii) a standard value for comparison, and (iii) the difference between the above two. Thus, the distinction among the three uses can be naturally attributed to their distinctive standard and difference.

Without a specification of standard or difference, the use of gradable adjectives in Mandarin Chinese is inherently ambiguous. However, adding elements like *hěn* or *bǐ*-phrases can

help to disambiguate, and for pragmatic interlocutors, the non-use of these disambiguating elements also helps them to get the more likely interpretation in literally ambiguous cases.

Can the currently proposed analysis lead to a new generalization for cross-linguistic data? In the discussion, I have suggested that comparative morpheme *-er* in English probably does not mark comparison, but the discourse salience of the standard in comparison. How about the seeming markers of comparison in other languages? These issues are left for future research.

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