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Measure phrase modification in *name* adjective constructions in Mandarin

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Abstract. Much research has shown that measure phrases elicit an asymmetry in acceptability between positive vs. negative members of gradable adjective antonym pairs (*3m tall* vs. **3m short*) (Kennedy 1999, Schwarzschild 2005, and others). As in other languages, the measure phrase in Mandarin *yi mi* '1 meter' is accepted as direct modifier of *gao* 'tall' and rejected by the negative antonym *ai* 'short'. However, when the adjective combines with *name* 'so', this measure phrase is accepted by both positive and negative adjectives. In addition, *name* adjective expressions are ambiguous between two readings. Namely, the surprise reading and equative reading. This paper accounts for the new data with two proposals: (1) *name* is a presupposition filter; (2) There is a silent morpheme *Vec* in *name* adjective expressions, which is in complementary distribution with overt measure phrases.

Keywords. gradable adjectives; measure phrase modification; antonym pairs

1. Puzzle. Much research has shown that measure phrases (MP; e.g., *5 feet*) can elicit asymmetry between gradable antonym pairs such as *tall* and *short* (among others, Kennedy 1999, Schwarzschild 2005, Winter 2005, Svenonius & Kennedy 2006). To explain, while the positive antonym can accept MPs as their direct modifier (e.g., 5 feet tall), their negative counterparts never do (e.g., *5 feet short). Such asymmetry is also found in Mandarin antonym pairs such as *gao* 'tall' and *ai* 'short'. However, as reported in Sun (forthcoming), ill-formed constructions like *1 mi ai* '1 meter short' can be repaired with insertion of the morpheme *name* (e.g., **1 mi ai* '1 meter short' vs. *1 mi-name ai* '1 meter *name*-short').

(1a-b) illustrates the puzzle of interest. The measure phrase *yi mi* '1 meter' is accepted as direct modifier of *gao* 'tall' and rejected by the negative antonym *ai* 'short'. On the other hand, after insertion of the morpheme *name*, this MP is accepted by both positive and negative antonyms.[1] If, as argued by previous research (among others, Kennedy 1999, Schwarzschild 2005, Svenonius & Kennedy 2006), the rejection of MP modification is robust, then it is relevant to ask what the role of the morpheme *name* is in licensing such modification in (1a-b).

(1) a. zhe ke shu zhiyou yi-mi (name) gao
this CLF tree only 1 meter so tall
'This tree is only 1 meter (that) tall.'
b. zhe ke shu zhiyou yi-mi *(name) ai
this CLF tree only 1 meter so short
'This tree is only 1 meter (that) short.'

To address the puzzle, this paper follows Winter (2005) and proposes a vector space analysis for MP *name* adjective expressions in Mandarin. The paper is organised as follow. Section 2 outlines the proposed vector space approach. Section 3 illustrates how this approach can be extended to capture the two-way ambiguity of *name* in *name* adjective expressions and their

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[1] It should be noted that *zhiyou* 'only' is important in licensing MP *name* negative antonym expressions in (1), as such expressions appear in limited context. This is discussed in detail in section 4.2.

observed prosodic patterns. Section 4 discusses evaluativity and context preference of such MP *name* adjective expressions. Section 5 is the conclusion and implication.

2. Vector space analysis for MP-*name* adjective expressions. Much research has been conducted to explain the asymmetry between antonym pairs' ability to allow MP modification (Kennedy 1999, 2001; Schwarzschild 2005; Winter 2005; Breakstone 2012 and others). Among previous approaches, many have attributed this asymmetry to the inherent property of the scales associated with the antonym pairs. For instance, for *John is tall*, translated as *John is d-tall,* $d \geq d_{context}$, this intuitively entails that he is at least *d'-tall*, where *d'* is within range [0, d]. While for *John is d-short*, $d \leq d_{context}$, he is at least *d'-short*, where *d'* is within range [d, +∞). Kennedy (1999, 2001) presents this difference as *tall* denoting positive degrees associated with a bounded scale from *0* to *d*, while *short* denoting negative degrees associated with an unbounded scale from *d* to positive infinity. And MPs denote positive degrees, which thus cannot modify negative antonyms. Likewise, Schwarzschild (2005) proposes that MPs are predicates of a gap, which should be bounded and measurable. And given that negative antonyms are associated with an unbounded and unmeasurable scale, they cannot take measure phrases as modifiers.[2]

Alternatively, Winter (2005) proposed a vector space analysis, where MP modification is analysed as intersection of the sets of vectors denoted by the modified adjective and the MP – a premise that is not held by Kennedy (1999, 2001) or Schwarzschild (2005). Under his approach, the asymmetry between antonym pairs is ascribed to a triviality filter which filters out trivial sentences that are true/false in all conditions (e.g., *#She is shorter than 0ft*. is false in all conditions). This filter rejects MP modification if there exists no contextual standard that guarantees a non-empty intersection of the MP and the modified adjective (as in (2)). In other words, any non-trivial choice of MP must have its value above the contextual standard of a modifiable adjective.

(2) **Triviality filter for MP modification** (Winter 2005: 264(55)):
A modification construction of the form MP X is unacceptable if for every context: MP X is trivial for some non-trivial choice of MP.

This filter leads to the asymmetry between antonym pairs. To explain, for positive antonyms, they can take a contextual standard zero, which would render a non-empty intersection for any reasonable choice of MP (i.e., for dimensional adjectives, the MP always denotes a degree above zero). On the other hand, for negative antonyms, any choice of contextual standard would fail the filter. For instance, for a contextual standard of zero for *short*, any choice of positive MP is below that standard of shortness. Even for a contextual standard as high as 100m for *short*, MP *short* is still trivial for some non-trivial choice of MP (e.g., 100.1m).

However, Doetjes (2012) pointed out that triviality filter works only in terms of truth values and does not impose restrictions on presuppositions. With Dutch data, she shows that prenominal MP-negative antonym expressions are accepted because they cannot give rise to semantic triviality (i.e., trivial truth conditions), but only presupposition failure. For instance, (3a) results in a presupposition failure, for there does not exist a bucket that is 1 meter deep and shallow, while (3b) would not lead to such failure for there exists pools that are 1 meter and shallow. In short, the prenominal MP-negative antonym expression is embedded in a definite description, which is part of the presupposed content rather than the asserted content.

[2] It should be noted that such robust rejection of MP modification for negative antonyms is at the risk of oversimplifying crosslinguistic observations. For instance, MP-negative antonym expressions are judged acceptable for some German and Mandarin speakers (Sun, forthcoming).

Thus, the truth conditions for (3a-b) are not dependent on the truth condition for *1meter ondiepe* '1m shallow' and Winter's (2005) triviality filter does not apply.

(3) a. [M]De 1 meter ondiepe emmer is in de keuken.
'the 1 meter shallow bucket is in the kitchen'
b. [M]Het 1 meter ondiepe zwembad ligt achter het huis.
'the 1 meter shallow pool is situated behind the house'
(from Doetjes 2012:206(26))[3]

Adapting Winter's (2005) and Doetjes's (2012) proposals for English and Dutch, I propose a vector space analysis for MP-*name* adjective expressions in Mandarin. Like prenominal MP-negative antonym expressions in Dutch, presuppositions also play a major role in Mandarin MP-*name* adjective expressions. For sentences such as (4a), it always presupposes that 10cm counts as short in context. As shown in the cancellation test (4b), after negation with *meiyou* 'not', the presupposition still holds.

(4) a. zhe gen shengzi 10cm name duan. *presupposes* 10cm counts as short.
Literally: 'this rope is 10cm **so** short.'
b. zhe gen shengzi meiyou 10cm name duan. *presupposes* 10cm counts as short.
Literally: 'this rope is **not** 10cm **so** short.'

I propose that for *name* adjective expressions in Mandarin, a non-trivial choice of MP must agree with its presupposition as in (4). Thus, providing the presupposition that the MP in the sentence is short, a non-trivial choice of MP must be short (e.g., above the contextual standard of shortness). This guarantees a non-empty intersection between the MP and the modified adjective and passes the triviality filter in (2). And expressions like *10 m name ai* '10 m name short', where the MP is not short in context, leads to presupposition failure, but not semantic triviality.

A formulation of this idea is shown by the denotation for *name* in (5). With the ⊙ operator defined in (6), *name* serves as a presupposition filter. To explain, the ⊙ operator lets *name* take two sets of located vectors — denoted by the MP and the adjective respectively — and outputs their non-empty intersection.[4] As in (6b), an empty intersect will lead to presupposition failure.

(5) $[\![name]\!] = \lambda V_{<v,v>,t}.\lambda W_{<v,v>,t}.V \odot W$

(6) modelled after Coppock and Champollion's (forthcoming:321) iota analysis of THE
a. Syntax rule for ⊙
$For\ W, V, if\ W\ and\ V\ are\ of\ type << v, v >, t >, then\ W \odot V\ is\ of\ type << v, v >, t >.$
b. Semantics rule for ⊙
$$W \odot V = \begin{cases} \{\boldsymbol{v} \in V \cdot V: \boldsymbol{v} \in W \wedge v \in V\} & iff\ \textbf{the set is non-empty}; \\ \#_{<<v,v>,t>} & Otherwise \end{cases}$$
$\boldsymbol{v}$ *is a located vector of type* $< v, v >$.

For instance, *10cm-name tall* is analysed as in (7). Following Winter's (2005) account of *10cm* and *tall* (7a), *name* is first combined with the measure phrase *10cm*, which denotes all located vectors measured 10cm (7a-b). It then takes in another set denoted by *tall*, which are

[3] Doetjes (2012) used M to indicate stylistical markedness of (3a-b) – such expressions are not considered ungrammatical by many speakers.
[4] According to Winter (2005), a located vector <*w*, *v*> is composed of a vector pair which describes the position of the located object with respect to a reference object. The vector *w* describes the location of the reference object with respect to a reference point and *v* describes the location of the located object with respect to the reference point.

all located vectors whose measurements are above the contextual standard. The two sets are intersected to select all located vectors whose measurement is 10cm and is above the contextual standard (7c). In other words, *10cm-name tall* is interpreted as 10cm and tall in that context.

(7) a. From Winter (2005)
$[\![10cm]\!] = \{\boldsymbol{v} \in V \cdot V : |\boldsymbol{v}| = 10cm\}$
$[\![tall]\!] = \{< 0, t_H >: t > c(U_H, D_H)\}$
b. $[\![10cm - name]\!] = \lambda V_{<v,v>,t}.\lambda W_{<v,v>,t}.V \odot W\ ([\![10cm]\!])$
$= \lambda V_{<v,v>,t}.\lambda W_{<v,v>,t}.V \odot W(\{\boldsymbol{v} \in V \cdot V : |\boldsymbol{v}| = 10cm\})$
$= \lambda W_{<v,v>,t}.\{\boldsymbol{v} \in V \cdot V : |\boldsymbol{v}| = 10cm\} \odot W$
c. $[\![10cm - name\ tall]\!] = \lambda W_{<v,v>,t}.\{\boldsymbol{v} \in V \cdot V : |\boldsymbol{v}| = 10cm\} \odot W([\![tall]\!])$
$= \{\boldsymbol{v} \in V \cdot V : |\boldsymbol{v}| = 10cm\} \odot \{< 0, t_H >: t > c(U_H, D_H)\}$
$= \{< 0, t_H >: t = 10cm\} \odot \{< 0, t_H >: t > c(U_H, D_H)\}$
$= \{< 0, t_H >: t = 10cm \wedge t > c(U_H, D_H)\}$

This analysis has two major merits. Firstly, it allows Mandarin to license MP *name* negative adjective expressions, while keeping MP negative adjective expressions illicit. Secondly, since this analysis is based on presuppositions, it is predicted that MP *name* negative adjective expressions are highly context sensitive. And this is indeed the case — as will be discussed in section 4.2, MP *name* negative adjective expressions are highly marked and used in limited contexts.

3. Ambiguity of *name* in adjective expressions

3.1. EQUATIVE VERSUS INTENSIFIER. Another challenge for an analysis of *name* in Mandarin is its ambiguity. Namely, *name* can both receive a surprise reading and an equative reading. In the surprise reading in (8a), the morpheme serves as an intensifier to emphasize that the height of the tree is extreme. In the equative reading as in (8b), it equates the height of the tree with some contextual height.

(8) a. Surprise reading
zhe ke shu **name** gao, (# qishi bu gao).
this CLF tree **so** tall actually not tall
This tree is so tall, (# it actually is not tall).
b. Equative reading
na ke shu yi-mi gao. zhe ke shu ye **name** gao. (dou bu gao).
that CLF tree 1 meter tall this CLF tree also **that** tall both not tall
That tree is 1 meter tall. This tree is also that tall. (Both are not tall).

3.2. UNIFIED ACCOUNT FOR TWO READINGS. Interestingly, a parallel of surprise reading versus equative reading for *name* can be found with English *that* (Rett 2007).[5] As in (9), *that* receives the surprise reading in (9a) and the equative reading in (9b). Additionally, both Mandarin *name* and English *that* are commonly used as demonstrative pronouns (10a-b). Moreover, it is observed that the Mandarin demonstrative pronouns *zheme*, *zheyang* and *nayang* can also have the two readings (11a-b).

(9) a. Surprise reading
Ivy is **that** tall, though she is only 10.
b. Equative reading
Charlie is 4'5''. Ivy is **that** tall too. Both are not tall.

[5] Similar phenomena are reported for the Russian demonstrative *nastol'ko* and Korean *kurəhkey*. I thank Pavel Kovalev and Soyoung Kim for suggesting this.

(10) a. *Mandarin*
ta pian-le siling, danshi siling bu zhidao ta **name** zuo-le
she lie-ASP commander but commander not know she **that** do-ASP
'She lied to the commander, but the commander did not know she did that.'
b. *English*
She was writing all night, and she enjoyed **that**.

(11) a. Surprise reading
Yuehan zheme gao
John this tall
'John is so tall.'

b. Equative reading
Yuehan ye zheme gao
John also this tall
'John is also this tall.'

Given this observation, I hypothesize that *name* serves as a special type of demonstrative in such constructions, which always takes an antecedent degree denoted by a silent morpheme *Vec* (as in (12)) as its argument. *Vec* is in complementary distribution with overt MPs and ⟦Vec⟧ can be either bound or free. When bound by an antecedent vector V_1, it receives the same denotation as V_1; otherwise, it denotes a contextually salient set of located vectors on the relevant scale (i.e., best exemplars of the adjective), as in (13).

(12) Tree for [[Vec *name*] gao]

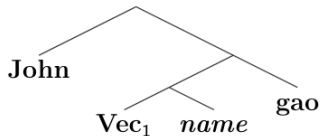
(13) ⟦Vec⟧

$$= \begin{cases} W_1, \ if \ [\![\text{Vec}]\!] is \ bound \ by \ an \ antecedent \ set \ of \ located \ vectors \ W_1 \\ W_c, \ if \ [\![\text{Vec}]\!] \ is \ free, \ where \ W_c \ is \ a \ salient \ set \ of \ located \ vectors \\ \qquad on \ the \ relevant \ scale \end{cases}$$

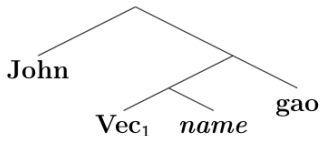
As illustrated in (14), ⟦Vec⟧ in (14a-b) is free and denotes a contextually salient set of located vectors on the scale of height (i.e., best exemplars of *gao* 'tall). This gives the reading that John is at least extremely tall — John is extremely tall (i.e., the surprise reading). In (14c-d), ⟦Vec⟧ is bound by the MP ⟦5ft⟧. This gives the reading that John is at least as tall as 5ft (i.e., the equative reading).

(14) a. Surprise reading
yuehan **name** gao, (# qishi bu gao).
John **so** tall actually not tall
'John is so tall, (# he actually is not tall).'

b.



c. Equative reading
ta 5ft gao. yuehan ye **name** gao. (dou bu gao).
he *5ft* tall John also **that** tall both not tall
He is 5ft tall. John is also that tall. (Both are not tall).



This approach proposes that an antecedent degree is always required by the demonstrative *name*, which can serve as a degree deictic. This could potentially capture the observation that demonstratives cross-linguistically can be used as intensifiers or equation licensers in

adjective expressions. Additionally, it gives a unified treatment for the surprise reading and the equative reading of *name*, where the distinction is a result of the boundness of the silent morpheme *Vec*.[6]

3.3. PROSODIC EVIDENCE FOR THE ANALYSIS. The boundedness of *name* can also be captured by prosodic structures of *name* adjective expressions. When assigned the surprise reading, the stress can fall on the demonstrative *name*, whereas with equative reading, stress on *name* is dispreferred by speakers (15a-b). In other words, the stress can fall on the demonstrative *name* only when it is free. Similarly, in MP *name* expressions, the stress is assigned not to the demonstrative *name*, but rather to the preceding MP (15c).

(15) a. Surprise reading (stress on *name*)
zhe ke shu ye '**name** gao, (# bu gao).
this CLF tree also so tall not tall
'This tree is also so tall, (# not tall).'
b. Equative reading (stress on the preceding word *ye*)
zhe ke shu 'ye **name** gao, (bu gao).
this CLF tree also so tall not tall
'This tree is also that tall, (not tall).'
c. MP *name* expression (stress on the preceding MP)
zhe ke shu zhiyou 'yi-mi ??**name gao**
this CLF tree only 1 meter so tall
'This tree is only 1 meter that tall.'

This prosodic pattern indicates that *name,* when assigned the equative reading or appearing in MP *name* expressions, is indeed bound. However, the question remains why would *she is 1m name short* always receive the reading that the she is short, while *she is 1m name tall* can receive a two-way interpretation. As discussed in 4.1, this is due to the asymmetry between antonym pairs (e.g., *tall* and *short*).

4. Evaluativity and contextual preference

4.1. EVALUATIVE VERSUS NEUTRAL. It has long been recognized that the negative antonyms receive the evaluative reading in questions and equatives, while their positive counterparts receive the neutral reading (among others, Bierwisch 1967; Breakstone 2012; Rett 2007, 2015). To illustrate, in (16a-b), the boy can be either tall or short (i.e., neutral reading), while for (16c-d), the boy must be short (i.e., evaluative reading).

(16) a. The (short) boy is **as tall as** John. (neutral reading)
b. How **tall** is the (short) boy? (neutral reading)
c. The (*tall) boy is **as short as** John. (evaluative reading)
d. How **short** is the (*tall) boy? (evaluative reading)

The same observation holds for MP modification. For MP modified positive antonyms, they are always non-evaluative (Bierwisch 1967; Breakstone 2012 and others). This is correctly captured by Winter (2005). As in his triviality filter, the adjective needs to take a contextual standard 0 to license MP. In other words, in an expression *John is 5ft tall*, John or 5ft is only required to be above 0, not above a contextual standard such as average height (i.e., the neutral reading).

[6] Although this unified analysis for *name* is proposed under Winter's (2005) framework, its underlying idea is theory-neutral and is compatible with other frameworks (e.g., degree or interval analysis of MPs; Scharwarzschild 2005; Beck 2019 and others).

Likewise, *10cm-name tall* is perceived by speakers as either 10cm and tall (evaluative reading) or as having a height of 10cm (neutral reading). On the other hand, *10cm-name short* only receives the reading 10cm and short (evaluative reading only). This contrast in interpretation in antonym pairs can be captured by the proposed analysis. To explain, *10cm name tall* presupposes that 10cm is tall in context and renders the evaluative reading. However, when there is a presupposition failure, the contextual standard of *tall* is shifted to zero to pass the triviality filter for MP modification (Winter 2005) to provide the neutral reading. Indeed, it has been found that the evaluative reading is preferred for such constructions (17a-b), for presupposition failure and reanalysis is not liked by some speakers. For *10cm name short*, *name* presupposes 10cm is short in that context and results in the evaluative reading. And since *short* can never shift its standard to pass the triviality filter for MP modification, it can only appear in confined contexts. This also agrees with the distribution of positive and negative adjectives in *name* adjective constructions (17c-d).

(17) a. Neutral reading
zhe ke shu san-mi **name gao**
this CLF tree 3 meter **so tall**
'This tree is 3 meter tall.'
b. Evaluative reading
zhe ke shu sanqian-mi **name gao**
this CLF tree 3000 meter **so tall**
'This tree is 3000 meters that tall.'
c. Neutral reading
*zhe ke shu san-mi **name ai**
this CLF tree 3 meter **so short**
'This tree is 3 meters short.'
d. Evaluative reading
zhe ke shu zhiyou ban-mi **name ai**
this CLF tree only half meter **so short**
'This tree is only half meter that short.'

4.2. CONTEXTUAL PREFERENCE. As already mentioned in section 2, although MP *name* negative adjective expressions are possible in Mandarin, they remain heavily marked and have strong preference for certain contexts. Interestingly, a generalisation can be made for their context preference: they are judged better and more natural after the exclusive particle *zhiyou* 'only' (18a), negative particles such as *meiyou* 'no' (18b) and in questions (18c).

(18) a. zhe ke shu ?(zhiyou) 1m **name** ai.
this CLF tree only 1m so short
'This tree is ?(only) 1m short.'
b. zhe ke shu ?(mei/ meiyou/ buxiang) 1m **name** ai.
this CLF tree no no not like 1m so short
'This tree is ?(not/ not like) 1m short.'
c. zhe ke shu 1m **name** ai ma?
this CLF tree 1m so short Q
'Is this tree 1m short?'

This paper hypothesizes that this context preference is due to the monotonicity of negative adjectives. Following Winter (2005), an adjective is upward/downward monotone, if for a vector in the vector set denoted by the adjective, any vector of the same starting point and of greater/smaller value is also in that set (as in (19)).

(19) Monotonicity (Winter 2005)

A set of vectors $A \subseteq V$ is upward (downward) monotone iff for all vectors $v \in A$ and $w \in V$, if $v \leq w$ ($v \geq w$) then w is in A.

This draws a distinction between antonym pairs such as *tall* and *short*. For *tall*, if ⟦4m⟧ is in the set of ⟦tall⟧, then ⟦5m⟧ is also in the set of ⟦tall⟧ (i.e., 5m is also considered as tall). And when the contextual standard is shifted to zero, if ⟦4m⟧ is in the set of ⟦tall⟧, then ⟦3m⟧ is also in the set of ⟦tall⟧, for any MP on the scale of height is tall after standard shifting. Thus, MP modified positive adjectives such as *tall* are both upward and downward monotone. For *short*, however, if ⟦4m⟧ is in the set of ⟦short⟧, then ⟦3m⟧ is also in the set of ⟦short⟧ (i.e., 3m is also considered as short), but not vice versa. Thus, MP modified negative adjectives such as *short* is always downward monotone.

This paper then hypothesizes that marked downward monotonic adjective expressions (e.g., MP-*name* short in Mandarin) prefer downward entailing environments, or environments without monotonicity. And given that positive adjectives are both upward and downward monotonic in MP name adjective expressions, it is not selective in terms of contexts. On the other hand, negative ones are preferred in limited downward entailing or neutral contexts.

This hypothesis is supported by the observation that negative particles *meiyou* 'no', *buxiang* 'not like', and *mei* 'no' all license downward entailing environments (20a-b).

(20) a. *meiyou/ mei* 'no'
zhe ke shu meiyou/ mei yezi. → zhe ke shu meiyou/ mei lvye.
'This tree has no leaves.' → 'This tree has no green leaves.'
b. *buxiang* 'not like'
ta buxiang ta baba. → ta buxiang ta chuan dayi de baba.
'He doesn't look like his father.' → 'He doesn't look like his father in coat.'

As for the exclusive particle *zhiyou* 'only', it curiously reverses the monotonicity of its following adjective. As shown in (21), the surprise reading of *gao* 'tall' in the sentence with the exclusive particle *zhiyou* 'only' is not that John is so tall. Instead, it means that John is extremely short. This suggests that *zhiyou* 'only' licenses a downward monotone environment for adjectives. And marked downward monotonic adjective expressions (e.g., 5 meter *name* short in Mandarin) is thus judged better in this environment.

(21) yuehan zhiyou'name gao.
John only so tall
'John is only that tall. (John is so short.)'

5. Conclusion and implication. This paper proposes a vector space analysis for MP *name* adjective expressions in Mandarin based on Winter's (2005) approach. It argues that MP *name* adjective expressions presuppose any defined MP is above the contextual standard of the adjective. This presupposition bypasses Winter's (2005) triviality filter and correctly captures the contrast of acceptability between **5m ai* '5m short' and *5m name ai* '5m *name* short' in Mandarin. In addition, it relates the Mandarin data with the Dutch data (Doetjes 2012), showing that MP modification for negative adjectives is marked in both languages and is highly context selective. It is also shown that this contextual preference is due to the monotonicity of antonym pairs.

In addition, this paper provided a unified demonstrative account for the surprise reading and the equative reading of *name* in adjective expressions such as *name gao* '*name* tall'. It proposes that *name* always takes in an antecedent set of located vectors which can be either free or bound. The free antecedent gives rise to the surprise reading and the bound antecedent

gives rise to the equative reading. It is illustrated that this analysis is supported by the stress pattern of the two readings in Mandarin.

Two open questions require future investigations. Firstly, can this demonstrative account for Mandarin *name* be applied to demonstratives in other languages such as English and Korean? Secondly, it remained unclear why the exclusive particle *zhiyou* 'only' can change the monotonicity of the following adjective. More importantly, it is not explained why this change only occurs to positive adjectives but not negative adjectives.

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